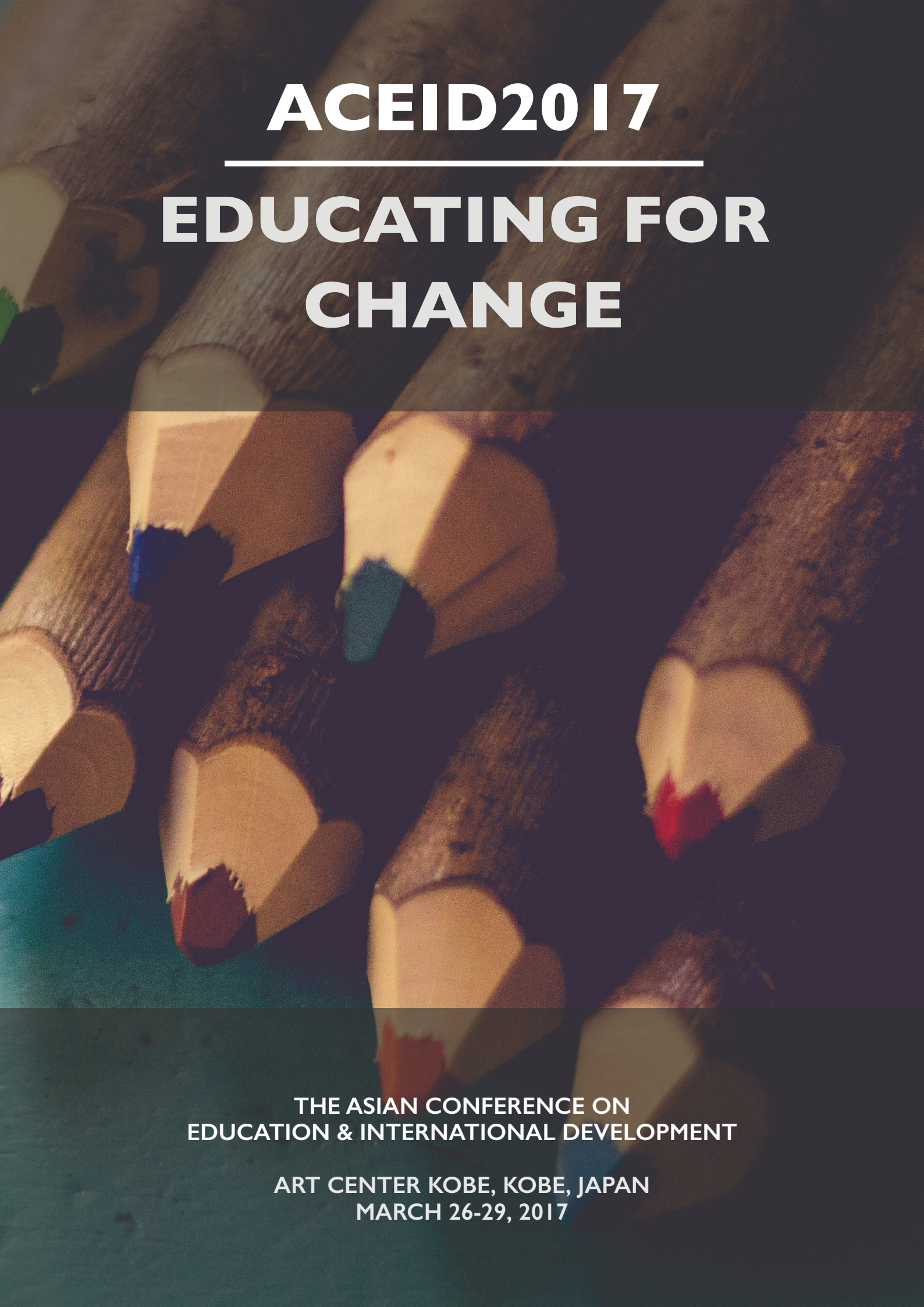

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A Study on Reformation of Vocational Educational System and Training System Based on National Competency Standards

Hyeon Mi Rha, KRIVET, South Korea

The Asian Conference on Education & International Development 2017
Official Conference Proceedings

Abstract
As it has been consistently proposed to improve different education, training and qualifications to job skills required in field industry, it was organized the skills that demanded in the industry. There was a need to paradigm shift in national human resource development that reflects the education training and qualifications.
In other words, it restructured education, training and qualifications of the `theory centered` to `site-oriented' through developing human resource that the industry requires by applying and utilize National Competency Standards(NCS) and NCS learning modules on training and qualifications in order to correlate work, training and qualification. In addition, the development of NCS learning modules in training institutions to strengthen NCS-based field-oriented training was reorganized to the way of 'what can you do?' for the purpose of human resource development.
Therefore, national human resource development to provide against convergence, high-skilled, and six pocket generation would be a future lifelong vocational education for articulation of different level of schools and it was required to mutual cooperation measures between vocational education and vocational training for this.

Keywords: National Competency Standards(NCS) , vocational training, vocational education, curriculum

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1. Introduction

As the industrial structure has been advanced, the company's expected competency required for a successful transition to the labor market from school was increased. For this, it is required to develop National Competency Standards(NCS) which reflect industry demand, and it is necessary to present NCS, required skills in real industry and occupation duties as a national level standardization.

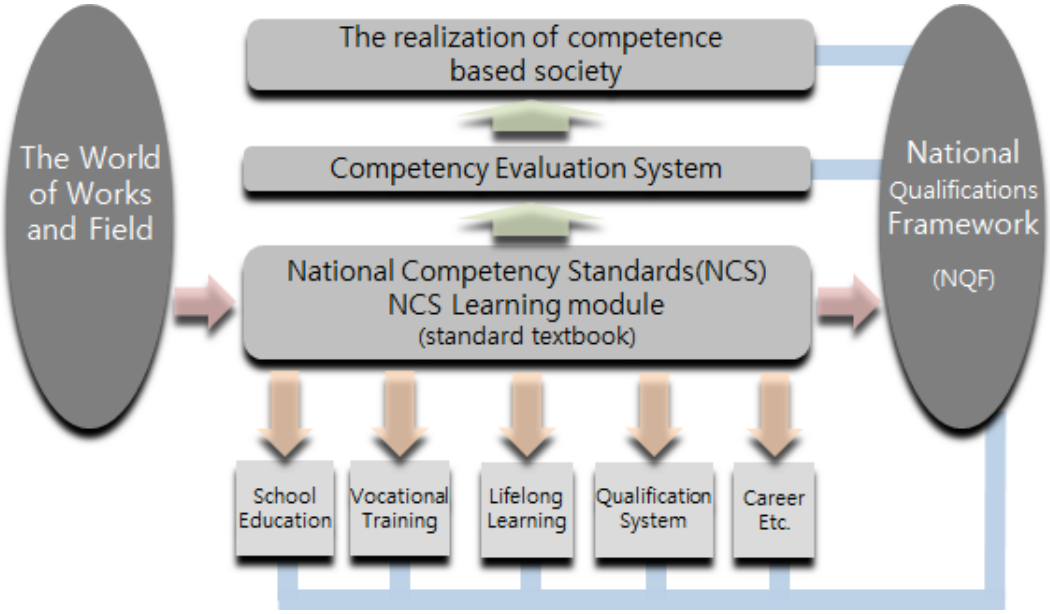
National Competency Standards are basically skills, knowledges, and attitudes to perform one's duties in industrial setting, and NCS was organized into national sector-specific level.

A classification of the NCS was composed with 24 main large categories, 76 divisions, 213 small categories, 883 sub divisions at the result of job classification which is considering the aspects of own labour market employment, wage determination and work shifts.

The NCS learning module was developed so that it could be applied to the teaching and training institutions. The NCS Learning Module was developed to establish a company-centered education system, mitigate qualitative mismatch between industrial sites and education, and strengthen competitiveness of vocational education and training.

The curriculum of Specialized High School has been revised and applied from the 2016 school year in order to utilize NCS,. Since 2016 colleges and universities have introduced NCS-based curriculum in connection with the specialized characterization and upbringing business projects as well.

The national technical qualifications of 597 items are reorganized as NCS-based qualifications and the evaluation of the NCS qualification process is introduced to promote the spread of NCS-based vocational education and training.
In order to spread the NCS, the employer was hired on the job ability based on NCS so the selection criteria and the recruitment procedure that did not require excessive specification such as language and overseas training were notified before employment.
The purpose of this study is to suggest a systematic reorganization of the vocational education and training curriculum to apply NCS and related qualifications system.



Source: Ministry of Employment and Labor · Ministry of Education (2016). The 5th National Competency Standards Steering Committee

Figure 1: NCS Framework

2. Main Subject(Body)

2.1 Research Methods and Contents

The vocational education system based on the National Competence Standards (NCS) was reorganized into 'job skills-focused education' to strengthen the field of vocational education, and the precedent study on reformation of vocational educational and training system based on national competency standards was based on the analysis of relevant data of related researches, policy data of the Ministry of Employment and Labor and the Ministry of Education, and related data of specialized high schools, colleges and universities so final conclusions were derived based on them.

The NCS-based vocational education and training course is a documented data that guides the planning of learning experiences to enhance the job skills such as knowledge, skills, and literacy required by the industry based on national competency standards (NCS).

The vocational education and training course according to the national competence standards (NCS) is emphasized as a rational approach to reflect the industrial demand as education content. By utilizing NCS that systematizes and standardizes industry requirements to the training and qualification standards, it can contribute to the efficacy of education investment through linkage among corporation site –education and training - qualifications (Choi Dongseon et al., 2012). The development of the NCS-based vocational education and training course is carried out by the field practitioners in each field participating and thoroughly analyzing the job demands and requirements of the industrial field in detail and reflecting them in the curriculum. To consider these development factors and NCS competency unit , it designed a plan that evaluates the competence focused rather than knowledge-based in actual education field (Na Seungil et al., 2007; Chang Myeong Hee et al., 2009).

In other words, the development of the NCS-based vocational education and training course should establish the vocational education and training system based on the development and operation of the vocational education and training course and qualification structure.

It is very important to select the competency unit according to the goal of human resource development in each department in order to focus on developing the education and training process to meet the industrial demand by utilizing the national competence standards.

NCS-based training courses should be developed and presented to you in the course central to the ability to leverage the NCS learning outcomes regulations Cedefop report (2012) 'All results-oriented approach to curriculum.

Therefore, NCS-based vocational education and training courses should be developed in a logical and systematic way to derive valid job skills from national competence standards and turn them into learning outcomes.

In addition, defining learning outcomes on the basis of NCS, in other words, certifies that a successful completion of an NCS-based education and training course entitles them to perform their duties in a specific field, which is the basis of the course evaluation qualification framework.

In order to reform the NCS-based qualifications system, it is necessary to define the qualification criteria for performing the tasks in a specific field based on the NCS.

Figure 2: Vocational Education Training Curriculum Development Phase

The results of the evaluation of the job performance of the department are used in the NCS-based education quality management of the department, and it can be a basis for improvement efforts on the continuous quality of the NCS-based curriculum. It can be used to improve the education policy by calculating the degree of job skill improvement based on the results of job performance evaluation,.

The improvement evaluation of job performance is to assess the achievement of vocational education and training by comparing the results yearly obtained through the assessment of job performance achievement as an index of whether the goal of the vocational education goal pursued is achieved effectively.

All courses in an NCS-based curriculum should be evaluated in the same way and with or without NCS.

Item	Basic Learning Ability Assessment	Basic Skill Assessment	Assessment of Major Competence
Evaluation Area	Basic learning ability	Basic job skills	Major practical skills
Assessment Contents	- Korean, English, Mathematics, Science, etc. - Details of the evaluation are selected by the university's decision	- In the 10 areas of basic occupational skills, areas (subjects) derived through curriculum development, - Performance criteria and knowledge / skills / attitudes / tools by sub-competency	- Areas derived from NCS-based curriculum development (course) - Performance criteria and knowledge / skills / attitudes / tools
Assessment Methods	Self-assessment	Diagnosis evaluation, Attendance evaluation, Assessment of job competence	Diagnosis evaluation, Attendance evaluation, Assessment of job competence

Source: Ministry of Education, National Research Foundation of Korea, NCS based Vocational Education Training Curriculum Guideline

Figure3: NCS Based Vocational Education Training Curriculum Development Evaluation

For the quality management of NCS-based vocational education and training courses, the design of requirements analysis and training courses should be done in accordance with the system approach. In other words, the NCS-based vocational education and training program's planning, design, development, operation, and performance creation stages, as well as the evaluation of overall characteristics such as achievement of goals, effects and impacts, formal assessments, such as degree of achievement of goals, control and management of the process, and identification and improvement of steps should be emphasized.

To do this, we need to analyze the environment and analyze the requirements for the development of the NCS-based vocational education and training program. -> Establish the type of training for the department and establish the training target -> Job definition and NCS classification system technology -> Set up the job model by NCS system -> Job model Verification -> course elicitation -> preparation of course description -> NCS and curriculum linkage skills -> development of course roadmap for each job.

For the quality management of the NCS-based vocational education and training course development, it should be composed of the design and planning → operation

→ evaluation system of vocational education and training course as factors according to the quality management system.

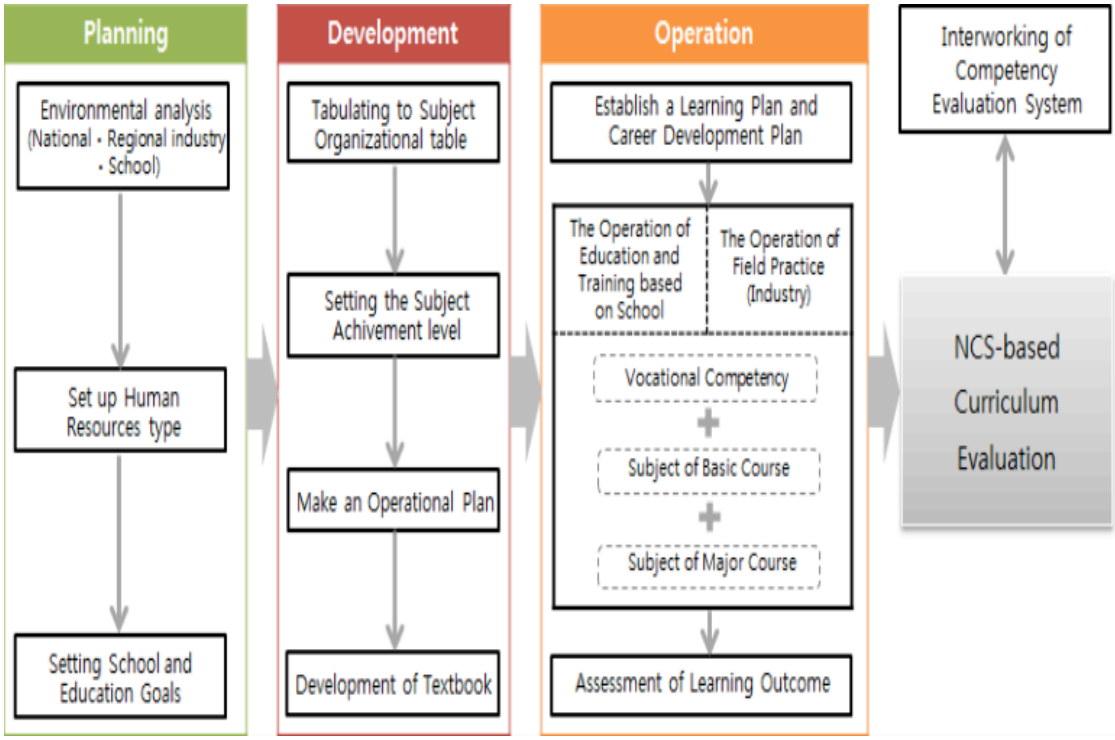


Figure4: Vocational Education and Training Curriculum Development Procedures and Methods

3. Conclusion

NCS-based vocational education and training courses should be regarded as a component of the operation of the national qualification framework. NCS-based vocational education and training courses within the framework of the national qualification framework should be enable through the development of NCS-based vocational education and training courses through system approach.

In order for qualitative NCS-based vocational education and training courses to be developed, the followings should be considered.
First, It should prevent duplication or omission of contents between unit curriculums in developing vocational education and training course,.
Second, It must be acquired necessary learning materials, training facilities, equipment and equipment and organized the teaching and learning strategies and activities needed to achieve vocational education and training goals or learning objectives.
Third, The industry and qualification field experts as well as education and training experts should be involved and cooperated in designing NCS-based vocational education and training course in order to activate the linkage of work-training-qualification as the basic purpose of NCS.
In addition to this, It is necessary to evaluate and emphasized the degree of achievement of each stage of NCS-based education and training course planning, design, development, operation and performance creation, control and management of development process at the same time to manage the quality of NCS-based education and training courses. And the following quality management system should be established.
First, It should focus on the common features of various NCS-based education and training courses, and establish a quality management system based on NCS-based education and training.
Second, It should assume a specific aspect of a typical NCS-based education and training course and builds a quality management system suited to it.
Finally we should build a specific and micro-tailored quality management system suitable for each program, reflecting the specific context of specific NCS-based training courses.

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Hearts Grow: Contemplation-Based Inner Stability Development in Female Inmates

Somsit Asdornnithee, Contemplative Education Center, Thailand
Proetphan Daensilp, Contemplative Education Center, Thailand

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Abstract
The research's objectives are to study the learning process facilitation appropriate for the inner stability development in female inmates, and to explicate the female inmates' inner experiences found during and after the completion of the program. The phenomenological result shows significant inner changes in the participants. These include the more inclusive perspectives one possesses, i.e. the ability to make more sense regarding the interconnectedness between oneself and surrounding people. Meanwhile, each participant can see herself as more self-authoring and more responsible for her own actions. Besides, Meditation has become a useful tool allowing them to mindfully take care of themselves from within. All these phenomena correspond with the results found during the 8 rounds of learning process. As for the learning process facilitation appropriate for such inner development, it consists of 14 key components within the sufficient length of time, while the process itself shows 3 distinctive phases.

Keywords: female inmate, contemplative education, inner stability, action research

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Introduction

According to the 2010 report of the Department of Corrections, Ministry of Justice, most female inmates in Thailand, while imprisoned by trivialities due to economic stress, were to suffer very much in depression, anxiety, fear, as well as a great risk of suicide. Many projects have then been taken into action in order to make a change in the quality of life in prisons, such as *"Narratives from gallows project"*, *"To become the editors of Jit-seri newspaper project"*, etc., consequently the results showed that the participants in such projects had the improvement in self-esteem, daily time use, relationships, attitudes, and worldviews.

In other words, works for inmates which count for much in long-term development of the life quality and also the decrease in recidivism rate are those regarding inner dimension, like self-reflection, cultivation of inner stability, self-acceptance and self-esteem, and right attitudes towards life, surrounding people, and the world. As indicated in the title, *inner stability* is considered as one of the important qualities signifying the spiritual wellbeing. It gives rise to values, happiness, and power that one, as a human being, could embody and hence becomes a critical factor for determining the positive outcome and success of such works. In this sense, contemplative education-based training program can appropriately serve this purpose, providing the learners direct experiences so that they can develop the inner qualities on their own pace. Likewise, the process for transformation rooted in inner dimension can also impact learners to their core and yield irreversible outcomes (Asdornnithee & Phukrongnak, 2012: 60; Thongtavee, et al., 2008:36). Such success results from the expansion of the person's frame of reference to accommodate more reality she perceives, allowing the consciousness to be more inclusive and discernable, thus be able to make more senses of the world. The outcomes are also those recognizable in behaviors and ways in everyday life as they seem to be more authentic, right, and desirable (Mezirow, 2003: 58; Kitchenham, 2008: 105). Therefore, to apply contemplative education-based learning like this with female inmates in Thailand is quite an innovative and also a promising training project that a sustainable inner transformation in learners like stability and spiritual wellbeing can be expected. Moreover, this learning project, when its outcomes have been shown and publicized, could further influence related communities and society so that the social policies regarding punishment and imprisonment would be reviewed in a more understanding way.

The research aims to work upon the female inmates' quality of life in two prisons, Chiangmai Woman Correctional Institution and Khonkaen Central Prison, by promoting the inner stability. The two prisons were purposively selected and the criteria were mainly based on the appropriateness of the policy and environment of the prisons. The research, run in parallel in the two prisons, has two objectives: 1) to study the learning process facilitation appropriate for the inner stability development in female inmates, and 2) to explicate the female inmates' inner experiences found during and after the completion of the program. And for the maximal effectiveness, the number of participants from each prison is limited to 30. The study employs the action research and the phenomenological research as its main methodologies, whereas semi-structured interview, in-depth interview, focus group interview, and non-participatory observation are those of tools used. All the data qualitatively collected from facilitators, female inmates, as well as documents involved are

analyzed and interpreted to elucidate the reflection and action regarding learning process and facilitations that could successfully lead to the development of inner stability, and also to reveal the phenomena and dynamic of inner experiences of female inmates who have participated in the program.

Learning Process Design

There are 4 pillars that make up the entire learning process: **Self-awareness, Meditation, Social structure**, and **Transformative learning**, all of which is rooted in the Contemplative Education developed in Thailand's educational institutes in the past 10 years (Asdornnithee & Phukrongnak, 2012: 9). Self-awareness and Meditation are the major elements of contemplative education in which the learners must cultivate the strength of mindfulness and use it to explore and see deeply within themselves their own pattern (of thoughts, feelings and actions), prejudice, and worldview. Meditation also plays an important role in creating time and space of serenity and peace, so allowing ones to be able to come back to look after themselves from within and build up their own inner stability even when their life is in much turmoil. Social structure contributes to most part of the content of knowledge that the program would provide the learners in order to raise up their awareness regarding relationships and social systems. Ranks, classes, power, consumerism, gender, and spiritual feminism, all of these are the topics to be contemplated and worked out together in the group so that their life's difficulties would be unfolded and right understood. Lastly, Transformative learning gives the idea of how to work with the inner-most nature of a person, the frame of reference, in the way that the consciousness is developed to a higher stage where such person gains new capacity to perceive, understand, and be able to cope with the surrounding world with more complexity (Kitchenham, 2008: 120).

The learning program is set to be altogether 8 rounds within 10 months span. And each round lasts for 4 consecutive days. The contents, activities, and tools used in all 8 rounds of the program are summarized in Table 1 below.

Round	Contents	Activities	Tools / Materials
1st	Empowerment, attunement, and coexistence	Icebreaker, Dialogue, Deep listening / perception, Different forms of Self-awareness, Self-reflection, Self-acceptance and Empowerment, Cultivation of Love, Compassion, Integrity, and other desirable qualities , etc.	Group process, Group sharing, Drawing / Painting, Journaling, Comprehension / Questioning, Critical Thinking, Film-watching, Meditation, etc.
2nd	Self-esteem and relationship		
3rd	Self-understanding and in-depth personality		
4th	Creative & mindful communication		
5th	Self-contemplation through gender and culture		
6th	Embracing oneself by writing and drama		
7th	Self-contemplation through consumerism, and contemplative arts		
8th	Conclusion and life design		

Table 1: Summary of contents, activities, and tools used in the program

Opening Rounds

Although all participants were selected on voluntary basis, many of them, at the first place, did not feel very clear what the learning program was for, or wondered what the program and facilitators did want from them. On the other side, due to the strictness of prison life, most joined in the activities as a good girl, trying to say just nice things, complying with all rules, and not revealing what really was in their mind. Building up trust seemed to be the first task for everybody.

> *During the first self-introduction, many participants looked somewhat nervous and tense. But after they did some movement, all seemed to be more relaxed and joyful. Many participants said that they had fun and felt very happy. They liked to run around and shouting out loud because they were normally not allowed doing so in the prison area.*

When asked to do self-introduction with picture they drew to describe about themselves for the very first time, many just briefly said their name but were too shy to talk more. However, facilitators' welcoming words and spending time with artworks helped soothing the atmosphere. And when the group came up with the common agreements, there was one who said, *"Just do whatsoever that somebody has told you to!"* The facilitators then suggested to the group some more friendly examples, like non-judgmental open space, respect, voicing inner experiences, and confidentiality.

In the following days, different games were introduced to challenge the group. Many of them were not played just for fun, but to induce cooperation and coherent power of the team. As life in prison taught people to always perform strictly according to the instructions, participants, once instructed, would absolutely get the task done by whatsoever way. When problems arose, they tended to do some things, like projection or even cheating the game to avoid being caught as a faulty person.

> *Many tried to participate in the game, while some looked unconcerned and did whatsoever as somebody spoke up. The unsuccessful techniques were repeated over and over and argument broke up. No one really listened to one another but the dispute was still not severe. ……. Hours had passed, everyone seemed to be exhausted, tense, and bored. Many blamed others while some started to ask for extra helps or sought for new solutions like open a serious discussion. When participants settled down in smaller groups and began to share things mindfully, they learned that as they focused on the goal only, they have missed many untold voices and overlooked so many things along the way. They did not really see their friends in the team. The team went back to game with more receptivity and peaceful attitude with noticeably less blaming. More sacrifice and less projection finally led the group to success.*

Trust among each other and the feeling of safety began to build up slowly as participants got to know one another closely, with the assistance of activities like movement, icebreakers, group sharing, deep listening, role-play, and journal writing. One thing which was very much against the custom here was to voice and talk things out without any judgment. Another significant helper was the Meditation, as

facilitators found that to introduce participants some easy practices like breathing meditation that they could make use in daily life really made things different.

> *Being bold and strong is very much like a core value here. So sharing deep down and touching the vulnerable things inside was almost impossible at first, not to mention about crying. When Dialogue was seriously practiced in a small group, it was a good opportunity for anyone to be like a receptive container. When one person started to let her heart break open, another followed and the whole group was filled with calmness and ready to listen deeply. The group could then welcome more and more things including tears. Suffering seemed to reduce when authentically shared. Some dared to talk about her own mistakes in the past, some were fully active in role-play, and some began to ask more questions to learn about others' perspectives. Many could experience, though a short one, a serene moment and felt relieved after the sharing and breath work.*

Life in prison is an extraordinary one in the sense that sufferings and difficulties, both physical and mental, seem to be everywhere and, for many times, they look sort of overloaded. Things like this inevitably affected the learning process, too. Therefore, what the facilitators needed to do more to help the process to run smoothly was to work with the context and the involved people. Some of our facilitators approached warders and prison officers in a gentle and cooperative manner to gain trust and mutual understanding. And once during the process, an activity was spontaneously carried out to catch up with the upcoming national traditional festival of *"Loi Krathong"*[1], allowing participants to enjoy giving and receiving presents, as well as performing meritorious deeds and removing one's bad fortune.

Another activity that played such an important role to yield understanding and acceptance deeply within oneself and others was the *"Celtic Wheel"*. By simply categorizing personalities into 4 different types (Fire, Water, Earth, and Wind), participants could see clearly how each type's inner world functioned and eventually came up with the heartfelt appreciation in human diversity.

> *"Outside, I see myself as a Fire because I am short-tempered. When I am in here, I can no longer be like that but have to control and be more patient. It's not worthwhile to fight so I see no reason to remain short-tempered. I now see myself more like an Earth here. ……"*
> *"I feel so curious. I was born with all types, I guess. I like this activity because it makes me know more about myself."*
> *"I've got my own mirror. I have all types in me, though a little each. It's also situational."*
> *"I can see more about myself. And to make any changes, it has to start first with my own way of thinking, which may take the whole life to do so."*
> *"I analyze and understand my surrounding friends more and will improve my own habits."*
> *"Thanks to all types, we are all the same, having pros and cons. It's more important that how we make use of them."*

Approaching Half Way

After the first three rounds of the program, participants could now feel more of the intimacy and trust, as well as were accustomed to listening and sharing about inner experiences. The learning then a little shifted towards some content regarding outer issues, like gender, to raise the awareness in social belief systems, especially those imposed on women. Necessary information and facts were input to show how the society framed and affected the wellbeing of both men and women, then brain-storming was welcome. Meanwhile, self-reflection, including Dialogue, art works, and drama works, were carried out at times to ensure that each participant did not lose connection with oneself.

> *Most participants were eager to speak and share their own stories, partly because it was so familiar and directly affected their life. And when the gender box was clearly illustrated, some could realize the inequality and see its impacts. They came up with words saying how they truly felt when they themselves or their people of either gender had fallen victim to this. Some stories were cruelly hurt, and some were helpless but unavoidable.*
> *…….*
> *"Out there, if you are a woman you have to be pretty. That's what I believe. I even took drugs to keep my figure good, to make my body slim."*
> *"Ever since I could remember, I saw my dad hit my mom. He had many wives, hurt my mom bringing those women into our house. I felt very angry and thought that if I ever had husbands like my dad, I could kill them all. One day, I had a very good husband, however I could never fully trust in him. I couldn't stay with him long and felt guilty that it's me who was his curse."*

Seeing the oppression on one side, many participants began to understand the problems and difficulties encountered by her party on the other side, too. Moreover, they realized more clearly both positive and negative impacts of the gender box, and admitted that they wanted to become a new person, going freely out of the box.

> *Empathy and mutual understanding slowly emerged during today's talk. There was no criticism, outcry, or projection. The process itself was very much like healing one another, although there was one girl who was intensely shaken due to her own defense mechanism against the hatred for her father. She wept and felt disappointed that she was not able to forgive. She was approached attentively by facilitators and the healing for her seemed to take some more time. …….*

The program also invited some (female) guest speakers to join the sessions uncovering totally everything about their own past experiences. Some was abused because of the cultural belief that favored men over women. And some shared about their pressure of being homosexual. As the true stories had been sincerely told, this became such an inspiring and powerful example, showing how ones could liberate themselves from the old belief systems, be more open, and empower themselves to face up their problems with more faith and awareness.

Social issues like gender and sexuality allowed each participant to come back to deeply see her own wound which then determined her life ever since. Many had gained understanding, relief, and forgiveness, while others were still being trapped but able to recognize that state of mind and became more acceptable. Time could help but the attitude of non-judgment, no-advice, and no-conclusion yet would also contribute to the true liberation afterwards. Again, Meditation helped essentially keeping balance between the outer and the inner world.

At the end of the sixth round, one could apparently notice the light, relieved, and relaxed feelings in many participants. Many had known the way to be aware of and release out whatever emotion stuck in a truthful and desirable way, and at the same time, be able to spiritually take care of themselves. Mindfulness, formerly installed, now became such a spiritual device that one could make use of it whenever needed.

> *After a session of Meditation, one participant revealed that, "When I think of the light, I smile. The light makes me feel valuable for everybody."*
> *"I feel calmer, more discernable, and more acceptable. I try not to think too much."*
> *"I have switched my bedroom. I adjusted myself once again. It's easier this time. ..... Tired but fun. Yesterday, I lost my fan. I was angry with myself for not being mindful enough, still angry at the moment!"*
> *"I miss my friends. ..... I do sitting meditation everyday sending them all my best wishes."*
> *"Great! I could spend time with trees."*

Closing Rounds

The last two rounds time were devoted to the cultivation of long-term stability. This was achieved mainly by mindfulness, seeing one's own meaning in life, and self-contentment.

> *A participant reflected after contemplating what is precious in life, "Before, I never thought of loving myself. I hurt myself when angry. I felt satisfied when it hurt. Now, I learn to love myself more."*
> *"..... I told my mother that I love her. I have never said this to her before."*
> *The activity regarding consumerism allowed participants to realize that money or benefits could, many times, break the relationships apart, cause avarice, and make people compete.*
> *"A life of running after every wanting is an exhausting one. Now I know what a sufficiency is like. After I go out, I will change my way of life."*

A great example showing what participants finally learned was when one said, ***"The real problem is in here, my mind. If my mind becomes weak, or loses willpower, then things get worse. What really shakes me is from inside. Sometimes it's overwhelming, though. The most important thing is in here, if I have inner stability, then nothing can make me shaken."*** Indeed, the problems could be resolved just when we look back deeply inside and not outside.

To emphasize such importance, the inner stability could be created in many more ways, as facilitators introduced other forms of Meditation such as hand movement, walking, singing, or just bringing awareness back home, the breathing, whenever needed. Moreover, group counseling was also practiced to help open more space of sharing and supporting each other. Now they knew how to embrace one another's feelings and help them getting through with truthful and non-judgmental manner. By the way, "Being Mindful" or "Embracing" naturally became a catchword of the group.

By the completion of the learning program, changes in participants apparently noticed by facilitators (based on the data presented above) are summarized below.

1. Becoming more aware of oneself, feeling more of calmness and serenity from within, and having better skill in Meditation and being able to make use of mindfulness in daily life to sustain inner stability and reduce stress.
2. Having more of relaxed, trustful, welcoming, and caring atmosphere in relationships, including being able to deeply listen, as well as to sincerely voice.
3. Transcending one's old frame of reference into a broader and more relevant one with more capacity of making sense of the world. And also being less judgmental.
4. Unfolding one's own problem to see more of ways out, self-emancipating, and gaining back self-esteem and vital force.

The inmates' personal inner experiences inquired from interviews and journal writing also show similarity with those observed during the learning process. The phenomena found can be described in 4 aspects as follow.

1. The mind becomes more stable.

This started when participants could be aware and see more clearly their own inner world, no matter how good or bad it was. They can now delicately touch all those feelings with less resistance, at the same time, they feel more of happiness arising from self-acceptance, serenity, caring and supports from family and friends, as well as self-confidence and the commitment to make change in themselves.

> *"The program has changed my heart into a caring and tender one. ……. It's warm. Besides, there are many other warm hearts, too, my friends'. When I realize this, I know that I am no longer alone. There is no point to be inferior any more. Yes, my life is happy, it is indeed. Before, I didn't see this just because of my own negative attitudes."*
>
> *"There are a lot in here I can't describe. I only know that right now I am happy, and know how to make the rest of my life happy."*
>
> *"I was bored to death when first attending this training. I didn't know how to be with my self. It's completely impossible for me. But when I learned more, I started to like it. Seeing myself being more calm, and more mindful, I now can come back to look at myself, pay more attention to myself, and most importantly, I now love myself much more than I used to do."*

Many voices say not only that they are happy during the learning program, but also with much confidence that they, in the future, won't go back to be in trouble like before. This implies stability of mind and that the lessons in the past become like their immunity.

2. There are signs of spiritual growth.

One important ability is self-awareness that leads to the acceptance in one another. Difference and diversity are appreciated, interconnectedness is seen, and responsibility in all actions of one's own is recognized. Such growth then makes lives more authentic and meaningful, allowing ones to be able to make more contributions needed for others' wellbeing, and also to inspire others to grow.

> *"I see a little girl in me who needs cares and warmth. She now has a stronger heart which is ready to share warmth for others, too."*
> *"I am proud that my story can help a girl to stand up again. The power that energizes her seems to energize me, too. Now my heart, once halved, is full."*
> *"When I start to get angry, I come back and say to myself, "You are now angry, aren't you. Your heart is beating harder. Anger is coming, anger is coming." Only then, I can feel lightness. ……"*

As seen in many quotes, spiritual experiences help ones to become freer, less attached, and easier to let go things. Also, some have faith in something higher than their own selves, meanwhile, many can now seek happiness from within.

3. The view of life becomes expansive.

The content of Social systems introduced in the program resulted in broadening participants' view, and also, showed the healing effect. They become more objective, moreover, realize that one's own life can never be cut off from others and society. They are all connected, including whatever suffering they have at the moment. This new understanding leads to opening to other people's perspectives and to liberating oneself out of the trap. Moreover, non-judgmental attitude, forgiveness, and inspiration for a better life are now possible.

> *"We certainly don't live alone. Everyone influences one another. ….. Friends can always show me ways. ….."*
> *"I feel more relieved. From now on, I'll be careful not to judge anyone again, especially those things about gender. Now, I can be myself fully. I am proud of what I am without blaming anyone."*
> *"I want to understand the man I love, my husband, more. I want to listen to what he says, and accept more about what he is."*

The lessons learned, if not heal them completely, can help participants to realize their own feelings more clearly and see deeply to the origin of the problems, which make them in better balance.

4. Meditation has naturally been integrated into life.

Being still and serene has more become very much like a familiar state of mind in many participants. Many have applied different ways of Meditation they have learned from the program to cope with various difficult situations in reality. Therefore, this is the essential way of how to take care of oneself in long-run and to be able to remain calm and stable from within even when life is facing difficulties.

> *"Recently, I am quite emotional, can't really sit (sitting Meditation), however, I try to sit every day. I believe that my mind will be restored to calmness soon."*
> *"What I get most from the program is the mindfulness. I see my surrounding friends with mindfulness. When they are sad, I mindfully listen and pay attention to them. If I can suggest them something, then I'll do, if not, I just cheer them up, and share whatsoever good."*
> *"I really like when I can be aware of my mind. I am practicing it at the moment. Before, my mind was really like a monkey. But now, if I see that I will bring it back to myself."*

After the 10 month long learning, participants feel grateful to what they have experienced realizing by themselves their own inner changes, the feelings of joy and happiness, and the expansion of their heart and perspectives.

Behind the scene

There are many components both within the inmates themselves and in the learning program facilitation, including qualities and competency of facilitators, that affect the outcome of this program. Very grievous and traumatic backgrounds in many female inmates, the pressurizing and oppressive atmosphere of the prisons, as well as the characteristics and nature of mind of participants certainly affect the facilitation in many ways.

In brief, action and reflection throughout all the 8 rounds of learning in both areas are analyzed and interpreted to obtain 14 key components which contribute to the success of this program facilitation. Those key components are as follow.

1. Mindfulness All activities are based on mindful approach, which is done through different ways of Meditation.
2. Inner Teacher The direction of learning is to bring ones back to their inner self. The final "A-ha" must come from within.
3. Contemplation The learning allows learners in their own sufficient space and time to inquire deeply.
4. Experience-based Validation The authentic learning must come from direct experiences ones have encountered.
5. Trust The learning is made possible in the atmosphere of relaxation, safety, and non-judgmental and non-marginalized manner.
6. Delicate Participation The learning is made possible by the attitude of compassion, empathy, intimacy, and gently attentive manner.
7. Holistic Approach The learning process is done through all channels, including sensation, feeling, thinking, and intuition.

8. Interconnectedness The learning must be connected with all aspects of learners' life across all time.
9. Commitment The learning makes learners to hold on to long term and regular practices.
10. Continuity The learning must take place over a sufficiently extensive length of time.
11. Fluidity For the sake of learners' benefits, the learning can compromise the fixed goals.
12. Contextual Work The learning process has to also work out with the learners' life context.
13. Community Not for individual, but the learning needs help and support from the group to bring about the collective growth.
14. Aim of Transformation The learning process works out with learners' frame of reference in order to let them go beyond their edge and open up their new perspectives and worldviews.

The comprehensive 14 components described above altogether become a good mirror to reflect all important facets of a process when one facilitates. Likewise, the qualities of such facilitators must also be relevant. Easygoing, gently attentive, respectable, sensible, aware, decisive, pointed, profound, receptive, etc., all these attributes are certainly required for a successful facilitator. Nevertheless, what lies beneath such successful appearances is the fundamental belief that says, ***"All humans are indifferent in dignity. Everybody has compassion and a seed to grow all the same. And all can always change."*** One last, but not least, finding regarding the contemplation-based facilitator is from a quote in the final focus group interview, saying that:

> *"The spiritual growth of learners is inevitably related to the spiritual growth of facilitator him / herself, too. To bring down oneself, in an egoless manner, to learn, to listen, and not to attach to what one has learned before, together with to cooperate with teamwork, is the real key to success."*

Conclusion

The flow of the entire program can be divided into 3 different phases where one would respectively lead to another. It begins with *the preparatory phase* when participants start to build up relationship, gain trust, learn how to create an open, safe space without judgment, and familiarize themselves with mindfulness practices. *The middle phase* is the work upon perspectives and worldviews as participants learn to free themselves from the old frame and be aware of social impacts. And the last one, *the long-term stabilizing phase* happens when participants come back to practice their inner work earnestly and see how to sustain the inner peace for the rest of their life. As a result, the female inmates' inner transformation apparently happens and its stepwise dynamic can be elucidated as;

> *Trust gaining → Mind opening → Accepting and understanding → Unfolding → Setting free → Having faith in one's own life*

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Endnote

[1] Loi Krathong is a Thai festival celebrated annually in a full moon evening of the 12th month in Thai lunar calendar. In the festival, people float a banana-leaf cup decorated with flowers, incense sticks, and a candle, in a river to pay respect to the water spirits, let go of all one's defilements and bad luck, and give thanks to the Goddess of Water.

The Students' Satisfaction toward Managerial Economics Class

Sauwaluck Koojaroenprasit, Kasetsart University, Thailand

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Abstract
As a policy of the Minister of Education that want all the educational institutions improve the quality of their students to be smart, good, and happy person. Kasetsart University has realized about the importance of this policy, so all lecturers were encouraged to do the classroom research to improve and update their teaching.
The objective of this study was to analyze the students' satisfaction toward the managerial economics class. The methodology was a survey by collecting 47 questionnaires from students registered in this class. All respondents were the students in the department of economics at Kasetsart University, Thailand. This study employed Weighted Average Index (WAI). The results showed that the students had highly satisfaction toward taking the midterm and final exam with WAI 0.70 and 0.74, respectively. For the activities participated in this class, they had very highly satisfaction toward an oral presentation and summarization of the assignments with the same WAI (0.84). For their opinion toward the student-centered classroom, 74.47 percent of the respondents thought that this class was the student-centered classroom.

Keywords: classroom research, satisfaction

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Introduction

As a policy of the Minister of Education that want all the educational institutions in Thailand improve the quality of their students to be smart, good, and happy person. Kasetsart University have realized about the importance of this policy, so they support all lecturers to do the classroom research to improve and update their teaching to get that qualification and will be one of the quality education of the university's guarantees.

Significant documentation exists to demonstrate that in order to develop and improve teaching, lecturers need to reflect on what they do on a regular basis. Classroom research is one way of improving reflectivity which in turn helps improve various aspects of learning in the classroom (Mills, 2003; Alber & Nelson, 2002; Falk & Blumenreich, 2006). Often lecturers fear getting involved in classroom research. They do not see how research can enhance their work because they lack training and knowledge to see the connection (Glanz, 2003).

As Nunan and Baily (2009) explain, there are different possible definitions for "classroom research". Fundamentally, classroom research involves doing research in school setting about teaching and learning. In this paper I define classroom research as a process of investigation questions about teaching and learning that is undertaken by lecturers who want to improve their teaching and the learning of their students.

The department of economics, Kasetsart University has also encouraged the lecturers to do classroom research. The managerial economics is the integration of economics subject in the department of economics and the management subject in the department of business administration.

Objective of the Study

The objective of this study is to study the students' satisfaction and comments toward managerial economics class.

Research Methodology

Sample

The sample in this study was undergraduate students in the department of economics, Kasetsart university. The subject in this study was forty seven students undergraduate students enrolled in a basic 200 level economics course. The class met for 90 minutes twice a week during a 16 week semester. There are three majors in the department of economics; economics, agricultural economics and cooperatives economics. All students enrolled were economics major. Of the participating students 46 were sophomores and 1 senior. The course used power point handouts, had students participate in some activities such as summarization of the assignments, an oral presentation (in addition to other course requirements) and required students to take two exams. The final grade was aggregated by adding up the exams, summarization of the assignments and an oral presentation.

Data Analysis

A questionnaire survey was used to identify the students' satisfaction. The questionnaire was divided into three parts. The first part probed for students' personal data. The second part inquired about students' satisfaction toward this class, and the final part was open-ended questions to elicit students' comments for this class.

Questionnaire responses used a five-point Likert scale implemented to assess students' satisfaction toward this class. The respondents answered, on this five-point Likert scale, indicating whether they were very poor, poor, moderate, good or very good by assigning weights. Then, a weighted average index (WAI) was applied to analyze students' satisfaction. Following (A. Black and Dean J. Champion, 1976), WAI has been computed using Equation (1).

$$I = (\sum s_i f_i)/N \quad (1)$$

where, I = WAI, such that $0 \leq I \leq 1$, s_i denotes the scale value at the i-th priority ranging from very poor, poor, moderate, good to very good, f_i denotes the frequency of the i-th priority and N is equal to the total number of observations = $\sum f_i$. WAI was used to transform the satisfaction of respondents from a nominal scale (very poor–very good) into numeric scores. The scores were classified into five levels by providing weights, such as: 0–0.20 = very poor; 0.21–0.40 = poor; 0.41–0.60 = moderate; 0.61–0.80 = good; 0.81–1 = very good.

Results

Students' Personal Data

Of the participating students 46 were sophomores and 1 senior. There are 20 male students and 27 female students. A majority of the students are 20 years old with their cumulative grade point average between 2.50 to 2.99.

Students' Satisfaction

Table 1 showed the students' satisfaction toward this class. The results showed that the students had highly satisfaction toward taking the midterm and final exam with WAI 0.70 and 0.74, respectively. For the activities participated in this class, they had very highly satisfaction toward an oral presentation and summarization of the assignments with the same WAI (0.84). For their opinion toward the student-centered classroom, 74.47 percent of the respondents thought that this class was the student-centered classroom (table 2).

Table 1: Students' Satisfaction

Satisfaction toward.....	Weighted Average Index (WAI)
a midterm exam	0.70
a final exam	0.73
an oral presentation	0.84
summarization of the assignments	0.84
power point handouts	0.86

Notes: WAI: 0–0.20 = very poor; 0.21–0.40 = poor; 0.41–0.60 = moderate; 0.61–0.80 = good; 0.81–1 = very good

Table 2: Students' Opinion toward Student-Centered Classroom

Do you think this class is the student-centered classroom?	number of respondents	percent
Yes	35	74.47
No	3	6.38
Not sure	9	19.15
Total	47	100.00

Students 's Comments for This Class

1. This class should have textbook.
2. The font size of power point handouts was too small.
3. This class should have a field trip.

Conclusion

The objective of this study is to study the students' satisfaction and comments toward managerial economics class. A questionnaire survey was used to identify the students' satisfaction. The sample in this study was undergraduate students in the department of economics, Kasetsart university.

The results showed that the students had highly satisfaction toward taking the midterm and final exam The results showed that the students had highly satisfaction toward taking the midterm and final exam. For the activities participated in this class, they had very highly satisfaction toward an oral presentation and summarization of the assignments. 74.47 percent of the respondents thought that this class was the student-centered classroom.

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Contact email: fecoslp@ku.ac.th

The Influence of Lecturer Achievement Index (LAI) toward Student Achievement Index (SAI) Case Study of STIE Madani of Balikpapan

Kartini Rahmatillah Wahab, STIE Madani Balikpapan, Indonesia

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Abstract
Good lecturer brings good student. The result of student achievement is determined by the performance of lecturer. This study aims to determine lecturer performance seen from student achievement index for 1 (one) semester and focused on lecturers nurturing a certain course. This research is expected to contribute information of reducing lecturer shortcomings and improving lecturer performance seen from student perception. This observational research was conducted in STIE Madani Balikpapan by distributing questionnaires to all students of 2011 – 2012 class. Data were analyzed using regression analysis, descriptive statistics and statistical tests.
Lecturer Achievement Index (LAI) showed an average of 2.867 with a standard deviation of 0.39015 with minimum value of 1.46 and maximum value of 3.91. The average value of LAI is still below 3.0 indicates shortfall in lecturer performance in STIE Madani Balikpapan. Student Achievement Index (SAI) showed an average of 3.1186 with a standard deviation of 0.73075 with a minimum value of 0.40 and a maximum value of 4.00. The average value of SAI is above 3.0 indicates student achievement of STIE Madani Balikpapan which has been ideal. SPSS output display models of summary magnitude R Square (R2) was 0,137, this means 13.7% of the variation of SAI can be explained by the variation of LAI. Based on SPSS output display, for the unstandardized beta coefficient value, the variable of LAI is significant which can be seen from LAI significance probability of 0.000 (below 0.05). Then it can concluded that LAI influence SAI significantly positive.

Keywords: Lecturer Achievement Index, Student Achievement Index, STIE Madani

Introduction

Learning and Teaching Process (PBM) is a complicated process in which it involves not only student, but also teacher/lecturer and college which focuses much on student and teacher/lecturer as 2 (two) main involving parties directly. Teacher/lecturer is a giver and student is a receiver in transferring knowledge process inside class and within college.

To be able to result a qualified output or graduate, it needs a qualified teacher/lecturer also. This is not to stand aside the role of college that also tries to prepare facilities and tools for the learning and teaching process. Honestly, there are still rumors that blame the role of teacher/lecturer because of not succeeded in resulting a qualified graduate. Teacher/lecturer is blamed not capable to teach or transfer their knowledge to their students. Therefore many students, even though they graduate but still cannot compete in similar subject with other students. In fact, there are many factors affecting the lack of qualified student graduating from college. We cannot misjudge teacher/lecturer only from one side without seeing the other side that may affect this fact.

High-quality universities are universities that are able to create qualified graduates also who are able to produce quality as well. This would require the participation of many parties. These parties are also required must have the drive to achieve, not only lecturers but also students, staff or employees who always think to excel. Emotional intelligence is also needed in an educational organization. Achievement motivation is the spirit of hard work to always give the best contribution to the creation of human resources that have good quality. It gets even better when paired with emotional intelligence (Mardatillah & Rahmatillah, 2008). Therefore, when the lecturer has a sense of high achievement motivation to improve the insight and knowledge of the subjects to which it aspires, then indirectly they will be motivated to improve student achievement.

Lecturer is one of the essential components of the education system in college. Roles, duties and responsibilities of the lecturers are very significant in realizing the goal of national education, i.e. educating the nation; improve the quality of human beings, including the quality of faith and piety, character, and the mastery of science, technology and art. To be expected to create an advanced Indonesian society, fair, prosperous and civilized. Because their roles and responsibilities are heavy, lecturers are always prosecuted shown to have a good performance. To produce a good performance, lecturers need a few things such as high motivation, adequate competence, good leadership and a supportive work environment to be able to improve its performance (Pramudyo, 2010).

In the process of teaching and learning, the higher Education (PT) need to evaluate the teaching and learning process performed in the PT environment. It is intended to see how is the lecturer ability of teaching from semester to semester for each subject taught, as well as the correction of the deficiencies that have been made so that in the future it could be better. There are many similar researches about influence of lecturer's performance toward student's achievement. The difference with this research lies on the matter that we can find out lecturer's performance from student's achievement in a period of 1 (one) semester and focuses on every lecturer that taught

at least 1 (one) lecture. Of the distribution of questionnaires to the respondents, in this research is student, we can evaluate lecturer's deficiency seen from student appraisal and other things that should be reduced in order to make it better.

This is what lies behind the researcher to raise this issue, especially at STIE Madani in Balikpapan. Therefore the problem of the research is the influence of lecturer performance toward student achievement at STIE Madani in Balikpapan

Theory

1. Lecturer Achievement Index (LAI)

In measuring lecturer's performance in learning and teaching process, one of which is by measuring the Lecturer Achievement Index (LAI) of one subject that is going to be evaluated. In LAI it is consisting how the appraisal of student's perception toward lecturer's profile being evaluated, including the appraisal of the subject that he is following. LAI has benefit of knowing how far a lecturer is able to deliver a qualified teaching method according to the students where everyone hopes that he/she can be a professional lecturer in his field.

2. Learning Achievement (Achievement Index)

One thing for sure that is hope within the process of learning and teaching in class is that there will be an achievement from students as real form of successful teaching that is done by lecturer. This achievement can be seen from the learning achievement (or Achievement Index) by the end of the lectures period. In Indonesian Dictionary, achievement, achievement can be said as a maximal ability or as a highest ability of someone (Poerwodarminta, 1999). Learning achievement is the result of student based on their value that they gain during lectures and from their lectures examination value. It is according to Sudjana (2000: 49) that said learning achievement can be explained as every value that anyone has for his level of ability in the form of score or value or cumulative score or every attitude changes gained by students.

Mediawati (2011) said that in implementing the learning and teaching process, student learning achievement is an output that is always hoped by people involving in that process, either lecturer, student, or parents that is indirectly has role for that process to be successful. Learning Achievement is a result of lecturer's hard work during lectures and students that function as receiver. It can also say that learning achievement is a result of learning of a student following and doing all task and activities during lectures in college (Tulus, 2004: 75).

The improvement of student learning achievement is influenced by the quality of learning and teaching process in class. Therefore, to be able to improve the quality of student learning achievement, the process of learning and teaching in class must be implemented well, usefulness, and effective. This process will run well if it is supported by lecturers having qualified competency and performance. It is in line in statement from Department of Education (regulation of 1991/1992) about lecturer being the spearhead and front implementer in student education, also as curriculum developer. Lecturer having a good performance will increase student motivation and spirit that in the end will lead to the improvement of a good learning and teaching

(Widoyoko, 2009). Learning achievement can be reached by student is influenced by internal factors, such as interest, talent, motivation, and intelligence level and external factors, such as learning method and environment. Beside student, the important factor that must exist is teacher or lecture. Lecturer is a person that gives knowledge and teaches values, morals, social thing at once. Having these roles, lecturer is in charge of having wider knowledge that will deliver to his student. Lecturer has to choose the perfect and suitable learning method according to his class and student so that everyone can involve well in the process of learning. Several learning method can be modified to be used in class. This is for one goal only, that is to improve the activity of student learning (Slameto,2003: 96).

3. Performance Theory

Performance becomes an important matter and get serious attention from many various circles, especially for those in the field of services. Education is one of this field. Measuring performance in education actually does not only direct to the lecturer as profession, but more on the supporting elements, like academic staff, administration section, cleaning section, and the others. This is because all of these sections is related to one another. Performance can be defined as something that we reach or it is about an achievement that shows us about the working ability (Poerwodarminta, 1999). Another definition about achievement is that, the word "achievement" comes from the word job performance or actual performance (working performance or achievement of someone). There, we can conclude that achievement (or working achievement) is the working result both quality and quantity that someone has reached in doing his task based on his responsibility given to him (Mangkunegara in Yuniastini, dkk. 2005). Also Stoner in Yuniastini, dkk. (2005) defined achievement as an achievement that is shown by employee. It is a result that he got in after doing his tasks given to him, based on ability, experience, seriousness, and the available According to Mangkunegara (2001: 67-68) factors affecting anyone's performance are:

a. Factor of ability, generally it is divided into potential ability (IQ) and reality ability (knowledge and skill) and lecturer should have these abilities to be able to finish formal education level, at least Postgraduate level and have ability to teach courses relating to his ability.
b. Factor of motivation, it is formed from anyone's attitude in facing working situation. While motivation for lecturer is important to reach vision and mission of educational institution. Being a lecturer is supposed to be motivation that is formed in the beginning (by plan), not because of compulsion or by chance only.

Evaluation of an effective performance measurement has to involve one side being evaluated and the assessor. There are 5 (five) criteria that are used to evaluate the measurement performance according to Dessler (in Ariyani, 2009: 114), that are:

a. Factor of clarity: time of implementation, goal, assessor, criteria of assessed, and procedure of measurement.
b. Factor of motivation: effect toward motivation, promotion, reward compensation, and the involvement of assessor and assessed.
c. Factor of justice: assessor objective, assessor is the right person.

d. Factor of feedback: report/measurement result, measurement result is discussed with employee.
e. Factor of follow up: improvement to lecturer that has minor performance, evaluation to the manual and implementation of measurement being held.

Lecturer performance is one of determining factors f the successful of learning and teaching process in higher education. Prawirosentono (1999) said that there is a close relation between individual performance and company performance. This statement shows that if lecturer performance is good, then the performance of the college will also good. Therefore, in this research, the alternative hypothesis is:

H1*: Lecturer Achievement Index (LAI) influences positively significant to Student Achievement Index (SAI)*

Methodology

Type and Research Data

This is an observational research that is done by cross-sectional way. Research is done by using questionnaire (primary data) distributing to all students of odd semester in academic year of 2011-2012, and this is become the population and sample at once. The data can be seen from the table below.

Table1. Distribution of Student of Odd Semester of 2011 – 2012

No.	Semester	Study Program	Amount
1.	Semester I	Diploma 3 (D3) Accountancy	103 people
2.	Semester I	Undergraduate (S1) Accountancy	149 people
3.	Semester I	Undergraduate 1 (S1) Management	74 people
4.	Semester III	Diploma 3 (D3) Accountancy	79 people
5.	Semester III	Undergraduate (S1) Accountancy	80 people
6.	Semester III	Undergraduate 1 (S1) Management	50 people
7.	Semester V	Diploma 3 (D3) Accountancy	81 people
8.	Semester V	Undergraduate (S1) Accountancy	38 people
9.	Semester V	Undergraduate 1 (S1) Management	17 people
		TOTAL	**671 people**

Source: Administration Section of STIE Madani Balikpapan (2011)

Research Measuring Instrument

Measuring instrument used in this research is a specific instrument based on the principle and lecturer certification appraisal aspect, which is divided into 9 (nine) criteria of lecturer performance, they are:

a) The clarity in delivering material;
b) The way of delivering material in class systematically;
c) Ability to encourage student to involve actively;
d) Ability to grow student learning motivation;
e) Lecturer discipline to given time class;
f) Ability to use learning and teaching strategy;
g) Ability to use learning and teaching media;
h) Similarity between subject material and syllabus and examination material (middle exam and final exam).
i) Lecturer's total presence in delivering lectures within 1 (one) semester.

Each aspect is measured with several items that have an alternative answer ranged from 4 (four) scale as the following:

a. Score 0 if it is very bad or very low;
b. Score 1 if it is not good or low;
c. Score 2 if it is usual or enough;
d. Score 3 if it is good or high;
e. Score 4 if it is very good or very high.

From these instruments, t is hoped that it can identified the lecturer achievement in giving teaching or lectures inside or outside class, student appraisal to lecturer quality and ability that they are following the class, and also treatment that they are facing in the learning interaction.

This method can be a reviewer tool for college leader about learning strategy given to students and the result can give many recommendations to sector and subsector policy, strategy and program of lecturer certification to improve the learning quality and lecturer ability, especially the impact to students.

Research Model and Analysis

This research uses regression analysis, which is developed into a research model to study the influence of lecturer achievement by students toward student achievement index with a formula or model like this:

$$SAI = \beta_0 + \beta_1 LAI + e$$

Notation:
SAI is Student Achievement Index
LAI is Lecturer Achievement Index
e is term error

After getting the estimation parameters, the next step will be doing some testing to these parameters by using : descriptive statistic and statistic test.

Result

Descriptive Statistic

Table2. Descriptive Statistic

	N	Minimum	Maximum	Mean	Std. Deviation
LAI	129	1.46	3.91	2.8670	.39015
SAI	129	.40	4.00	3.1186	.73075
Valid N (listwise)	129				

Source: STIE Madani, (2012)

According to explanation from Table 2, it can be concluded as these following:

a. Lecturer Achievement Index shorten as LAI shows that the average of LAI is 2,867 with deviation standard of 0,39015 and the minimum value is 1,46 while the maximum value is 3,91/ From this result, it means that the average of LAI value is below 3,0 showing that the lecturer achievement of STIE Madani Balikpapan is not ideal yet.
b. Student Achievement Index shorten as SAI shows that the average of SAI is 3, 1186 with the deviation standard of 073075 and the minimum value is 0,40 while the maximum value is 4,00. From this result, it means that the average of LAI value is above 3, 0 showing that the student achievement of STIE Madani Balikpapan is already ideal.

Statistic Test

a. Goodness of Fit Size (R^2)

Table3. Determination Coefficient
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.370[a]	.137	.130	.68158

a. Predictors: (Constant), IPD

From the output display of SPSS, for the model summary, the value of R Square (R2) is 0.137 which means that 13.7% of SAI variation can be explained from the LAI variation. While the rest (100% - 13.7% = 86.3%) is explained by other causes outside the model.

b. Significance Test (T-test)

Table4. T-test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.132	.447		2.534	.012
	IPD	.693	.154	.370	4.487	.000

a. Dependent Variable: IPM

According to the output display of SPSS, for the unstandardized beta coefficient, variable of Lecturer Achievement Index (LAI) is significant, which can be seen from the significance probability of LAI as much as 0.000 (below 0,05). Hence, it can be concluded that Lecturer Achievement Index (LAI) influences Student Achievement Index (SAI) positively significant with the mathematic formula as:

$$SAI = 1.132 + 0.693 \ LAI$$

- Constants as much as 1,132 said that if independence variable of the LAI is assumed to be constant, then the average of SAI is as much as 1.132;
- Regression Coefficient of LAI is as much as 0.693, it means that every addition of LAI as much as 1.0 will increase the SAI as much as 0.693.

Conclusion

According to analysis result above, it can be concluded that the alternative hypotheses that said the Lecturer Achievement Index (LAI) influence positively significant (0,693) to Student Achievement Index (SAI) can be accepted and it is also consistent with the performance theory that was previously explained before. This conclusion indicates that how importance the improvement of Lecturer Achievement Index (LAI) to upgrade the Student Achievement Index (SAI) in STIE Madani in Balikpapan. Furthermore, it needs a continuous program that focuses on improving Lecturer Achievement Index (LAI) in STIE Madani Balikpapan. Hopefully, the program in relation to this research will be some like workshop to improve these following problems:

1. The clarity in delivering material;
2. The way of delivering material in class systematically;
3. Ability to encourage student to involve actively;
4. Ability to grow student learning motivation;
5. Lecturer discipline to given class time;
6. Ability to use learning and teaching strategy;
7. Ability to use learning and teaching media;
8. Similarity between subject material and syllabus and examination material (middle exam and final exam).

For further research, it needs a development of wider research model for explaining the improvement of Student Achievement Index (SAI) by its independent variables. It can be done by making several criteria of valuing the Lecturer Achievement Index

(LAI) into independent variable, so that it will be clear about what STIE Madani Balikpapan must do to improve the Lecturer Achievement Index (LAI), not only for permanent lecturer but also temporary lecturer.

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Contact email: kartinirahmatillah@ymail.com

Joys and Pains of a Public School Principal: Educational Accountability in the Philippine Context

Ylcy Balicoco, Atty. Orlando S. Rimando National High School, The Philippines
Sylvia J. Pidor, University of the Immaculate Conception, The Philippines

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Abstract
While considerable interest has been accorded to evaluating the leadership effectiveness of school principals, rarely would research put focus on the things that enthuse or frustrate them in the course of acting in response to the call of educational accountability. As such, this qualitative study focused on an investigation of the hardships and milestones of principalship through a multiple case study of five public school principals with noteworthy personal and professional qualifications in Compostela Valley. Thematic analysis was used and was enriched by a cross-case analysis and evaluation of data gathered. Participant observation, annual implementation plans, leadership self-assessment questionnaire, and in-depth interviews were conducted. Findings revealed that joy of public school principals included accomplishing plans, inculcating discipline, generating more instructional leaders, facilitating teacher promotion, credit for success, thriving collegial relationship, and increasing student promotion. On the other hand, the pains faced by public school principals in relation to educational accountability were learning from criticism, indifference to teacher training, political game, leading change, dealing with failures and frustrations, being misconstrued, and professional jealousy. These themes disclose to us how school principals exert substantial effort to respond to their educational accountability which in turn may give them joyful or painful experiences as educational leaders.

Keywords: Educational Leadership, Qualitative Case Study, Public School Principals, Educational Accountability, Philippines

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Introduction

As a student, I once aspired to be a school administrator brought by the insistence of my father who was one before he retired from the service. I found school administrators to be inspiring, easy to speak with and genuinely interested in students. As a teacher, early experiences with principals captivated my spirit and from an observer's perspective, lent to highly enjoyable positions. However, later experiences as a teacher provided a different perspective of the school principal – pressured, overworked, and overburdened.

Surely, being a school principal is a tough job. I witnessed how both my father and my sister put essence to the enormous workload that a school principal faces. I have seen how they were always "on the job" even when they were off for vacation or on weekends. I have seen how the position has become a 24-hour job as the school is constantly in their thoughts. Nonetheless, it has to be because, as the leader, they are be responsible for faculty, staff and, most importantly, the students.

Undeniably, principals' lives have become more stressful in and out of the workplace being constantly accessible via cell phones, email, and other methods of communication (Langer & Boris-Schacter, 2003). They are enjoying less vacation time, leisure time, and less quality time with family and friends, which can also increase work-family conflict (Tatman, Hovestadt, Yelsma, Fenell, & Canfield, 2006) leading to a lower quality of life.

In many developing countries, decentralization of education and School-Based Management (SBM) are creating new challenges for the school principal that few are able to meet (Chapman, 2000). Not to mention the social and political pressures by the community which significantly influence principals' job performance (Hughes & Jones, 2010). That is why in Thailand, they established a system that ensures principals are developed and nurtured regularly as outlined in their National Education Act to ensure that principalship position remains an attractive and a highly respected position (Numkanisorn, 2002). Afterall, the enormous workload in the job may lead to acute shortage of leadership at the helm of many schools (Kruger & Sleegers, 2007).

Analogous to this, principals often work extended hours, with workweeks of 60 or even 80 hours (Gilman & Lanman-Givens, 2001), face tremendous pressure (Ackerman & Maslin-Ostrowski, 2002), and in recent years, many have found it virtually impossible to cope effectively with the multiple pressures of the job (Borsi-Schacter & Langer, 2006). Furthermore, the pressure on principals to be school managers, disciplinarians, and instructional leaders has made the job more difficult (Hughes & Jones, 2010).

Remarkably, the perennial problems of shortages in teachers, classrooms, books, seats, and water and sanitation facilities faced by Philippine public school principals seemed to have always been in the backseat (Masinag, 2012). The country's public schools, Alliance of Concerned Teachers alleged, is still short of 112, 942 classrooms since the 59, 671 budgeted classrooms were not built by the Department of Education in 2014. The group added that 4,281 schools still have no water supply because of the failure to implement 16,920 water supply projects last 2011. ACT added that 10,514

schools still have no electric service and at least 23,928,335 textbooks and modules are still needed. Only 12,775, 823 of that number were delivered last 2014 (Malipot, 2015).

With these scenarios, it is no surprise that studies about principals emphasize on the need for them to excel and neglect looking on what reasons make the job of leading a school attractive and at the same time frustrating (Malone, Sharp, and Walter, 2001). My interest in conducting this multiple case study was fuelled by Petrosko (2000) who highlighted the crucial role of principals as the most visible players in school reform efforts and as the most accountable for the success of students and the success of the school as a whole. Yet, too often teachers are solely held accountable for student learning to take place. Nonetheless, Galal (2002) explained that the challenges of instructional leadership can also be rooted in the principal-agent problem occupying the core of any education reform. The principal is interested in particular outcomes (such as good quality education), but has to rely on an agent (e.g., teachers) to obtain these outcomes (Chapman, 2008).

This multiple case study which utilized in-depth interviews of the informants enriched by interviews with faculty and students, and analysis of the school's Annual Implementation Plan presents the various lived experiences of the five public school principals in Compostela Valley Division, Philippines. This research was undertaken to investigate the question: "What are the joys and pains of school principals in relation to their educational accountability?" To ensure that informants' anonymity was maintained, pseudonyms were assigned to each and were used throughout the discussion of this research. On the whole, this multiple case study contributes to the budding literature that puts essence on how principals put emphasis on their role as they balance the inevitable joys and pains of educational leadership.

Conclusion

Indeed, school principals are one of the most misunderstood persons in the public school setting and the popular phrase "wait until you become" is true. Though as a teacher, I can observe how demanding a principal's job is, getting to know my informants and collaborating with them for four months for the fruition of this research endeavor gave depth and enriched my understanding on how tough their role is. Yet, behind the hassle and bustle, I was able to see the visage of prudent public school principals who constantly work with nobility and magnanimity despite the countless obstacles along the way.

Their journey from teaching to principalship significantly prepared them personally and professionally for the birth pains in leadership. Their experiences shaped them to effectively align their actions spot on to their goals making it possible for them to delight in the sweetness of the joys in educational leadership which include accomplishing plans, inculcating discipline, generating more instructional leaders, facilitating teacher promotion, credit for success, thriving collegial relationship, and increasing student promotion.

However, it is undeniable that the current role of school principals has swelled to include enumerable tasks. Hence, in the course of responding to these needs, they become inescapably vulnerable to the pains in educational leadership which may take

the form of learning from criticism, indifference to teacher training, political game, leading change, dealing with failures and frustrations, being misconstrued, and professional jealousy.

Joys of a Public School Principal

Accomplishing Plans. Iron Man, Wonder Woman, Miss Marvel, Professor X, and Batman expressed their satisfaction when things go according to plan and when they reap good results. When faced with hindrances, they admitted the importance of focusing on solutions rather than on problems as they are persons expected to step up being looked up to by the group for leadership. It is apparent that they put emphasis on setting plans that are realistic and are achievable given the resources the school has. All of them shared that because of the hectic schedules public schools are faced, it is vital to ensure justifiable information dissemination with regards to how plans for activities in the entire school year will be carried out comprehensively.

In the planning stage, Batman suggested the need for the school to coordinate with the Parents-Teachers Association especially on matters concerning fiscal allocation bearing in mind that the school's Maintenance and Other Operating Expenses cannot be used for purposes beyond those mandated by the Department of Budget and Management (DBM). While on the other hand, every single principal-informant emphasized the need to elaborately present all the relevant information to teachers necessary for these teachers to comprehend the expectations set for a certain school year. By keeping teachers well-informed, principals could anticipate greater commitment as teachers perform active roles in the execution of programs, activities, and the like. Ultimately, Miss Marvel accentuated the need for plans to be executed at the onset of every school year since schedules of activities initiated by higher offices inevitably go frenzy as the year progresses. These programs, unfortunately, are most of the time prioritized by principals over their long-planned school activities especially LGU-initiated activities and the like.

Along with the principal-informants' intent to accomplish their plans, Batman and Wonder Woman emphasized the need for an evaluation to ensure replication of effective practices and to avert failure in the execution of the outlined activities and programs. Nonetheless, Professor X conveyed that even the execution of the school's day-to-day routines make leaders feel accomplished like students refraining from breaking the school policies, their active role in the submission of school reports, day focused on class instruction, and the list goes on. Summing all of these is Iron Man's statement that collaborative efforts manifested by teachers make accomplishing all school plans even more victorious.

Inculcating Discipline. Iron Man and Wonder Woman both shared similar views on how nurturing a culture of discipline makes them happy and fulfilled as educational leaders. Along this, they mentioned the need for thoroughness and consistency in the implementation of school policies to communicate to students and teachers that they mean business. As such, they have various schemes to ensure policies instituted are followed. They assign specific roles for teachers, especially the advisers, to perform and even to the school's nonteaching personnel as they acknowledge the fact school principals when unaided, are constrained. Parallel to this, Wonder Woman highlighted

the importance of involving the community by motivating residents to take part in the execution of school policies. These insights reflect that principal-informants realize that indeed, in union there is strength.

To add, each of the principal-informants has unique strategies in ensuring that policies are followed – instituting fines, school maintenance works, demerits to teacher-advisers, etc. However, to ensure that everything is formulated with due consideration to parties concerned and to protect themselves from potential predicaments, they coordinate with teachers and especially with the Parents-Teachers Association to arrive at a sound agreement. Iron Man and Wonder Woman have seen the fruition of their efforts in instilling discipline through significant increase in student attendance and creation of a school climate fit for learning.

Generating More Instructional Leaders. It was gleaned from the responses of Iron Man, Wonder Woman, Miss Marvel, and Batman that they positively regard shared leadership as it lessens the bulk of responsibility they face in running the school. Such responses from them showed that they acknowledged the significance of empowering teachers and the need to encourage instructional leadership from everyone in school. The cases showed that their authority does not wane as others' waxes. This perception from the informants agrees with the notion that though principals have the most influence on decisions in all schools; however, they do not lose influence as others gain influence (Knapp, Copland, Honig, Plecki, & Portin, 2010).

Likewise, Miss Marvel and Batman showed that by developing a professional community of teachers who guide one another in improving instruction, teachers would not only be prepared for future career endeavors but at the same time, would be able to help the school achieve its goals of delivering quality instruction fit for the 21st Century. Drawing together their responses, it appeared that such purpose is materialized through the mobilization of Master Teachers (MTs) in crafting school-based trainings, coaching newly hired teachers, and compiling lesson plans for teachers to learn from each other's effective teaching strategies. On top of these practices, Iron Man and Wonder Woman manifested their positive regard for teachers engaging in graduate studies.

All four of them illustrated how they provide teachers with opportunities to practice leadership roles. Afterall, the support they accord to their teachers would help teachers to be more competent and committed in the endeavors of the school. Portin, Schneider, DeArmond, & Gundlach (2003) pointed out that when school principals positively view shared leadership, teachers' working relationships with one another are stronger and student achievement becomes higher.

Facilitating Teacher Promotion. Iron man, Wonder Woman, Miss Marvel, and Professor X all agreed that teacher promotion is a crucial motivating factor for teachers to continually do their best in the service as it reinforces efforts. They feel that promotion communicates to teachers a strong message that their school principals are attentive of their performance and are rewarding their contributions to the school. Principal-informants look forward that as consequence of promotion, their teachers will be able to experience considerable comfort in finances as their compensation increases. Moreso, it became apparent in the cases that school principals are distraught when their teachers retire from the service remaining as Teacher – I (T-I)

because it connotes their failure and inability to address the need for staff development.

Each of them has their distinct ways in facilitating the promotion of their teachers. They cite encouraging teachers to join professional development opportunities as through this, teachers are able to gain points needed to be in the lead during the ranking of items for promotion. Also, Miss Marvel and Iron Man have distinct ways of encouraging their teachers to enroll in graduate studies but both of them stressed the advantage of starting in the earliest time possible. They find seasoned teachers difficult to convince in pursuing graduate studies as they already have different priorities in life compared to the young, single teachers.

However, there are also instances when they remind their teachers to mellow down on their enthusiasm for promotion especially when they still are undeveloped in the service. Iron Man cited that by asking his teachers to craft a vision of themselves as part of their portfolio, he is guided in terms of staffing as those who aspire for administrative positions shall be accorded with administrative functions to better prepare them for the job.

Credit for Success. Noticeable in the cases of Iron Man, Wonder Woman, Batman, and Professor X is the view that participation and bringing home the most coveted prize in extra-curricular competitions are synonymous with school excellence which translate to success in their leadership. Such vary from the usual participation to school activities, to those in the higher levels – division, regional, and even national. Wonder Woman emphasized that it unfailingly brings joy to any school principal when teachers who thought that their prime years has already passed suddenly replenish their dynamism in scholastic competitions as a result of the school principal's motivation.

Understandingly, the vigor of school principals to participate in scholastic competitions and springs from the fact that these are avenues for the school's efforts to be noticed by the academic community as not only the students and the coaches are recognized but also the leadership manifested by the school principal. Meanwhile, the implementation of the Performance-Based Bonus (PBB) among government agencies allowed Iron Man to occupy the prestige he is now known for. This mechanism of the government gauges how well agencies, in this case schools, have performed for the past school year. More than the monetary reward, the prestige and honor to be identified as among the very few schools that are able to receive a PBB not lower than P20, 000.00 rejuvenates the commitment and dedication leaders have to hurdle the struggles of leadership and without fail steer their teachers towards excellence.

The happiness Iron Man and Wonder Woman feel in seeing their schools improve in terms of physical facilities stemmed from the idea that despite the limited resources public schools have, they were still able to provide their clients - the students, an environment conducive for learning. Both of them shared similar thoughts on their preference to be assigned in schools with incomplete facilities as this would provide them the essential challenge to work hard and in the end see how far they have achieved beholding the school's significant development. Afterall, they started from scratch.

Notwithstanding this, Iron Man emphasized the vitality of getting as much help as possible from different stakeholders for any school to realize its improvement goals. Such strategy has allowed him to provide the necessary instructional materials needed by his teachers and also furnish his school with equipment and facilities useful for students and teachers. He argued that the aesthetics strongly dictate public perception of the school as compared to curriculum efforts that may only be felt by people who are part of the school system. Nonetheless he cleared that the latter should not be put out of the way while striving for the former.

Thriving Collegial Relationship. Both Iron Man and Batman expressed their joy and satisfaction when they see their teachers gathered in one event and exude an atmosphere of brotherhood and togetherness. They regard that school achievements would be difficult if teachers are not united. Though Batman admits the inevitability of conflict as people have different mindsets, he claimed that these can easily be ironed out when a strong bond has already been established. He nurtures teamwork and camaraderie by guaranteeing that teachers feel that they are his equals and are not treated as his subordinates. Also, he makes use of special occasions to make his teachers feel that they are loved and appreciated as he gives simple gifts and tokens to them in the hope of making them experience his genuine regard for everyone.

While Iron Man also views nurturing camaraderie and teamwork as vital in fostering a harmonious work environment, he does this in his own unique ways. He arranges local and international educational tours with his teachers so that they are able to create memories together. Though along the process, there are those who show disagreement about their travels, however, he finds this tool effective as even his critics in the long run choose to abstain from being pessimistic and would choose to be with the group than retaliate.

Increased Student Promotion. The cases showed that principals are aware of their role in significantly paving the way for providing a positive impact in the lives of their students by helping them pass their subjects and graduate. They realize the importance of decreasing the achievement gap between advantaged and disadvantaged students by encouraging teachers to constantly monitor and exhaust all means possible to help these weaker students succeed. This of course, is done without compromising the standards of the Department of Education.

Iron Man insisted that as long as there is an observable improvement in the learning behavior of a student, it should be enough to help him pass and eventually, graduate. Possibly, he claimed, school achievement is not conclusive of student success in work and in life. In like manner, Miss Marvel, being assigned in a barangay school addressed the needs of learners whose absences are brought about by low family support and parents who sadly serve as roadblocks. She maximized the School-Based Feeding Program (SBFP) to feed not only malnourished children but also those who go to school in an empty stomach. Further Miss Marvel and Wonder Woman employ alike scheme in monitoring graduation rate via organizing a committee tasked to keep an eye on students who show signs of dropping out, and by providing them with modules to keep up with the class. Summing everything together, the perception of Miss Marvel and Wonder Woman concur with the discernment of Professor X as he holds that teachers of this era should be more effective in raising student achievement

as they are now aided with modern technology which when optimized can efficiently help students cope with their lessons.

It can be observed across the cases that school principals uphold the importance and endeavor to make certain that the Department of Education's thrust on "Education for All" gets picked up by the faculty and is underpinned in a school-wide learning improvement agenda that focuses on goals for student progress. School principals ensure that all means to help students succeed are exhausted and failing students would be the last option possible. This reflects that as long as students are supported, they will be able to show marked improvement and manifest concrete signs of learning.

Pains of a Public School Principal

Learning from Criticism. Collectively, the informants agreed on the difficulty of handling criticism in its various forms. Inevitably, Batman mentioned instances where people would try to initiate in him an undesirable feeling through bearing gossips about how others perceive him and his leadership. While, Iron Man's experience of being reprimanded by superiors in public on his alleged poor performance brought him to the realization on how degrading it is for a person to be in the same situation. This inspired him to not do the same to his subordinates. Besides, Professor X cited that criticism and gossips could not only spring from subordinates but also from fellow school principals who seem to be envious of their colleague's performance.

On this note, Wonder Woman cautioned her fellow leaders of the odds that teachers who seem to smile and seem to be tolerant of assignments may turn out to be one of their cynics. In this regard, Miss Marvel suggested how she has transformed criticism in to a self-evaluation tool for her benefit. Thus far, the cases convey that it would be beneficial for principals to learn to filter rumors as this may affect their demeanor with others. All of them expressed that criticism is inseparable to leadership since others do not necessarily share your values and principles. And so, they have settled with the idea that there would be days when they would have lots of friends and days when their position can be undeniably lonely.

Indifference to Teacher Training. Most of the informants manifested disappointment on how the Department of Education fails to address the need for funding when it comes to teacher trainings. They share the same sentiment that despite their positive regard on such as avenues for their teachers to learn, they are hindered since such trainings are offered on official time. When trainings are offered on official time, teachers are to spend from their own pockets to provide for the expenses. Further, while there are trainings offered on official business which can thus be funded by the school's Maintenance and Other Operating Expenses (MOOE), still these does not entice some teachers since the release of the budget is in the form of a refund. As such, teachers need to spend first then process the liquidation report after the training for them to get their refund. Considering all of these, it gives a glimpse on why at times, the same set of teachers are sent and are exposed to trainings because they are those whose willingness are coupled with the capacity to finance for their own travel or source out solicitations from stakeholders.

Conversely, Professor X stressed out those restrictions on finances make him prone to allegations of hoarding memoranda and letters as others accuse him of sending his favorites. He argued that he himself is not enthused to send his teachers not only because such travel would be charged to personal finances but also because he does not want his teachers to be out from their classes. Aside from finances, Miss Marvel pointed out that her teachers are disinclined to join trainings as they feel inferior compared to teachers from mother schools and are apprehensive that they cannot deliver what is expected from them.

However, it is important to note that studies reveal how teachers' qualities (as measured by skills, knowledge and qualifications) play a decisive role in students' progress (Hanushek, 2003). Thus, this confirms the need to support teachers' participation and exposure to professional development activities which policy-makers need to address. They must provide means to equip educational leaders the financial capacity to send their teachers to professional development activities that would lead to increased student achievement in public schools.

Political Game. All of the informants expressed how their work as educational leaders can be likened to the game of politics, or at times, may be influenced by politics. This dilemma emerges especially since school principals were once classroom teachers and changing their dynamics with colleagues prove to be an ordeal of balance being a person in authority and a person who they previously relate as peer to communicate their concerns to. Batman and Miss Marvel exert conscious effort of keeping themselves diplomatic and professional to students, teachers, and parents despite scenarios where it is most convenient for them to flare out. The need to identify a good recipe for exercising power while at the same time according freedom to subordinates is necessary to avoid demoralizing teachers or to excessively liberate them leading to the pitfall of slacking and idle work environment.

More often than not, Iron Man and Wonder Woman mentioned how troublesome it is for school principals to balance their ethical stand on matters that need considerations especially if it involves the welfare of their subordinates. On the other hand, Professor X's experience mirrored the need for teachers to stay nonpartisan because political affiliations can meddle with the affairs of the school. The struggle of making the appropriate decisions which could satisfy the persons involved, and the agency without compromising their own well-being is in itself very tricky.

Leading Change. School principals see their position as having the influence to make a positive difference in the lives of students through executing their role as education leaders. Yet, this is not as easy as it seems for they are more often than not disliked by teachers when they require them to perform their jobs to the best that they could. Iron Man, Wonder Woman, Miss Marvel, and Professor X experience resistance because teachers feel that they should not be pressured to perform in ways that are out of their comfort zone. They acknowledge that succumbing to the negative rhetoric, being satisfied with the current situation, and having a hollow temperament will do them nothing to initiate the needed changes to improve teaching and learning.

They see the predicament of being liked but not delivering the necessary changes. It is in this case that Wonder Woman has accepted that she can't be the darling of the crowd because she would want results delivered and policies followed. However, Iron

Man and Professor X emphasized the need to make teachers feel that they are valued and that desired results are achieved without compromising teachers' welfare. Failing to do this would make teachers resent their leadership. Afterall, teachers are the prime implementers of school policies and programs. Without them, success would certainly be elusive.

Dealing with Failures and Frustrations. Iron Man, Wonder Woman, Miss Marvel, and Professor X revealed their frustration over failures in their leadership. Each of them has a unique representation of failures in their workplaces. Iron Man elucidated on how frustrating it is for him to not get the results he expects despite careful planning and commitment of teachers involved. On the other hand, Wonder Woman expressed her disappointment over failing to motivate those teachers who frequently turndown on tasks assigned to them. Less disheartening is Miss Marvel's sentiment over teachers who, despite their willingness to work, fail to execute the task as ordered. Yet, intensely, she expressed how demoralizing it is for her to invest trust on the wrong people and to accept that despite the school's relentless efforts to help students finish schooling, parents may become roadblocks. Meanwhile, Professor X presented how school principal's disappointment at work may be brought about by teachers whose commitment to work gradually declines. The enumerable mandates of the department provide frustration to Batman as these mandates do not come with the necessary funding to allow schools to proactively respond. Despite this, at the end of the day, failure to respond is still often blamed to the school principal for his inability to provide the needed assistance.

Notwithstanding this, informants expressed awareness that failures of the school are inescapably attributed to them. They all view that there has to be a scapegoat when schools fail and such responsibility inevitably is more conveniently blamed by others to them. Yet, Wonder Woman and Iron Man appealed that when schools triumphantly meet the expectation of the agency, they should be accorded with justifiable appreciation and reward. This frustration over the merit system of the Department of Education overwhelmed Wonder Woman whose performance-based bonus as reward of exceptional leadership was delayed. While Iron Man, despite his hardwork, was reprimanded in public. Nonetheless, they ask that it should be understood that no matter how dedicated they are as principals, there would be times when the factors around them inevitably fail.

Convincing subordinates to stand for the school's vision can prove to be challenging like in the case of Iron Man, Miss Marvel, and Professor X. While they are aware that emotions should be isolated in administration, but managing people is ultimately about relationships between and among sentient individuals. As such, they saw the need for them to be emotionally intelligent. That is, to be sensitive to different points of view and different backgrounds of people under their leadership. The individual differences and zing of an organization makes it hard at times to earn the approval of the group and to propel them to execute plans. Ultimately, it is wise to use the head but it is also equally significant to bring a leader's heart with him in the service.

Given the limited slots for promotion in the Department of Education, Iron man and Batman admitted that at times, teachers lose interest in participating to competitions, trainings, and related activities for they do not see promotion to be possible. This concretely presents how motivation for excellence is being affected by rigid career

progression in the department. In fact, Batman cited how he pities School In-charge who has been serving far-flung schools with duties likened to full-fledged principals but are not accorded the same privileges.
Wonder Woman and Professor X intently cited how disappointed they are on teachers who show diminishing enthusiasm and commitment for the teaching profession. It is their desire to rekindle the passion of these teachers to be back on track as the performance of teachers influence the achievement of the students and the school as a whole. As Wonder Woman puts it, if teachers create good classrooms, it is up to the school principals to create a good school. But in this aim, Professor X emphasized the need for school administrators to still suspend their judgment and exhaust ways to understand the reasons behind such poor performance.

Being Misconstrued. Professor X, Wonder Woman, and Miss Marvel declared that their position makes them the most paradoxical and misunderstood figure in the pantheon of educational leadership. They rationalize that subordinates fail to understand them because they do not have the same perspectives. The degree of responsibility and accountability attached to their position demand for them to look into the many possibilities prior to making decisions or even granting considerations to teachers. This in itself is a strong avenue for them to be misinterpreted as strict, cold-hearted, and indifferent. However, as Wonder Woman puts it, any principal has the option to be lax and to not be stringent on the implementation of policies but she chooses not to be such.

Yet, at the end of the day, Professor X upholds that no matter how many considerations he may have granted, or acts done in good faith, it does not guarantee that others will see his genuine regard for the school and for his teachers as he cannot please everyone. What the three of them believes is that as long as they are doing their tasks as educational leaders true to the mandates of the Department of Education, they will never go astray.

Professor X, Miss Marvel, and Iron Man persevere to pay no attention to allegations of them playing favorites as they are confident they are not guilty of such. They understand that others perceive it this way because they do have certain individuals whom they frequently call for help. However, they reason out that these are those persons who can execute the tasks as expected, persons who easily respond to their requests, and persons who do not have the personality to question their decisions. As Iron Man puts it, success would be vague if you rely on a person who doubts your leadership.

Professor X saw such accusations as a form of jealousy. He held that persons who accuse him of favoritism grew up in an environment of envy and insecurity. For this person to feel that he belongs to the organization, he needs affirmation from others of his contribution and significance in the group. With this, all of the informants agreed on the vitality of shunning from having favorites and clearing out suspicions. They held that favoritism is a potent motivation killer among members of the organization.

Professional Jealousy. In dealing with diverse individuals having various motivations and aspiration, Wonder Woman, Batman, and Professor X emphasize the need to guide teachers to be consistent in their performance not only because they are eyeing for promotion but because this will serve as a good breeding ground for

professional jealousy. They see it as part of their job to deal with members of the organization who show unpleasant attitude towards the promotion of their colleagues. Well, this is unfortunately one of the most common aspects of workplace life which is not only limited to schools.

It is in this case that Wonder Woman reminds her teachers to respect the position of their colleague even if they do not feel like he deserves the position he now occupies. In like manner, Batman tells his teachers to not wane their performance just because they got promoted. They should also develop a sense of responsibility being looked up to as seniors in the organization. Being a victim of it himself, Professor X just holds his head high and focuses on his work because he owes this to God and to the agency he serves.

Synthesis

It is no denying that a principal's role has become increasingly difficult because of constantly changing societal needs and expectations. I was able to discover how school principals direct their actions towards improving their schools through formulating and ensuring implementation of policies regardless if doing such makes them unpopular to their teachers. The cases presented offered to us a glimpse of the satisfaction felt by educational leaders once pedagogical and physical facilities improvement are achieved as these are among the crucial tasks of being a principal. They are aware that their job is one which has an immense impact in improving the lives of schoolchildren being the prime persons responsible for steering their teachers, students, and even the community to the direction that the Department of Education envisions. Even so, to achieve this goal, I saw how they put importance in mobilizing their teachers and creating an environment of trust.

Table 1. Comparison of Cross-Case Analysis

JOYS OF A PUBLIC SCHOOL PRINCIPAL		IRON MAN	WONDER WOMAN	MISS MARVEL	PROFESSOR X	BATMAN
1	Accomplishing Plans	/	/	/	/	/
2	Inculcating Discipline	/	/			
3	Generating More Instructional Leaders	/	/	/		/
4	Facilitating Teacher Promotion	/		/	/	/
5	Credit for Success	/	/		/	/
6	Thriving Collegial Relationship	/	/	/	/	/
7	Increased Student Promotion	/	/	/	/	
PAINS OF A PUBLIC SCHOOL PRINCIPAL		**IRON MAN**	**WONDER WOMAN**	**MISS MARVEL**	**PROFESSOR X**	**BATMAN**
1	Learning from Criticism	/	/	/		/
2	Indifference to Teacher Training	/	/	/	/	
3	Political Game	/	/	/	/	/
4	Leading Change	/	/	/	/	/
5	Dealing with Failures and Frustrations	/	/	/	/	/
6	Being Misconstrued	/	/	/	/	
7	Professional Jealousy		/		/	/

Looking into the experiences of each informant, I have seen how deteriorating and no-hoper schools were saved due to the relentless efforts of dedicated school principals. This, I hope, would touch the deepest recesses of naysayers who find it easy to criticize. At the same time, I look forward for this research to inspire school principals to push forward despite instances when recognition and acceptance from among their members seemed to be distant and bleak. Even when they become subject of coffee break chats, may they find the motivation they need to perform at their best. It is in this reason that policy-makers should have a clear understanding of what brings joy and pain to public school principals.

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Contact email: ylcy_09@yahoo.com

Educating for Capacity Building: A Case Study of Timor-Leste Officials Studying on An English Language Training Programme in New Zealand

Deryn Hardie Boys, Victoria University of Wellington, New Zealand
Madeline Carroll, Nelson Marlborough Institute of Technology, New Zealand

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Abstract

The English Language Training for Officials (ELTO) programme builds capacity in the government sector in Southeast Asian nations. One of the long-term goals is to support sustainable economic development in participating nations through participants' improved use of English for international communication.

The research purpose was to identify key short and longer term impacts of the programme by listening to learner voices. Stage one focused on reflections of alumni and New Zealand Aid staff in Dili; stage two focused on participants in Wellington. Three areas of change were investigated among the Timor-Leste officials: empowerment through improved English language skills, expanded professional knowledge and capabilities, and increased intercultural awareness of other participants and New Zealanders.

Interviewees reported a growth in confidence, improved professional skills and knowledge, and expanded networks and cultural awareness. Aspects of the programme which helped build capacity were: studying a course related to their work in an English environment, living in a homestay and having a conversation buddy, giving presentations and doing project work, participating in workshops and lectures, having workplace visits, fieldtrips, and language support, and reflecting on learning.

Educating for change within ELTO involves a collaborative approach to programme development and delivery with regular monitoring and evaluation, an English for Specific Purposes programme tailored to learners' needs, task-based learning, learner-centred teaching and learner autonomy.

A course designed like this improves the capacity of individuals to carry out their work in government, and can contribute to longer lasting changes in understanding good governance and development within government departments.

Keywords: capacity, government, sustainable economic development, learner voices, change, good governance

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Introduction

Building capacity is critical to human development. It starts with building skills and knowledge in individuals and communities, and leads to the growth of societies and nations.

"For an activity to meet the standard of capacity development as practiced and promoted by UNDP, it must bring about transformation that is generated and sustained over time from within. Transformation of this kind goes beyond performing tasks; instead, it is more a matter of changing mind-sets and attitudes" (United Nations Development Programme, 2009).

The ELTO programme is supported by the New Zealand Aid Programme within the Ministry of Foreign Affairs and Trade. The purpose of this New Zealand-based programme is capacity development in the government sector in the Southeast Asian region. The programme began in 1992 and has expanded over the past 25 years. Over 1,300 government officials from Cambodia, Indonesia, Lao PDR, Mongolia, Myanmar, Timor-Leste and Vietnam have participated in the programme and currently, there are up to 128 participants trained per year. In Part One, the officials spend seven weeks attending a regional institute and living in homestays. In Part Two, they spend thirteen weeks in the capital, Wellington, live independently and are matched with a conversation buddy.

Sustainable economic development is at the core of the programme. Each intake targets a specific government sector, such as education, agriculture or governance. Although an English language training programme, the focus of ELTO is English for Specific Purposes. Key features of the programme include presentation and project work, language workshops, field trips and workplace visits. Individualised learning support and independent learning play central roles in assisting the officials to maximise the learning opportunities they have studying in an English immersion environment.

The purpose of this study was to identify key short and longer term impacts of the programme by listening to learner voices. Specifically the researchers chose to investigate three areas of change for the Timor-Leste participants: empowerment through improved language skills, expanded professional knowledge and capabilities, and increased intercultural awareness of participants from other countries and New Zealanders. Two sets of interviews were carried out. The first set were in November 2016 in Dili, Timor-Leste, with five alumni and two staff members from the New Zealand Embassy. The second set took place in Wellington in December 2016 with six participants from Intake 43, which focused on agriculture.

Timor-Leste officials were chosen for this study for several reasons. Timor-Leste is the newest independent country in the Asia-Pacific region, having gained their independence from Indonesia in May 2002 after 25 years of armed struggle. At this time most of the infrastructure, including homes, schools, hospitals and public services, were destroyed. Consequently, the country faces enormous development challenges in rebuilding the nation. The lack of educational facilities and disrupted schooling within the population means there is a shortage of human resources, greater than in any other country participating in the ELTO programme. Additionally, in a

2012 survey, the Timor-Leste officials self-identified as the country group with the greatest need. They had difficulties understanding how to approach tasks, lacked general knowledge and struggled with academic writing and sentence level accuracy. Finally, Timor-Leste aspires to be a member of ASEAN and thus benefit from strong regional support networks.

Method

Interviews in Timor-Leste:

Five ELTO alumni were interviewed, individually and as small groups, using standard questions and additional questions to clarify and extend their comments. There was social interaction and general conversation with four others. Two New Zealand Embassy staff were interviewed about their impressions of the impact of ELTO on the professional skills of alumni.

The standard questions were:

- Do you feel your language skills, particularly in English, improved as a result of the ELTO programme?
- Are you more confident to use English in work situations now?
- Have you been able to keep improving your English skills since returning home?
- Have you noticed any changes in the way you work since returning home?
- Did you gain useful professional knowledge or skills while in New Zealand?
- Have any of your colleagues or managers commented on any improved skills since you returned home?
- Have you been able to keep in touch with your New Zealand homestays or ELTO classmates from other countries?

Interviews in Wellington:

Six Intake 43 Timor-Leste participants were interviewed individually. Each was asked standard questions, with clarification questions as needed, investigating three areas of change.

The standard questions were:

Change 1 (empowerment through improved English language skills)

- What course activities have helped improve your language skills?
- What changes have you observed in your language skills?
- What activities are easier to do now than when you started Part One?
- Have you become a better-organised worker? How?
- Have you become a more independent learner? In what ways?

Change 2 (expanded professional knowledge and capabilities)

- Do you feel more confident to research information than when you began the course?
- What did you learn from the workplace visits in Part One and Part Two?

- Do you think you will do your job differently when you go home?
- What course activities have helped expand your professional knowledge and capabilities?

Change 3 (increased intercultural awareness of other participants and New Zealanders)

- Did you enjoy your homestay experience? Why/why not?
- What did you learn from working in groups with other country members on the ELTO course?
- What course activities have helped increase your intercultural awareness?

Conclusions

Interviews in Timor-Leste:

1. Improved confidence and improved English language skills

All the interviewees emphatically stated that their English language skills improved and they feel much more confident nowadays, particularly in the use of English in work situations. There were many examples of how this has changed the way they work.

"It's easier when I meet some police from New Zealand. ... We have confidence to talk with them in English."

"Because I am a Director (of a government department) I need to give my feedback or to give a decision or to approve a project. So (now) I feel very confident to decide something, very confident to say 'no', very confident to say 'yes'."

The interviewer and other New Zealanders in Timor-Leste observed some striking changes in personal confidence and manner in many of the alumni since studying in New Zealand.

"Before the course they are very shy, not confident. After they are more confident in everything and English. ... Their demeanour changes. They can relate in a freer, easier way with New Zealanders and English speaking people."

2. Scholarships and increased work responsibility

Many ELTO alumni receive scholarships for further study, are promoted to senior positions or are posted overseas which is evidence of their improved professional capacity.

"For people in Foreign Affairs, the programme seems very good preparation for their careers and overseas postings."

Two of the people interviewed talked about international conferences that they were invited to attend to represent Timor-Leste. They attributed this to their improved English proficiency and confidence to prepare and give presentations.

3. Presentation skills and participation in meetings

Several of the interviewees commented on how useful their improved presentation skills are, which has resulted in giving presentations both in Timor-Leste and overseas and helping senior colleagues prepare presentations. This applies to presentations in languages other than English.

"Practice giving presentations during the ELTO course was very, very useful. It makes me confident to speak to all people, to talk to others. ...I prepare for my chief the presentation – she trusts me because I am alumni of ELTO."

"I presented at the conference. The people from X, they said very proud, after you came back from New Zealand you are very confident to present."
"Every month we have a meeting in English (with donor and partner agencies) and I use what I learned. ...As a Director I have to organise meetings. I have to push myself how to organise the meeting, how to say the first words when I open a meeting."

"At meetings we have to listen and understand and speak in English. After New Zealand, this is more easy for me."

New Zealand Embassy staff also commented on the value of improved presentation skills, for example at ASEAN meetings and international conferences, and of familiarity with the process of formal meetings.

4. Workplace visits and interviews in New Zealand

New Zealand Embassy staff commented that workplace visits in the ELTO programme seem to be important to and valued by ELTO participants.

"Because of the experience of visiting schools – we can see it's very different. When we visit schools (in New Zealand), we can see the condition, how the students learn and we can compare it with Timor-Leste. For example, now we do monitoring and evaluation and visit schools in other districts (in Timor-Leste). When I visited, I saw directly and I could make comparison."

"Understanding New Zealand police approach and systems, especially Community Policing, helps us to work with New Zealand police in Timor-Leste."

5. Valuing ASEAN and New Zealand connections

Comments about homestays and the friendships made, and maintained, with ELTO participants from other countries, clearly demonstrated that these connections were valued and that cross cultural understandings were enhanced.

"Especially for homestay life and life-style, wife and husband are equal. One day (in Timor- Leste) will be the same (laughter) and now I can cook!"

"I never forgot my homestays."

The interviewees were emphatic about keeping connection with other ELTO alumni, both in Timor-Leste and other countries.

"I've had contact with my friends from Myanmar, Cambodia, Vietnam – all on Facebook."

"I keep in touch with homestays and teachers and friends from other countries, from Laos and so on."

"My ELTO friends here helped me a lot in conducting my diplomatic mission" (Official posted to Cambodia).

New Zealand Embassy staff commented that they have heard of ELTO alumni meeting overseas, for example at ASEAN meetings in Vietnam and Lao PDR. One Foreign Affairs person posted to Myanmar reported meeting with ELTO alumni there.

Interviews in Wellington:

1. Empowerment through improved English language skills

- All the interviewees were positive about the language improvements they had made during the course. Their comments focussed on speaking and writing activities as well as independent study.

"When we are doing work back home we have to go to the public and speak. So by doing this presentation it help us how to manage, how to overcome our fear, how to improve our speaking in front of the public. And also we do that in a different language. It is kind of a challenge for us and also it is very useful for us."

"I can see that it's changed here the way that I write. The teacher showed us the right way how to improve our writing skills. ...I work as a desk officer.... I require academic words, so by knowing this way of how to write good English, I can improve my writing capability."

"The research report is a kind of way to develop our English. So before, we just copy and paste, but it's not good. But our teacher say you have to paraphrase, use your own words to describe something."

"I think the independent learning strategy is very useful for us because with this it can help you ...plan for your study, what you want to study. It means you have to ask yourself … you have to find out your weaknesses and strengths. Through this guide it can help you which area you want to improve during this course."

"The important things is individual learning, especially how you manage your time, and how to study to know the way to practise your English well."

- All the interviewees reported on their improved English language skills, particularly speaking confidence, and writing and listening skills.

"In the past I feel like I am a little bit scared, a little bit unconfident, but after attending the class, I try to improve my skills in terms of speaking because it can make me feel confident to speak out what I want to speak out."

"Now I know better how to write, to express out all I want to write about. In the past, I don't know how to start to write because I have a problem with the times."

"Before if I speak with the native language experts ...when they were working in Timor-Leste, I really confused when they were speaking English. But nowadays I think I not more confusing because I think I can catch what the people say, more than 50%, is around 80% I understand of what the people say to me. Very helpful to me."

- Participants gave a range of responses about activities they found easier to do now than when they started the programme, including speaking with and in front of others, time management, understanding more vocabulary, and listening comprehension.

"I think the easy activity that we are facing at the moment is go and talk to the people. Because in the past we have a fear inside, a lack of confident, so that make us not so good to speak out what we want to speak out. But after we learn how to improve everything, we have confident now."

"So after we come here I feel some things are easier than before. ... I get some improvement of academic word list. ...It helped because as a government official, everything has to be official so it is related to the academic words."

"When my teacher in Part 1 was teaching in front of the class I really confused to understood because their pronunciation was very strange for me and I never hear before. ... At least one for me, the easy one, is my listening is more confident."

- All of the officials were adamant that their organisation skills, particularly in terms of time management, improved. They faced challenges prioritising their classroom assignments, homework and independent learning, as well as challenges in their wider lives.

"...since I came here, I live in a situation where the time is important ... I learn the benefit of time management, because when you are using your time for the best to improve you will become good in your career I think."

"I will try to manage my time, because when you didn't follow the timeline that you planning, this is a big problem. Because when you didn't do today, tomorrow new job will come again, so you get more the job. So, today you must try to finish it; tomorrow a new job."

"ELTO programme is not (only) teaching to increasing about our ability in English language, but how to management as a official of the government to manage to lead our department, how the best way. As a chief of department, before, I didn't know how to manage the administration or technical side, but in here we have a lot of knowledge."

- In Part 2 of the programme, afternoon sessions are usually focused on language support and independent learning. All of the interviewees replied positively about becoming more independent learners.

"Now they are showing us, or they lead us to the right way how we are going to improve our English skill. But it's back again to us how we are going to do that. It's like the teacher is leading us to the front door, and then for the further way we will do by ourselves."

"...since I study in New Zealand I can see how the differences in terms of how the teacher always show you how to improve your study, but they also give you the time. So it's back on you again how you are going to use your independent time or your free time to do your independent learning as much as you can."

"... you must read a lot of information. You read a lot of book, you get a lot of opinion. When you got a lot of opinion, you can talk a lot to the people. And you can write a lot of information writing too."

"I think after from this ELTO course now we know ourself well, my weakness...Maybe when I go back to my country I will be change my attitude also, because before I working, how can do working, I don't know how to begin to start. ... But now I understand how."

2. Expanded professional knowledge and capabilities

- All of the interviewees learned how to research information, paraphrase and reference sources. They were able to apply these skills in the research reports and presentations, and valued these new skills for their jobs.

"The research report is quite challenge. ...I think it is very helpful. Before I didn't know to do. Without this explanation and using this manual it is quite hard. ...I think it is very useful. We have to write reports to our superior."

"If we want to find some information, we try to find reference. We have to make some comparison. ...Before I used to use only Indonesian language, Tetum and Portuguese. But now I can use English."

"I feel more confident now because the system in here they teach us professional thinking."

- The workplace visits enable the officials to meet experts in local businesses and government ministries in related professional fields, learn about the New Zealand context and ask questions. After the visits, there are activities to reflect and share information.

" ... with the visit I can speak directly to the official who work to cover the issue in Southeast Asian countries. So now I know the right person to contact."

"The conscious of New Zealanders is very different from my country - how you are aware, how you are looking after or taking care for your environment it's really, really important."

"The important thing the farmer freely to do the farm, so didn't have intervention from the government. So I think this is a good thing that we bring to our country because when the government control all thing that farmer do, this is a problem."

"We visited Agricultural Training Centre. We learned a lot of how they train young people studying there."

"When I got back to my country I will share to my workplace and my friends. I will explain what was in New Zealand, the political system, the economy, the culture. I will talk to even to my boss. I will tell them we have to adopt and we have to think about develop East Timor for the future."

"... the farmer in New Zealand is really different in South East Asia...So we say in New Zealand the farmers is linked with the industry, but in our country, the farmer is only for self-consumption. ...This is the mindset we have to change. As a public servant or as a technical assistant from the government, this is a big challenge how to transfer this society."

"Here we learn about the method how to convince our leadership, our decision maker to follow our technical decision. Because decision maker and technical decision has to be one way, not opposite way, because opposite way can't work."

- In terms of approaching their jobs differently on their return, there were some pertinent comments about information they would like to share and changes they would like to implement in their workplaces.

"What I can carry from here to Timor-Leste is my better understanding and better knowledge about New Zealand. I will try to write more about the best of New Zealand so the people in my country can know and can see that New Zealand is also a good partnership for Timor-Leste in terms of developing Timor-Leste."

"There is something useful that learned here that I can implement there - for the time management. For the human resource, or how to implement, how to achieve the target for better future."

"The first one is you must planning what you want to do. You must finish it today, not spend for tomorrow. This is one thing that is very important. This is the simple one but this will change everything. The time is very important."

"Knowledge I gained here is my foundation. ... Timor-Leste is a new country, everything has a newness. So we also recognise that human resource as a main challenge or main obstacle in the government system. But I think training like ELTO programme is really helpful in the future. ... This is really what the ELTO produce - to prepare the human resource."

- The course activities which helped expand officials' professional knowledge and capabilities were the presentations, fieldtrips and workplace visits, the reading programme, the theme study, and the research report.

"In the future, whenever I go to speak to the public, I will know how to be confident, how to share my knowledge to deliver to them in a professional way."

"The fieldtrip is very important because you can understand better in the field. I think fieldtrip it is very useful to expand or broad your knowledge."

"Reading is to improve everything to know. Every new thing is only through the reading. The message has gone inside my head. It is not just for myself but for my generation as well."

"Theme book provided by ELTO really helped me. What we read in the book and what we see in the reality is the same. This is what is happening in New Zealand, not only in the book. So not only theory but also in the practical can see directly what is true."

"They push us how to write research linked to our country and then New Zealand. This is a very good way for me. … I think what New Zealand is doing very good. If I take the example from New Zealand and I compare it with from Timor-Leste. I really like this programme."

3. Increased intercultural awareness of other participants and New Zealanders

- Without exception, all the Timor-Leste officials reported on positive homestay experiences. Their comments provided some interesting insights into cultural differences.

"My homestay they are very good person and I am so proud to live with them because they are a good example of a good family. We share a lot of information. So we are connected each other."

"For me, we are family. I feel like I am still with them. I will always remember them because they are so kind."

"And one thing also ... for gender balance, saw for me directly how the role in the one house between husband and family because if I make comparison between New Zealand and Timor-Leste there is quite unbalanced between husband and wife. .... But here I saw with my eyes something that is very contrast."

"Absolutely I enjoyed it because I have a mother and father in my country but I have more one mother and father in New Zealand. I feel it look like in my home."

- In the morning classes, students typically work in mixed country groups to share ideas. The officials' comments reveal the strong intercultural connections they

experienced, the value they placed on intercultural learning and about the depth of their friendships.

"I can see how the differences of opinions, the differences of capacity, the differences of knowledge that the other ELTOs have. Sometimes we are having trouble to understand each other, but we see that not as an obstacle but we find a way to understand each other."

"When we interact with other different cultures, the feeling of proud of ourselves is going up. Sometimes because of this difference, we have to show off our identity."

"When we mix together, we mingle and then we get some new experience. ...I have an idea and they have an opinion and also they have a suggestion."

"Other country ELTOs is very, very good friend. They tried to explain to us what their country have today to other countries to know. They didn't hide anything. They want to come here to learn what new thing they bring to their country. So I'm very proud to get the information from other country."

- In Part 2, the ELTOs have a flatmate from a different country and several participants commented on how this arrangement builds intercultural awareness. The conversation buddy programme was also valued. Cultural performances, sporting activities and shared lunches were other popular ways to experience other cultures and the Timor-Leste students also valued opportunities they had to experience New Zealand's indigenous Maori culture. Class group work activities provided cultural and content learning opportunities.

"I have lived together with one friend from Laos, and I know I can learn from every day because we live together. I can observe it all."

"Every weekend they (conversation buddies) invite us to lunch together and we went to some places and they talking about the story and they talking about the culture."

"The cultural performances it giving the chance to every country...to show off their culture."

"...we learn especially about Maori culture because they invite us their marae and then we learn…. It was something new for me, because when I just stay at my country I didn't know."

"In our class also we have on one table different country. The theme book, after you read, you must explain what in your country happened. So each country should be talk about each country. So that is why we know well about each other."

Summary:

Through the interviews conducted in Timor-Leste and Wellington, the officials told us the aspects of the ELTO programme which build capacity are:

- Studying in an English speaking country

- Studying an intensive language course with a theme related to their government job
- Living in a homestay
- Having a conversation buddy
- Giving formal presentations
- Writing a research project
- Attending professional workshops
- Listening to lectures from experts
- Visiting workplaces
- Going on fieldtrips
- Receiving language support
- Reflecting on learning

Implications:

Educating for change within the ELTO programme involves a collaborative approach to programme development and delivery across different institutes, with regular monitoring and evaluation. The programme is tailored to learners' specific language needs in their government roles in the ministries of developing countries. The approach to teaching is learner-centred and the learners are supported to meet their individual goals. Task-based instruction engages the officials in authentic and meaningful tasks that will be useful in their professional lives. Finally, the course encourages learner autonomy so that life-long learning can be a realistic goal.

A course designed like this does improve the capacity of individuals to carry out their work in government, and can contribute to longer lasting changes in understanding good governance and development within government departments. Building capacity in developing countries supports sustainable development of these nations. This helps to reduce poverty, and thus move a step closer towards a more secure, prosperous and equitable world.

"Countries that have achieved sustainable economic growth are supported by efficient institutions and sound policies. Often the quality of the policies depends on the people who are running them. Because of the need to have good people overseeing policy, training is important" (IMF, nd).

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The Application of AHP Method in the Successful-Elements Selections in the After-Class School in Taiwan

Cheng Fang Hsu, Shu Te University, Taiwan
Hui Ling Chung, Shu Te University, Taiwan
Hui Chun Lu, Shu Te University, Taiwan
Cheng Ting Shan, Shu Te University, Taiwan
Yi Chun Huang, Shu Te University, Taiwan
Yi Ting Hsu, Shu Te University, Taiwan

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Abstract
The purpose of this paper is to aim at the successful elements on the after-class school in Taiwan. The study adopted the Analytic Hierarchy Process (AHP) techniques as the research methodology. A model has been proposed to evaluate the best treatment and disposal technology. As well, Expert opinions have been incorporated in the selection of criteria. AHP has been used to determine the weights of criteria, followed by available ranking. Through quantitative weightings from the AHP model were calculated to identify the priorities of alternatives. The study provides a simple framework to the complex models. The model identifies A successful after-class school should be familiar in the education market, which can in response to the internal and external changes positively. BY the word of mouth publicity to attract parents to allow students to join the after-class school. Therefore, the key successful element of specialized education will directly affect the future development and direction of the after-class school. The model provides market scale and tuition cost but not education quality as the major elements which influence the after-class school successful or not. Current the education of after-class school already reaches up to a standard level. So that market scale and tuition cost becomes the most important elements. Hence after-class school has to determine the price due to the supply and demand market according to the local market scale. That is the key to keep the successful elements in after-class school market.

Keywords: AHP, Successful-elements, after-class school

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Introduction

Under the challenges of the world's low birthrate, the numbers of after-class school in Taiwan have not only failed to decrease due to the impact of fewer children. The purpose of going to the after-class school are more and more subjects including English, Mathematics, Chinese Piano, Art, Mental Arithmetic, dance and so on. This is due to the cultural influence of the Chinese people in general who push their children to gain the best position. Therefore, how to stand at the top position and to be famous, to become a prestigious and successful operation of the remedial classes is the common goal of the industry.

Literature review

Hasegawa (1998) identified low birth rate is the situation that is on the level of population below the special birth rate and the decline in the birth rate. In the recent years, Young couple decide have no children in Taiwan, The major reasons are the elements of economic ability and social values. There are three reasons which couples made up to have no children or have only one child. They are the concept of aging, and the rise of female consciousness raising and education cost increasing. The low birth rate impacts not only on the family structure but also education industry continuing operations. Hence, a large number of educational institutions to consolidate or close down and numbers of teachers unemployed. For those reason that the after-class school becomes a new tube to release education industry pressure. After-class school is a link of social education. It is education and business, not just as the education industry. After-class school forms the mainstay of the secondary education market under the influence of elements such as educational evolution, social change, cultural development and economic development. (The Workforce Development Agency, 2000; Datong University Strategic and Industrial Research Center, 2008)In the past decade, the market competition of after-class school is fierce. Today, the impact of the low birth rate caused by the decline in the number of students, the market shrink and the concentration of educational resources etc., which makes the after-class school realizes the situation to seek the new business strategy on the transformation. The Labor Department of the Ministry (2012) also emphasized that the business model of the after-class school is gradually heading for the direction of enterprise and chain operation.

Ansoff (1965) suggested that strategy is the rule of making decisions, and depends on the market scale, growth direction and competitive advantage. Business strategy refers to how the enterprise in the environment to its own advantage to enable it to survive in the industry, competitions, and for the future development. Porter (1980) stressed that the enterprise is to obtain a better position in the industry by the competitive strategy either the aggressive or defensive action taken.

Penrose (1959) argued that the enterprise is not only a management unit, but also a center of productive resources with the passage of time to make management decision-making. So that enterprise had to work through the cooperation of the remaining economic benefits of the organization in order to long-term growth and development. The key successful element was the most important competitor and asset in an industry, and that if it were at a disadvantage, it would make it less competitive (Ansoff, 1984).Gluck (1982) indicated that key successful element is a

selected conditions during the limited resources. Boseman (1986) defined that key successful elements as the basis according to the analysis of organizational SWOT. That is the most important foundational organizational strategy. The key element is the unique assets, technologies, resources and activities of the unique enterprise, which enable the enterprise to develop a competitive advantage over the unique and beneficial position of the competitor in management and operation. (Gluck, 1982; Boseman, 1986)

US Educational Weekly (1977) indicated that Education Quality must cover the following index such as student's academic performance, student's learning standard, teacher's teaching quality, study environment atmosphere and study resource. However, current parents only focus on the satisfaction which is reflected on the expectation performance. Especially parents only defined quality of education which is equated to the expectation performance. So that they select the after class school by the particularly high standard on teaching quality. Teachers are an indispensable part of remedial classes, and tutorial classes are often used by teachers to publicize the remedial classes. (Hsu, 2016)

Most of the after class schools of a certain size employ professional and licensed teachers with years of experience and unique teaching skills. The after class school, the amount of time in the education industry for more than fifteen years has a clear market share, and a high degree of customer satisfaction and affirmation. Teaching quality is an abstract concept and it will vary with the purpose of the times and education that will be different. As well, because of different values outcome the different views. Hence the teaching technology and materials can be time or in line with current affairs is also very important.(Jain and Pan, 2012)

In the Informatization era, online class has gradually replaced the physical class. Hardware devices are updated every year such as media system and computer technology. In addition to the decoration and safety equipment classes to enable students in comfort studying. These elements are together in the category, equipment. The selected Location of the after class school has to consider at whether the building having through fire safety and its' safety inspection carefully assessment.(Qiu, 2007)The location of after class schools is related to the market size is mainly at school children. So that the location is better taken at the nearby school districts.

Zhong (2011) indicated that another location selection is the convenience consideration for students to class near the station. It can take the easy transport to reach their own tuition classes for parents in terms of children can be removed from the troubled. Hence, the convenient transportation has to be consideration for the selected Location of the after class school. In the keen competition and the economic consideration, tuition fee become to a major element when selecting after class school. However, the low tuition fee is not the guarantee to have the students. (Huang, Tan and Pan, 2014) The after class school has to take the reasonable tuition fee which provides the valuable education quality and study outcome to meet the expectations what they paid. Market scale mainly refers to the overall size of the target or industry, for the education industry, market scale refers to the number of students and the size of the market included that will be decided how many students to gain by the after class school. As well, low birth rate direct influences on it. So market scale is another key factors to be success on the after-class school. (Zhong, 2011)

Methodology and Discussion

This study adopted AHP (Analytical Hierarchy process) as the methodology. AHP, developed by Thomas Saaty in 1971 (Saaty, 1980; Saaty and Vargas, 2000), is a hierarchical process designed for solving complex problems involving multiple criteria. It is a powerful and flexible decision-making process to help decision-makers set priorities and make the best decision considering both qualitative and quantitative aspects of a problem. Saaty's (1977, 1980) AHP is a popular means to determine the weights in analysis and the AHP decomposes the decision process as a hierarchical structure and also deals with quantifiable and intangible criteria by using pairwise comparison matrices.

While AHP is the methods for multi-criteria assessment (e.g. expert choice). Also, the application of AHP with simultaneous consideration of criteria and their dependence and feedback is missing in the literature. The pairwise comparison matrix and synthesis in AHP help choose a suitable technology effectively with the least cost. The AHP methodology primarily consists of: first, structure the decision into objectives and alternatives; second, measure objectives and alternatives using pairwise comparison; third, synthesize objectives; and fourth, exploit subjective inputs in order to reach a prioritized list of alternatives (Bertolini, Braglia, and Carmignani, 2006).

AHP, the biggest use of procedural methods is to use the nominal scale and to do a simple pairwise comparison assessment. The name scale is based on the basic five-point scale, with the other four in the interval between the scale, and the formation of nine-point scale of the measure. The maximum eigenvalue $\lambda max = n$ of the consistency is matching matrix A. However the paired comparison matrix obtained in the actual evaluation is often unable to achieve complete consistency. So the actual alignment matrix can be regarded as a trace of the consistency matrix Change value. Thus, $\lambda max = n$ corresponds to the actual alignment matrix will be close to n. Therefore, the difference between λmax and n can be called the consistency of high and low criteria. The calculation of C.R. in the AHP is determined by dividing C.I. by R.I., if C.R. $\leqq$ 0.1 and approaches 0, its consistency can be regarded as a satisfactory level.

According to the AHP, this study divided two layers by literature review and expert opinion selection and established a framework. (Figure 1)

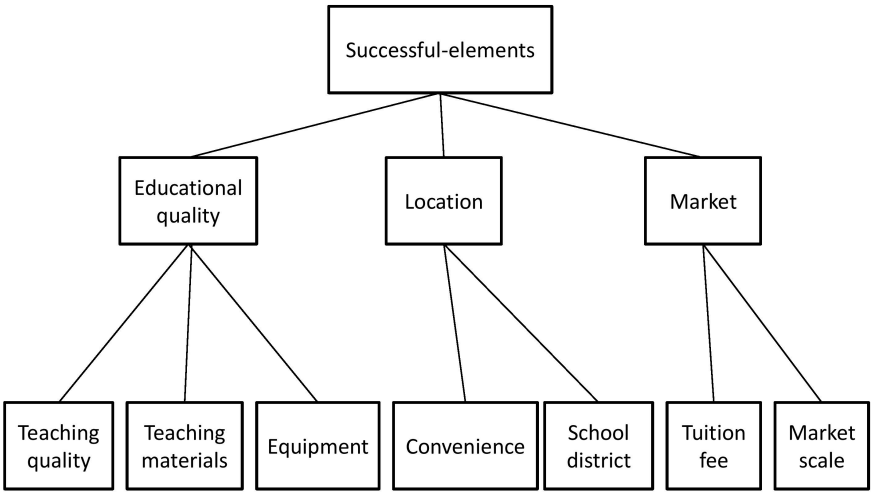

Figure 1: AHP Framework

This study tried to obtain the weights Value by AHP and determine the most important priority factors. The relationship is between the weight of other factors and so on, and to understand the high-level executive education industry that the completion of the industry's key success elements and the reasons. According to the ten experts in the first layer of the weight value of the AHP results, eight experts as the first choice, market is most important. And the other two experts also take market as a second choice. The sum of the averages in market took the highest point, 0.5677 for the first position in total. (Table 1)According to study result found that education quality is not unimportant but it is thought education quality is the basic condition and the essential element for the successful-elements selections on the after-class school. Hence, the successful-elements selections on the after-class school refers to if the market is potential or not.

Table 1: The first layer of the weight value of the AHP results

Level 1	Educational Quality			Location	Market		
Level 2	Teaching Quality (Teacher)	Teaching Materials	Equipment	Convenience	School District	Tuition Fee	Market Scale
Expert 1	0. 032	0. 253	0. 126	0. 049	0. 167	0. 060	0. 314
Expert 2	0. 045	0. 285	0. 249	0. 107	0. 082	0. 091	0. 141
Expert 3	0. 015	0. 029	0. 510	0. 233	0. 054	0. 080	0. 080
Expert 4	0. 014	0. 026	0. 045	0. 069	0. 139	0. 239	0. 467
Expert 5	0. 016	0. 033	0. 071	0. 053	0. 151	0. 204	0. 472
Expert 6	0. 034	0. 087	0. 145	0. 021	0. 154	0. 095	0. 465
Expert 7	0. 326	0. 022	0. 039	0. 181	0. 085	0. 165	0. 181
Expert 8	0. 029	0. 029	0. 089	0. 131	0. 033	0. 431	0. 259
Expert 9	0. 059	0. 033	0. 082	0. 100	0. 303	0. 198	0. 225
Expert 10	0. 024	0. 052	0. 066	0. 085	0. 222	0. 431	0. 121
The sum of the averages	0. 0594	0. 0849	0. 1422	0. 1029	0. 139	0. 1994	0. 2725
Sequence	7	6	3	5	4	2	1

In the second layer of the weight value of the AHP results BY ten experts, market scale (0.2725) stood up to the first place and flowing is tuition fee (0.1994). The third came on equipment (0.1422) and the forth position is school district (0.139).

Convenience (0.1029) sat at the fifth important and Teaching Materials (0.0849) took the sixth situation. However, it is surprising that teaching quality (teachers) (0.0594) turned out to be the last seat. Through the result found that market scale has the strongest influence on the after-class school management. It is relatively easy to recruit students with a bigger market scale. And another important and direct element on affecting the after-class school management is the tuition fee. (Table 2)

Table 2: The second layer of the weight value of the AHP results

Assessment indicator 1	Factors	Assessment indicator 2	Factors
Educational Quality	2	Teaching Quality (Teacher)	1
		Teaching Materials	2
		Equipment	1
Location	1	Convenience	0
		School District	1
Market	8	Tuition Fee	2
		Market Scale	3

To assess the relative the first layer of the weight value of the AHP results, each element in the three dimensions of education quality, location and market for the successful-elements selections on the after-class school. It outcomes that market is the priority element, and location is the second and least consideration educational quality. The result indicated that the after-class school operation takes the most importance on market management to win the success in the educational industry. Moreover, among the seven key indicators of the key decision-making elements affecting the success elements, the market scale has the greatest impact on the key elements of the success element, which is the first priority, followed by the tuition fee, and the least influential element is teaching quality (Teacher).

For the above analysis, it can be seen that the most important and critical element have been selected by the mid-to-high-ranking experts, as the first and second priority among the seven key indicators, the market scale and the tuition fee which both belong to the market element in the first layer of the weight value of the AHP results. So that market is the most important element affecting the success of the selection of key indicators. However educational quality, under the three types of selection indicators gained the minimum requirements to measure the conditions. Especially teaching quality (Teacher) took the lowest consideration. Because the teacher is already a very basic and standard industry requirements. Therefore, the key elements influencing the success of the after-class school should be market scale, tuition fee, school district and equipment as in order.

Conclusions

The key successful-elements selections on the after-class school is to be the market leader. Through the study result found that educational quality, location and market separately taking the different elements and proportions to build up the key successful-elements on the after-class school. Market is the most important element and also direct influences on the survival of the after-class school. The after-class school paid the recruitment rate as the attention. Hence the market scale become a critical position on how size it is. The tuition fee is another key to select the after-class school due to the economic reason. Students cannot be hold only by low tuition fee. They must be treated with a qualified education and reasonable tuition fee. However, educational quality is considered as the most unimportant. Because teaching quality (teacher), teaching materials and equipment are seen as basic and standard requirements on the after-class school. Students are not satisfied by single equipment provided. Providing New and modern computer equipment and media system become a popular hotspot to attract students.

As the result, in the keen market competition in the after-class school that it can be judged to have a certain level in such a competitive environment. Consequently, if the after-class school can carry out these three framework, (education quality, location and market) to increase their competitiveness, to upgrade the competitive advantages and to improve the shortcomings; the after-class school can win a firm and successful business.

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Contact email: conniehsu@stu.edu.tw

Toward the Next Generation of Educational Technologies: A Survey of Internet of Things (IoT) in Education

Yu-Hsin Hung, National Taiwan University, Taiwan
Ray-I Chang, National Taiwan University, Taiwan

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Abstract
Internet of things (IoT) means that physical objects (e.g., device) will be connected to the Internet and be able to interact themselves to other objects. The Internet of things has competitive advantages such as content delivery, automation processing, location independence, security assurance and time reduction thus IoT applications have received extensive attention from both industry and academia in recent years. Due to the rapid development of educational technology, IoT is being increasingly used in education. Learners' data can be automatically retrieved from device /sensors and maintained through using the cloud infrastructure. The main IoT companies such as Cisco, Microsoft start to use IoT in the learning environment; the connecting technologies are widely applied in the diverse educational application. In this paper, a survey of the different educational IoT applications is presented. This paper is a survey more specific to how ubiquitous connectedness can transform pedagogy.

Keywords: Internet of things (IoT), Educational Technology, pedagogy.

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Introduction

Internet of Things (IoT) was considered as an innovation for the global communication. IoT is the framework in which the physical objects will be connected to the Internet and the other devices. The architecture of IoT consists of three layers: perception layer, network layer, and application layer. The bottom of architecture is the sensor layer where sensor devices are launched into the environment to detect events or changes in its environment and send the information to other electronics, frequently. On top of the sensor layer is the network layer. The network layer is responsible for communicating the sensor device in the network such as the Ethernet, Wi-Fi, and gateway. The application layer is the top of IoT architecture which is used to provide services and determine the protocols for message passing.

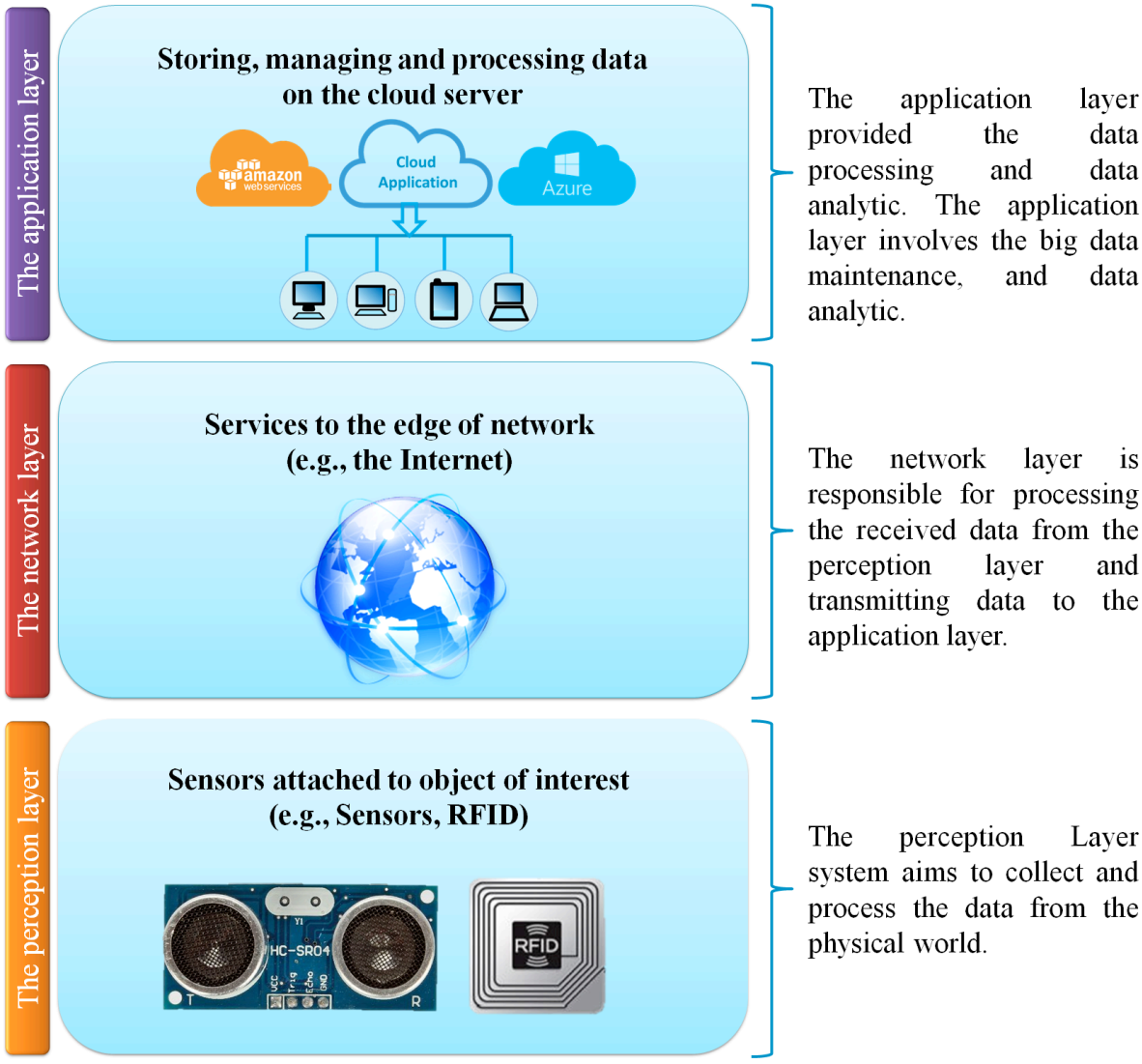

Figure 1: The architecture of IoT

IoT has been widely used in smart cities, smart environment, smart water, and so on. Automation and communication are major advantages of IoT, and these features have potential to change the world in various industries. Growing popularity of IoT applications has attracted much attention in recent research. Applying the IoT

applications in the learning environment explicitly could be beneficial. The mobile devices are widely used in the learning environment. The connectivity of IoT can help make life easier for learners with special needs. IoT applications naturally fall to the learning environment to pioneer mobile innovation and enable pupils to broaden the learners' learning experience. For instance, a visually impaired learner who is given a mobile device, the learning status can automatically upload to the cloud system, the teachers and parents timely receive the learner's learning profile on the cloud system. The learning activity could be more efficient for the student, teacher, and parents.

Literature Review

Internet of Things (IoT) was considered as an innovation for the global communication. IoT is the framework in which the physical objects will be connected to the Internet and the other devices. IoT has been applying in the diverse field. Automation and communication are major advantages of IoT, the IoT solutions greatly aid in the accelerated development of pedagogical materials. IoT applications had been applied in collaborative learning (IoTSCL) and the Pervasive-interactive-Programming (PiP) paradigm to enhance students' learning motivation in university (Plauska et al, 2014). The building, transportation, learning material in the campus can be constructed from IoT technologies. IoT solutions used in diverse research fields such as Science Technology Engineering and Math (STEM) and Computer Science, the educational IoT solution can also be used in a project oriented class. Students can use this platform as a building block to create their own application (Kimsey et al, 2015). Chin & Callaghan (2013) argue that the IoT provides not only a convenience platform for teaching computer science but also a motivating educational material to capture students' imaginations. Enabling the campus intelligent is one of the essential issues for educational IoT. Chin & Callaghan (2013) contend these approaches are proposed in various educational environments. The educational robots were utilized to facilitate learning, (Plauska & Damaševičius, 2014). Fernandez et al. (2015) demonstrated a web socket-supported system to allow reuse existing laboratories. The proposed system was allowing reuse HTTP previous architectures, hardware, and services, including a more advanced environment that uses web sockets as communications support (Fernandez et al., 2015). The development of an IoT educational mobile learning tool for primary school students in rural underprivileged areas of northern was presented in the learning environment (Pruet, Ang, Farzin, & Chaiwut, 2015). A large sets of data which are usually collected, processed and stored for educational usage, some studies proposes a data acquisition DAQ system, based on low-cost hardware, IoT principles and open source and freely available data mining tools, what enables its widespread usage in educational research (Vujović & Maksimović, 2015).

Table 1: Educational IoT research

Functionality	Researches	Fields of application
• The voice and visual sensors connectivity • Interactive learning • Ubiquitous learning	Warng, 2010; Xue & Wang, 2011; Gonzalez, Organero & Kloos, 2008; Plauska & Damaševičius, 2014; Cheng & Liao, 2012; Pruet, Ang, Farzin, & Chaiwut, 2015; Fernandez, Ruiz, Gil& Perez, 2015	▪ English education ▪ General education ▪ Creativity ▪ Collaborative learning ▪ Computer science ▪ Science technology engineering and math (STEM) ▪ Primary education ▪ RGB led laboratory
• Living Labs • Intelligent Campus (iCampus)	Chin & Callaghan,2013; Kimsey, Jeffords,Moghaddam, & Rucinski, 2015	
• Data connectivity and analytics • Data acquisition	Cheng & Liao, 2012; Vujović & Maksimović, 2015; Pruet, Ang, Farzin, & Chaiwut, 2015;	
• Web socket	Fernandez, Ruiz, Gil& Perez,2015	

Educational IoT solutions

Considering a student will soon be connected to Sensor or RFID scanning objects while getting personalized curricula delivered to their desks. IoT is when the networks expand to places such as education. For the top 10 IoT solutions provider, 70% of providers have been used their solution used in the educational field (see Table 1).

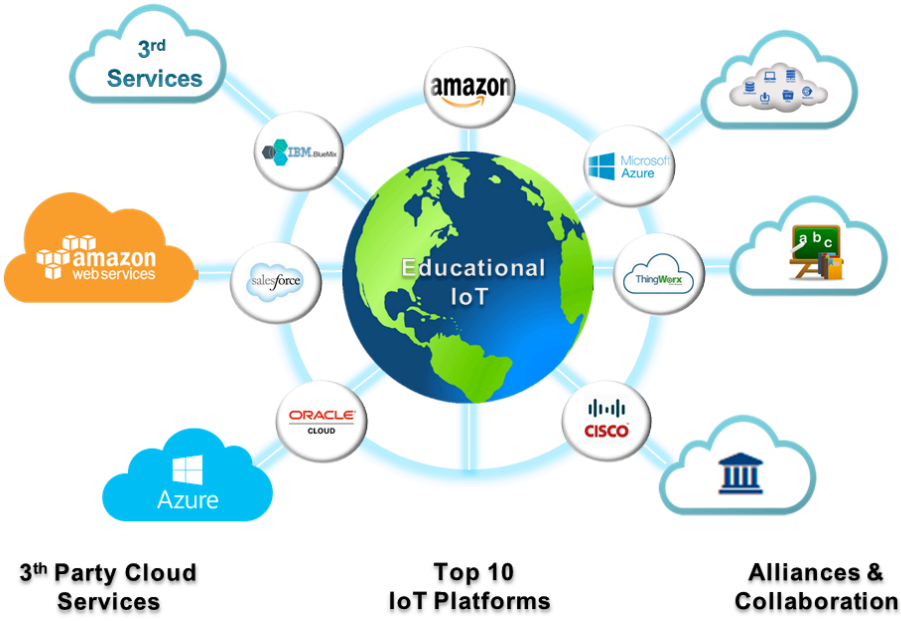

Figure 2: The IoT solution in education

Table 2: Top ten IoT solutions in education

Provider	Educational Solution	Items	Cases
Amazon Web Service (AWS)	v	Educational web services Campus web security Massive Open Online Couse (MOOC) platform Data connectivity and cloud storage	Open Universities Australia (OUA), University of Maryland
Microsoft Azure	v	Data connectivity and cloud storage	Florida's Seminole County Public School District
Thing Worx	v	Curriculum development	University of Massachusetts Amherst
IBM Watson IoT	v	Personalize Learning, data connectivity	Sesame Street Pearson
Cisco	v	Intelligent campus bus	Watkins Glen Central School District
Salesforce	v	Learning Management System (LMS)	College for America at Southern New Hampshire University
Carriots			
Oracle Integration Cloud Service	v	Learning Management System (LMS)	
Predix			
KAA			

- **Amazon Web Service (AWS)**

AWS provided the web infrastructure and automation tools (e.g., AWS CloudFormation) for users to create their web environments on the AWS infrastructure. The launch of the AWS Asia-Pacific Region enabled the educational institute to retain student information onshore and access local AWS support resources as required. AWS also provided the information security service. In the OUA case, the Massive Open Online Couse (MOOC) platform was quickly settled on the AWS cloud services. The launch of the AWS Asia-Pacific region enabled the educational institute to retain student information and access local AWS support resources as required. The student information can be adequately protected by using the AWS security service. The education services provider launched the web application in the OUA platform based on the AWS infrastructure. OUA started migrating its back-end systems and websites to the AWS infrastructure. The agility and flexibility of the AWS infrastructure enabled the educational service providers to build OUA's MOOCs in only 22 weeks and support 110,000 students a few months later. The AWS Cloud service was applied in the technical environment for the user in the University of Maryland, College Park. To ensuring the compliance of data, the University of Maryland was using AWS to migrate all of its data centers to the cloud.

- **Microsoft Azure**

The massive amounts of data bring challenges to file management. For educational instance, faculty and staff spend a lot of time manage the pedagogical materials. To solve this problem Florida's Seminole County Public School District used Microsoft

Azure to implement of file management and cloud storage. In the past few years, Microsoft Exchange Online and Microsoft Identity Manager have been applied in the district. Microsoft allows the user to standardize and on consolidate in Windows Server with Microsoft System Center and Configuration Manager. Azure cloud solution takes advantage of real-time file connectivity, high communication performance, and the complete cloud storage service. The Florida's Seminole County Public School case, they use the Azure StorSimple, the Microsoft Azure hybrid cloud storage solution to save data. Azure StorSimple addresses massive data growth, empowering the user to take advantage of economical cloud storage for users' or operational data. Therefore, the user didn't have to create physical disk space while using Azure StorSimple. Utilizing Azure solution for institution infrastructure, network connectivity, and files retrievals can decrease the maintain cost and reduce backup times.

- **PTC ThingWorx**

PTC working with 28,000 customers to deliver smart, connected products. ThingWorx is a complete development platform for IoT. On the purpose of reducing the cost, time, and risk, PTC ThingWorx is required to build innovative IoT application and Machine-to-Machine (M2M). For educational technology, PTC IoT academic program contributes to providing a powerful academic package on IoT which include curriculum and software so that educator can develop curriculum material and learners can implement their IoT project in the classroom. PTC IoT academic program provides the free annual license for students, faculty, and researchers. For instance, learners can use IoT tool to develop their project deploy on the program. Recently, PTC IoT academic program providing the online courses available worldwide through Udemy, an established provider of Massive Open Online Courses (MOOCs) and company start with launches IoT MOOCs associated with the IoT product development and business strategies.

- **IBM Watson IoT**

IBM Watson IoT is dedicated to developing the intelligent educational technology. In a few years, IBM Watson has been designing a nurturing relationship with the Sesame Street and Pearson that starts with the personalized learning. Watson cognitive tutoring capabilities with Pearson's expertise in higher education help learners improve their learning performance and assist them in completing their course. For instance, when learners come to class prepared, and educators can offer the personalized learning materials. Watson cognitive tutoring provides a more impactful classroom experience can occur resulting in better and deeper understanding for students. In the Sesame Street and Pearson Case, learners had access to personalized Watson interactions designed to enrich the digital experience. The learner will be able to engage with Watson to improve their grasp of course concepts and lead to deeper learning and better performance in the learning activity. Watson has the ability to interact with the learners using to remediate confusion and help the student identify areas of weakness. Watson provided instructors with the insights by Watson, thus they could use to improve learners' learning performance. Watson provides the personalized learning based on the individuals' need instructors can make educational strategy based on the strengths and weaknesses of the individual. Pearson collaborates with Watson drive cognitive learning for college students. In Sesame Street case, IBM Watson IoT solution was applied in the personalized learning to kids around the world. Sesame Street has over 45 years of deep expertise gained through research and more than 1,000 studies on how young children learn best. The IBM Watson IoT solutions

analyze the large amounts of learning data and provide the personalized suggestion for learner and educator.

- **Cisco**

With the repaid develop of information technology, students and faculty can access to resources around the world in any time. 14,253 school districts and educational institutions, 9,834 colleges and universities in 127 countries had been used cisco educational IoT solution. At Watkins Glen Central School District, Cisco IoT solution was to develop intelligent campus bus. In this case, School bus rides between home and school can take up to 40 minutes each way, the campus network and school bus communication is the challenge of campus transportation. The aim of Cisco solution is ensuring students could use the transportation time productively, securing campus networking, optimizing uptime management, and improving student safety and wellbeing. Therefore, school buses with wireless access using Cisco 829 industrial integrated services routers and secure campus networking with Cisco switching. The student who they live in the place may disadvantage in the campus transportation. This case demonstrate that educational IoT can help to ensure equal access to education for all, improve student safety and wellbeing, as well as make better use of time and learning opportunities.

- **Salesforce**

There are many advantages of incorporating IoT into campus, which can help students, faculty, and society on a daily basis. Southern New Hampshire University's Innovation Lab established College for America (CfA) redesign the college education model with working. CfA delivers an innovative solution to the most pressing problems of cost, access, and quality in higher education throughout the US. Salesforce with the advantage of fast, scalable solution, CfA adopted Salesforce to manage students' learning profile and launch the program. In the network layer, CfA used Salesforce to connect recruiting, student, marketing, and IT departments. CfA provides the competency-based Learning Management System (LMS) on Salesforce App Cloud. This case demonstrated that Salesforce can quickly integrate with a variety of solutions, making all student data accessible from one tool. Though the educational IoT, the student can get the personalized learning service. For instance, each student is assigned projects which are managed in Salesforce Cloud, and then the reviewer can evaluate the student's work and make notes directly on the student's record. In addition, CfA used Salesforce to offer additional support to students according to individual's need. The college uses Salesforce Knowledge articles to achieve the goal of self-learning. When the students face the difficulty of the learning activity, students can obtain the suggestion by chatting with the Salesforce Live Agent live. In Salesforce, knowledge base sourced from a variety of channels can be integrated to help solve issues quickly and effectively. CfA is determined to make education affordable for everyone, and this case is paving the way for working adults to learn the skills they need to advance their careers at the record pace. Salesforce IoT solution uses social, mobile, and cloud technologies to connect the information. For students, alumni, and parents, the communications with institutions to be effortless.

- **Oracle Integration Cloud Service**

Oracle educational cloud solution can engage with educator prospects and students with targeted multi-channel communication. On the cloud platform, students can access the online knowledge base and FAQs at any time in any place. To meet the demands of the students, faculty, and staff by delivering social and collaborative experiences, identifying top talent, and increasing productivity across campus. In addition, Oracle provides integrated solution and management tool to address

pedagogical issues and to ensure the student can learn efficiently. Mobile device provide everyone a convenience way to communicate, Oracle has a complete educational solution for educator and learner to enable the educational environment intelligent.

By starting from the IoT solutions above, it pointed that IoT is included by campus security, learning activity, and personalized learning. These case received support from the top IoT solution providers in completing the project on time and within budget. These solutions with security and architecture best practices in education. Inspiring cases of how schools around the world are using IoT solution to create immersive teaching and learning experiences.

People's perception of educational IoT

To examine the importance and the using intention, the evaluation items rated on a five-point Likert scale; the items ranged from 1 “strongly disagree” to 5 “strongly agree.” The result showed that no significant difference was found in the self-perception toward educational IoT for professional and students (see Table 1-2). However, the undergraduate students had higher intention to use educational IoT ($Mean_p$=3.74 < $Mean_u$=3.86) than professional. Table 2 demonstrated that Educational IoT was received more attention for the ungraduated student. The preliminary research and solutions demonstrated that how the IoT impact education, the result show that both professional and students percept that IoT plays the critical role in education. For vocational education, the application layer of IoT starts to transforming education in the Cloud. One of the participants has been enrolled the vocational nursing program on the hospital information system (HIS).

Table 3: The participants’ intentions to use educational IoT solution

	Mean	SD	N	F	Sig.
Professional	3.74	0.98	85	0.592	0.44
Undergraduate Student	3.86	0.93	63		

Table 4: The importance of educational IoT

	Mean	SD	N	*F*	Sig.
Professional	3.72	0.85	85	3.096	0.08
Undergraduate Student	3.97	0.86	63		

Conclusion

The advantage of the IoT is the high impact it will have on aspects of learning environment and behavior of learners. From the point of view of the learners, faculty, and staff the most obvious effects of the IoT introduction will be visible in working efficiency and learning performance. In this context, enhanced learning is only a few examples of possible application scenarios in which the new paradigm will play leading role in the near future. Similarly, from the perspective of the educational environment, the most apparent consequences will be equally visible in fields such as the intelligent classroom. Starting from the innovation of educational technology could drive wide-spread diffusion of knowledge that contributes invariably to educational development. The case studies demonstrated the educational IoT solutions can successfully migrate the websites and back-end systems to cloud infrastructure. There’s no doubt that IoT will make our lives easier with the advent of mobile devices, connected vending machines, and others.

Discussion

IoT will be successfully integrated into the education. In order to include the IoT in education, education must shift. However, the security of data connectivity is the possible threats. The complete IoT security solution will secure the educational data connectivity to avoid hacking a database. The development of IoT security solution can create the safe learning and pedagogical experiences.

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Contact email: yuhsin.hung1128@gmail.com

The Development of Teachers' Desirable Characteristics of Student Teachers in Thepsatri Rajabhat University by Using Behavioral Record Sheet

Phuwadon Chulasukhont, Thepsatri Rajabhat University, Thailand

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Abstract

This research aimed at developing teachers' desirable characteristics of student teachers who currently have enrolled in "Self-actualization for teachers" subject in 2016 academic year of Thepsatri Rajabhat University by using behavioral record sheet. The sample for this studying were 57 student teachers in English education major. The instrument of this research was a behavioral record sheet that was identified the desirable characteristics by the student teachers in 10 aspects; they were 1) uniform dressing 2) gracious speech 3) temperament 4) endurance 5) punctuality 6) circumspection 7) honesty 8) responsibility 9) pursuit of knowledge, and 10) faithfulness. The data were analyzed by using percentage, mean and standard deviation.

The findings showed that the teachers' desirable characteristics of student teachers before beginning the lesson were at the low level (the average of overall was 2.47) and the lowest aspect was gracious speech (the average was 2.26), however after using the behavioral record sheet that identified by student teachers, it was found that the teachers' desirable characteristics of student teachers were at a higher level (the average of overall was 4.05) whereas the highest aspect was responsibility (the average was 4.23).

Keywords: desirable characteristics, student teachers, self-actualization for teacher, behavioral record sheet.

Introduction

The faculty of education, Thepsatri Rajabhat University (TRU) has a mission to generate and develop the teachers' quality to be the ethical and faithful persons. Moreover, the student teachers should have the knowledges of their major and also the teachers' desirable characteristic in the future (Faculty of education, Thepsatri Rajabhat University, 2015).

Everyone has the personal characteristic that another can remember and identify. If someone has the desirable characteristic, they gain the self-confident and can be a person who is accepted by society and also has the possibility to succeed in their life. Therefore, the student teachers should cultivated the desirable characteristic. Not only the teachers need to cultivate the desirable characteristic, but also are able to control themselves to be the persons who have the teachers' desirable characteristic and the appropriate expression to their friends, teachers and community (Wilai, 2001).

Nowadays, it is founded that some student teachers have the impolitic characteristic and demeanor. Especially, speech, responsibility and the pursuit of knowledges. The researcher realized the problems and the importance of the issues mentioned above, therefore, the study of development of teachers' desirable characteristics of student teachers in TRU by using behavioral record sheet, to be the part of encouragement of the teachers' desirable characteristic into the freshman of student teachers was conducted.

Objective

This research aims to develop teachers' desirable characteristics of student teachers who currently have enrolled in Self-actualization for teachers' subject in 2016 academic year of TRU by using behavioral record sheet.

Material and Methodology

The sample of this research were 57 student teachers of English education major who have enrolled in Self-actualization for teachers' subject in 2016 academic year, the instruments of this research were behavioral record sheet and the questionnaire of teachers' desirable characteristics.

The methodology of this research was begun from studying the problems and the self-development needs of student teachers, the studying revealed that all of them need to develop themselves of teachers' desirable characteristics.

The next step, the researcher and all student teachers together discussed to choose what the desirable characteristics should be developed, and chose the process to be succeed in their objectives. The teachers' desirable characteristics that were chosen by student teachers were: 1) uniform dressing, 2) gracious speech, 3) temperament, 4) endurance, 5) punctuality, 6) circumspection, 7) honesty, 8) responsibility, 9) pursuit of knowledge, and 10) faithfulness.

The researcher constructed the questionnaire under the desirable characteristics' aspects that were identified by student teachers, and used it to ask them about the

desirable characteristics of their classmate before the process of development, in order to use them to compare the results after the process.

Then, the student teachers together made the agreement and the process of activities both in the classroom and the outside. After that, they together created the behavioral record sheet. The student teachers recorded it by themselves about their behaviors under the topic of each desirable characteristics, and they had to record them strictly and honesty. Therefore, they did it regularly and slowly changed their behaviors became to the desirable characteristics as the agreement.

However, the researcher always monitored these activities closely, and gave them suggestions. They discussed about these every week, and considered how to improve the weakness that they found with their classmates and the instructor. Finally, the researcher evaluated them by the behavioral record sheet, and asked them again about desirable characteristics of classmate by the old questionnaire.

Results

The researcher studied the teachers' desirable characteristics of student teachers before the development process, the result showed that;

The overall of the teachers' desirable characteristics was at a low level ($\bar{x}$ = 2.47, S.D. = 0.92), when considering individual aspect in ascending order, there were gracious speech aspect ($\bar{x}$ = 2.26, S.D. = 1.14), responsibility aspect ($\bar{x}$ = 2.33, S.D. = 0.81) and pursuit of knowledge aspect ($\bar{x}$ = 2.37, S.D. = 1.16) respectively.

Table 1: The teachers' desirable characteristics of student teachers before the development process

	Teachers' desirable characteristics of student teachers	The characteristics level		
		$\bar{X}$	S.D.	Interpretation
1	Uniform dressing	2.54	0.83	Medium
2	Gracious speech	2.26	1.14	Low
3	Temperament	2.54	0.95	Medium
4	Endurance	2.60	0.75	Medium
5	Punctuality	2.58	0.73	Medium
6	Circumspection	2.46	0.89	Low
7	Honesty	2.54	0.96	Medium
8	Responsibility	2.33	0.81	Low
9	Pursuit of knowledge	2.37	1.16	Low
10	Faithfulness	2.47	0.91	Low
	Overall	2.47	0.92	Low

After finishing the development process, the researcher studied the teachers' desirable characteristics of student teachers again, the result revealed that;

The overall of the teachers' desirable characteristics was at a high level ($\bar{x}$ = 4.05, S.D. = 0.76), when considering individual aspect in descending order, there were responsibility aspect ($\bar{x}$ = 4.23, S.D. = 0.76), honesty aspect ($\bar{x}$ = 4.18, S.D. = 0.73) and gracious speech aspect ($\bar{x}$ = 4.11, S.D. = 0.59) respectively.

Table 2: The teachers' desirable characteristics of student teachers after the development process

Teachers' desirable characteristics of student teachers		The characteristics level		
		$\bar{X}$	S.D.	Interpretation
1	Uniform dressing	4.04	0.78	High
2	Gracious speech	4.11	0.59	High
3	Temperament	4.09	0.69	High
4	Endurance	4.02	0.88	High
5	Punctuality	4.04	0.84	High
6	Circumspection	4.05	0.72	High
7	Honesty	4.18	0.78	High
8	Responsibility	4.23	0.76	High
9	Pursuit of knowledge	3.91	0.79	High
10	Faithfulness	3.89	0.72	High
	Overall	4.05	0.76	High

The finding showed that, before the development process began, the overall of the teachers' desirable characteristics was at a low level ($\bar{x}$ = 2.47, S.D. = 0.92), but after the development process, the overall of the teachers' desirable characteristics was higher ($\bar{x}$ = 4.05, S.D. = 0.76).

Therefore, the teachers' desirable characteristics of student teachers were increased after finishing the development process by using the behavioral record sheet that were identified by student teachers.

Conclusion and Discussion

The teachers' desirable characteristics of student teachers were increased after using the behavioral record sheet, was begun from the instructors' and student teachers' participatory about the expected activities and targets. Moreover, the student teachers participated in all process of development, began from choosing the desirable characteristics that need to be improve and identified the target by themselves. They also together created the behavioral record sheet, and recorded it by themselves, discussed about the weakness and how to improve it with classmates and the instructor every week.

According to Yont (2010), the teaching profession was related with self-development in the variety knowledges. All teachers must develop themselves as much as possible. If the teachers lack of self-development, the parents and communities will lose faith and it can affect to the cultivation of their students.

That's the reason why all student teachers should have the desirable characteristics to prepare themselves to be the good teachers in the future. According to Wijarn (2004), the self-development method of teachers could be able through the discussion with colleagues regularly. They could learn everything and improve the weakness from each other, it could increase the relationship between them in the same time of self-development also.

Moreover, the student teachers who were in these process can increase their relationship and help the classmate to develop themselves. Because of the knowledge exchange can increased teammate's potential together (Ford & Staples, 2010). Wilai (2011), stated about the importance of the teachers' desirable characteristics to impress any people and be the good model for their students. Doing this, the student teachers must analyze, practice, and improve themselves regularly. If they can do, it means they are ready to be the good teachers in the future.

Suggestion

After the researcher finished this studying, there were some suggestions;

This research examined only 10 aspects of teachers' desirable characteristics, the future research should study as many aspects as possible. Furthermore, this research studied only the major of English education which may not represent the general population. In the future, other majors of student teacher programs should be conducted.

Acknowledgement

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Contact email: phuwadon84@gmail.com

The Effect of Project Based Learning to Enhance Problem Solving Ability in Distance Learning Media Subject of Student Teachers

Poggade Chanayotha, Thepsatri Rajabhat University, Thailand

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Abstract
The research aimed to study the effect of the Project Based Learning (PBL) which focused on enhancing problem solving ability of the student teachers who currently enrolled in 'Distance learning media' subject in 2016 academic year of Thepsatri Rajabhat University through instructional media service activities by using PBL for enhancing problem solving ability record sheet. The sample for this study were 40 student teachers in Social Education major. The procedures of the research were as follows; phase I: field study investigating the problem information about instruction media in local school, phase II: planning and designing their own project, Phase III: development regarding the instructional media as well as its implementation, Phase IV: writing the project report, Phase V: presenting the project and Phase VI: evaluating of instructional media project. The data were analyzed by using percentage, mean and standard deviation.
The results showed that the average of overall problem solving ability of the sampling student teachers before beginning the project was at a medium level (the average of overall was 2.15), however after using the project based learning, it was found that the problem solving ability of student teachers was higher at a high level (the average of overall was 3.09). As analyzing the point range, 37.50 percent of all students (15 students) were at the highest level, 50 percent of all students (20 students) were at a high level, and 12.50 percent of all students (5 students) were at a medium level.

Keywords: project based learning, problem solving ability, instructional media, student teachers

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Introduction

A main mission of qualifications framework for Thailand's higher education is to develop the Bachelor's degree students. Especially, the institutes should focus on the development of thinking skill, the knowledge of concerned theories, and the experience from practice. The student teachers should apply the skills and knowledges of their profession that were concerned with their majors (Paitoon, 2010). Therefore, the student teachers should have the knowledges and the practice abilities, including applying their knowledges and abilities into schools for the truly benefits.

Thepsatri Rajabhat University (TRU) is the one of higher education institutes in Thailand, whose target is to generate the quality graduates of teacher programs, who are professional teachers, to fulfill the needs of local and global communities, and to serve society. (Thepsatri Rajabhat University, 2016). The Project Based Learning is the method that can teach the students to apply their experiences and abilities into their work and to practice under their interested and aptitude, which can be the good attitude to work (Petchara, 2002).

However, many small schools in Lop Buri which have lacked instruction media or learning from television via satellite. The researcher realized the problem and initiated this research to apply the PBL to enhance the problem solving ability, in the Distance Learning Media Subject for student teachers in TRU. That is an opportunity for student teachers to invent their works under the project based methods, and transfer the knowledges from this methods to solve the problems of insufficiency to the schools in their communities. Eventually, it is the preparation of the student teachers to be the quality teachers in the future.

Objective

The objective of this research was to study the effect of the project based learning which focused on enhancing problem solving ability of the student teachers in TRU.

Sample Group

The sample group derived from purposive sampling technique included 40 student teachers in Social Education major, who were studying the distance learning media subject in the second semester of the 2016 academic year at TRU. The samples were separated into 8 groups, each groups consisted 5 students, who participated in activities of the instructional media created, tested and brought it into the classroom of schools in Lop Buri province.

Research Instruments

The instruments of this research were 1) the problem solving ability's assessment form, before and after study, and 2) The activities recording form of Project Based Learning for problem solving ability's development.

The first instrument comprised 4 parts, part 1 the problems identifying, part 2 the problems analysis, part 3 the problems solving suggestion, and part 4 the results verifying.

The second instrument consisted of 6 activities as follows: 1) the topic or problem choosing, 2) planning, 3) operation and implementation, 4) reporting, 5) results presentation, and 6) project assessment.

Research Methodology

This research was separated into 6 phases, the procedures were as follows;
Phase 1: Field study investigating the problem information.
The researcher explored the problems and needs to self-development in distance learning media subject. The result showed that the highest level of student teachers' needs were the problem solving ability

Phase 2: Planning and designing their own project.
The researcher and student teachers together clarified and understood of project based learning to enhance problem solving ability. Then the discussion about the ways to practice, the results from this activity, and the benefits that they gained after finishing the project based learning process were conducted.

Phase 3: Development regarding the instructional media.
The researcher created the regulations of project based learning, the basic rules, knowledges shared mission, and discussed about the effect of activity every week.

Phase 4: Writing the project report.
The researcher wrote the documents of project based learning to enhance problem solving ability, the effect of project based learning, the problems, and the solutions of student teachers in these activities.

Phase 5: Presenting the project.
The researcher monitored the activity recorded in each topic of project based learning to enhance problem solving ability, and the student teachers presented their project to classmate and the instructor.

Phase 6: Evaluating of instructional media project.
After finish the process, the researcher assessed their solving skills from the results of their solution in the school that they selected to practice.

Results

The researcher studied the effect of the project based learning which focused on enhancing problem solving ability of the student teachers, the result showed that;
The average of overall problem solving ability of the sampling student teachers before beginning the project was at a medium level ($\bar{x}$ = 2.15, S.D. = 0.62), however after using the project based learning, it was found that the problem solving ability of student teachers was higher at a high level ($\bar{x}$ = 3.09, S.D. = 0.76).

Table 1: The level of problem solving ability of student teachers, before and after beginning the project, classified by steps of problem solving ability.

Step of problem solving ability	Before process		Ability level	After process		Ability level
	$\bar{x}$	S.D.		$\bar{x}$	S.D.	
Problems identifying	2.23	0.53	medium	3.05	0.71	high
Problems analysis	2.00	0.68	medium	3.18	0.71	high
Problems solving suggestion	2.10	0.67	medium	2.98	0.89	high
Results verifying	2.28	0.55	medium	3.15	0.70	high
Overall	2.15	0.62	medium	3.09	0.76	high

Step 1: Problems identifying, the result of this step showed that the problems identifying's ability of student teachers before beginning the project was at a medium level ($\bar{x}$ = 2.23, S.D. = 0.53), and after using the project based learning, it was found that was higher at a high level ($\bar{x}$ = 3.05, S.D. = 0.71).

Step 2: Problems analysis, the result of this step showed that the problems analysis's ability of student teachers before beginning the project was at a medium level ($\bar{x}$ = 2.00, S.D. = 0.68), and after using the project based learning, it was found that was higher at a high level ($\bar{x}$ = 3.18, S.D. = 0.71).

Step 3: Problems solving suggestion, the result of this step showed that the problems solving suggestion's ability of student teachers before beginning the project was at a medium level ($\bar{x}$ = 2.10, S.D. = 0.67), and after using the project based learning, it was found that was higher at a high level ($\bar{x}$ = 2.98, S.D. = 0.89).

Step 4: Results verifying, the result of this step showed that the results verifying's ability of student teachers before beginning the project was at a medium level ($\bar{x}$ = 2.28, S.D. = 0.55), and after using the project based learning, it was found that was higher at a high level ($\bar{x}$ = 3.15, S.D. = 0.70).

The all results revealed that the problem solving ability of the student teachers was increased after using the project based learning.

Table 2: The numbers and percentage of students, when classified by problem solving ability's level, before and after the project based learning's process.

Point range	Numbers of students		Percentage		Interpretation
	Before process	After process	Before process	After process	
3.30 - 4.00	0	15	0	37.50	Highest
2.50 - 3.29	12	20	30.00	50.00	High
1.70 -2.49	25	5	62.50	12.50	Medium
0.90 - 1.69	3	0	7.50	0	Low

This table, illustrated the problem solving ability's assessment form, provided by the 4 parts of questions (written answer). Each choice was the point level from 0 to 4, as the criteria is 5 points rubric, the results showed that;

After the process, 37.50 percent of all students (15 students) were at the highest level (point range from 3.30 to 4.00). 50 percent of all students (20 students) were at a high level (point range from 2.50 to 3.29), and 12.50 percent of all students (5 students) were at a medium level (point range from 1.70 to 2.49).

Conclusion and Discussion

The results of the studying revealed that the 87.5 percent of sample group had the problem solving ability in the high level, because the project based learning has the positive effects on their learning. They can select the way to conduct, working environment, and the opportunities to take the decision by themselves (Thomas, J. W. 2000). In addition, they can gain the experiences directly from practice by enabling students to learn with more effectively (Dewey, J. 1938).

The designing of this learning activity was based on the problem solving ability's process of Weir (1974), including 4 abilities were; the problem identifying, the problems analysis, the problems solving suggestion and the results verifying. These process could increase the problem solving ability of student teachers, according to Dusit (2011) who studied about the effect of project based learning of bachelor's degree students in faculty of education, Burapha university, the comparison of the thinking skill of students between who were in the project based learning and the traditional learning indicated significantly difference at .05.

In additional to this research also according to Jollands, M, Jolly, L and Molyneaux, (2012), who studied about project based learning as a contributing factor to graduates' work readiness, the results revealed that the project based learning could effect to increase the project management, the problem solving ability, and communication skills, more than the students who were the traditional learning. Furthermore, the project can connect and develop the student's abilities to gain the experiences. Markham (2011) stated about the project based learning that the students should apply the knowledges from classroom to solve authentic problem in the real world, work in team to find a solution for the problem, and take advantage of digital tools to produce high quality and collaborative product.

From this study, the student teachers are proud of themselves after they achieved the project, it can be seen that the project based learning can fulfill needs of students, develop students in the problem solving ability, and they can apply their knowledges to find the solution in daily life and working life in the future.

Recommendations

1. For the process of this project based learning, the instructor and students should always communicate such as Face to Face, online social network, and email, to give them suggestion during the process.

2. To encourage the students to enhance problem solving ability, the researcher maybe use another process of learning management, for example, six thinking hat, problems based learning, etc.

3. In the future, other skills should be developed by the project based learning, such as teamwork skill or responsibility.

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Contact email: poggade@gmail.com

Taking Leisure Seriously: Adolescents' Pursuit of their Most Important and Interesting Leisure Activities

Atara Sivan, Hong Kong Baptist University, Hong Kong
Vicky Tam, Hong Kong Baptist University, Hong Kong
Gertrude Siu, Hong Kong Baptist University, Hong Kong
Alex Chan, Hong Kong Baptist University, Hong Kong
Robert Stebbins, University of Calgary, Canada

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Abstract
Whereas schools are the most common educational settings worldwide, learning and personal growth can take place in other contexts outside the school system. One of these significant contexts is leisure. Characterized by relative freedom, fewer social constraints than other life domains, self-determination and intrinsic motivation, leisure has been identified as a major context for youth development.
This paper presents a study on adolescents' choice and pursuit of their most important and interesting leisure activity. The Serious Leisure Inventory and Measure (SLIM) was distributed to 832 senior secondary school students from 10 secondary schools of different academic banding and geographically distributed around Hong Kong. In completing the questionnaire, students were asked to nominate leisure activity that they regard as most important and interesting. Data analysis revealed the popularity of sports and performance and fine arts activities in such nominations. Reasons for participation were mainly psychological. There were gender and school differences in relation to the activity choice and its underlying reasons. Difference were also found between students' who scored high and those scoring low on the SLIM across gender, school banding, activity types, frequency and duration of activity participation, and reasons for activity choice. Results of the study revealed the existence of serious leisure among adolescents in Hong Kong and highlighted its potential for creating a lasting change in young people's development. Implications are drawn for leisure education in schools and for expanding the studies on adolescents' meaning making of their casual and serious leisure pursuits across different sociocultural settings.

Keywords: Adolescents, Serious Leisure, Secondary School, Education, Hong Kong

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Introduction

Leisure has been recognized as a significant domain for adolescents' personal development (Hunter & Csikszentmihalyi, 2003; Larson, 2000; Larson & Verma, 2003). The context of leisure is characterized by fewer constraints and more freedom of choice compared to other contexts. It also provides opportunities for experiences that facilitate self-definition, identity formation, fulfilment of the need for autonomy and exploration related to emerging adult years (Arnett, 2007; Kelly, 1983). These developmental needs could be facilitated especially when activity engagement is taken seriously by adolescents. The present study aims to investigate the existence of serious leisure in adolescents' choice and pursuit of their most important and interesting leisure activities.

The study is underpinned by the concept and construct of serious leisure which was developed by Stebbins (2007). Serious leisure is defined as: " the systematic pursuit of an amateur, hobbyist, or volunteer core activity that is highly substantial, interesting, and fulfilling and where, in the typical case, participants find a career in acquiring and expressing a combination of its special skills, knowledge, and experience" (Stebbins, 1992, p.3). The adjective "serious" represents qualities such as earnestness, sincerity, importance, and carefulness. It signals the importance of the activity in participants' lives that eventually leads to self-fulfillment. Serious leisure is characterized by six distinctive qualities: perseverance, leisure career, knowledge and skills, durable benefits, unique ethos and identities (Stebbins, 1992). Perseverance refers to the need to endure in the activity, and leisure career implies that the activity may develop into a career in either leisure or work. Serious leisure participants need to make an effort to gain skill and knowledge and their leisure pursuit carry personal and social benefits. Serious leisure also leads to the development of a unique ethos around the activity and as a result of all the above qualities, participants tend to develop certain identities with their chosen pursuits.

Studies on "serious leisure" were conducted mainly among adults, including amateur and professional leisure participants and hobbyists (e.g. Elkington & Stebbins, 2014; Liu, Bradley & Burk, 2016; Kim, Dattilo & Heo, 2011; Gillespie, Leffler, & Lerner, 2002; Martin, Murray, O'Neill, MacCarthy & Gogue, 2014; Stebbins, 2001). These studies have demonstrated the presence of the six qualities of serious leisure across a range of activities, highlighting its contribution to participants' development. In contrast to the volume of studies on adult serious leisure participants, studies on adolescent serious leisure are scarce. These few studies have identified the characteristics of serious leisure among adolescents and young adults (Heo & Lee, 2007; Huang, Shin, & Huang, 2010; Spector, 2007) suggesting the contribution of serious leisure engagement to adolescents' personal-growth, development of coping skills and desire for lifelong learning. A recent phenomenological study on serious leisure among adolescents was conducted in Hong Kong by Siu (2013). The study revealed the impact that serious leisure pursuit has on the participants while providing them with opportunities to involve in goal-directed activities to acquire knowledge and skills, explore the self and form relationships with others within a context of effort and demand. Furthermore, adolescents also derived meaning from their serious leisure engagement which had positive impacts in their move into their young adulthood years. The present study aims to further contribute to the field of study on serious leisure among adolescents. It extends on this phenomenological study by conducting a large scale quantitative examination to explore more the phenomenon of

serious leisure as it is reflected in secondary school students' pursuit of their most important and interesting leisure activities.

In Hong Kong, students spend long hours in school and on homework and revision (Tam, 2009). At the same time their daily schedule is packed with extra-curricular activities and private supplementary tutoring (Bray & Lykins, 2012, P. X).. Empirical studies showed that the most popular reason for participating in leisure activities is "killing time" (Sivan, 2003, 2013), which relates to the phenomenon described in the local culture by the colloquial term "hea". So far studies on adolescents' leisure in Hong Kong have focused on activity type and satisfaction gained from activity participation (Sivan, 2000, 2011). While these studies portrayed the leisure participation profile of school students, they did not examine specific activities that adolescents regarded as most important and interesting and thus might have been taken seriously. The present study aims to explore the characteristics of these chosen activities and how serious leisure is manifested in their pursuit. The study has three research questions:

(1) What are the leisure activities chosen by students as most interesting and important? Are there gender and school banding differences in this activity choice?
2) What are the reasons for students' activity choice and do those reasons differ across activities?
3) Are there differences between casual and serious leisure participants regarding their gender, school banding, activity types, frequency and duration of activity participation, and reasons for activity choice?

Methods

Sample

The findings drew from 832 students attending Secondary 4 and Secondary 5 in 10 secondary schools. The 10 schools represented all three academic banding levels and all three main geographical regions of Hong Kong. The mean age of the sample was 16.85 years, *SD* = 0.93. There were 54% girls (*n* =449) and 46% boys (*n* = 383). In terms of school banding, 405 were in Band 1 (48.7%), 149 in Band 2 (17.9%) and 278 in Band 3 (33.4%).

Instrument

Data were collected using a questionnaire administered to students on school premises during regular class periods. Necessary ethical clearance and schools' approval were obtained Informed consent was sought from students before they completed the questionnaire to ensure voluntary participation.

The questionnaire consists of three sections. The first section comprises open-ended questions about students' most important and interesting leisure activity, reasons of choosing the activity, as well as participation profile. In the second section, the 18-item Serious Leisure Inventory and Measure (SLIM) Short Form (Gould, Moore, McGuire & Stebbins, 2008, Gould et al., 2011) is used to assess level of serious engagement in the chosen activity. Each of the 18 items relates to a dimension based on the serious leisure concept. Respondents indicate the level of agreement on a 9-point Likert scale from Strongly Disagree to Strongly Agree. The questionnaire was adapted to be used in Hong Kong by following the accepted procedures for adapting tests into multiple languages and culture (Hambleton, 2005). Cronbach's Alpha for this instrument was reported to be .90.

The final section covers questions on ddemographic characteristics including date of birth, educational background of parents and self-evaluation of academic performance.

Results

Research Question 1: What are the leisure activities chosen by students as most interesting and important? Are there gender and school banding differences in this activity choice?
Students' chosen activities were classified into five major categories, namely sports, performance and fine arts, media-related, clubs and community work, and hobbies. The distribution of activity choice with respect to gender and academic banding is presented in Figure 1. The top three chosen activities are: sports, performance and fine arts, and media-related. A higher percentage of male students than female students chose sports as their most interesting and important leisure activity. A higher percentage of female students than male students chose performance and fine arts. Among boys, academic banding was associated with activity choice, χ^2 (8) = 33.20, p<.001. There was no significant association between academic banding and activity choice among girls, χ^2 (8) = 11.04, p>.05.

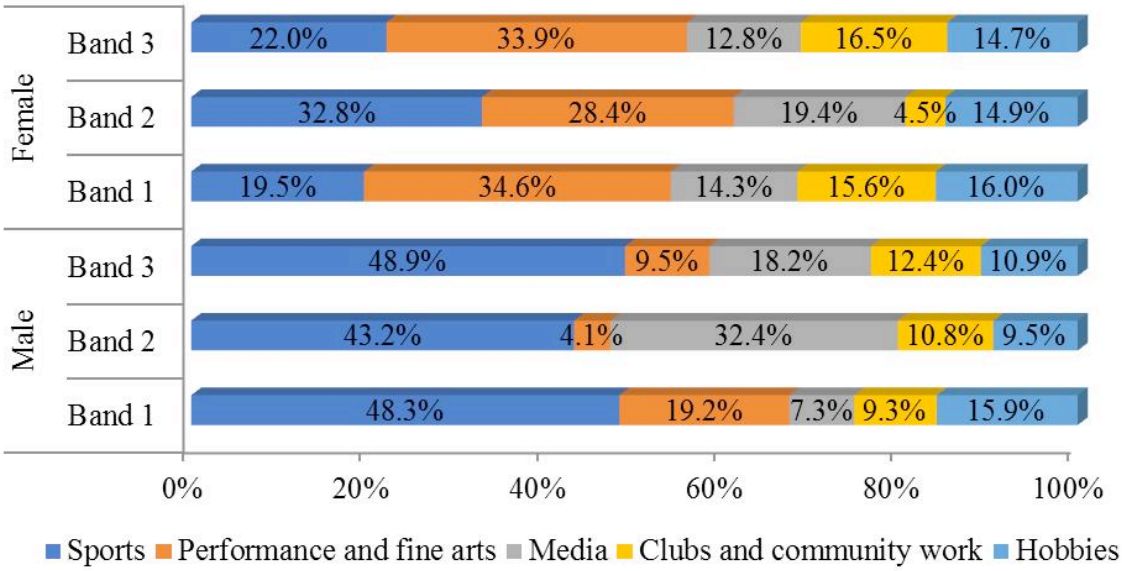

Figure 1: Distribution of chosen activities by school banding and gender (N = 832)

Research Question 2: What are the reasons for students' activity choice and do those reasons differ across activities?

We classified the reasons given by students to explain their activity choice into six major categories, namely psychological, social, learning, physical, spiritual, and money-related. Examples of reasons for each category are given in Table 1. Overall, the most popular reason was psychological (76.0%), followed by social (29%), learning (14.1%) and physical (11.2%) reasons. Spiritual and money-related reasons were hardly cited by the respondents.

Reason	Subcategory
Psychological	• enjoyment/relaxation/rescue from boredom • freedom/autonomy/self-actualization • competence
Social	• participation influenced by others • developing relationship • social interaction in the activity • giving to others
Learning	• learning activity-related knowledge and skills • learning general knowledge and skills
Physical	• nature of the activity • benefits of the activity
Spiritual	• relating to belief and religion
Money –related	• making money

Table 1: Subcategories for reasons of activity choice.

The percentages of students citing reasons related to specific categories and with respect to specific activity choice are provided in Figure 2. While psychological reasons predominate across all activity categories, a substantial proportion of students choosing sports as the most interesting and important activity gave social and physical reasons. Students choosing hobbies favored learning reasons. The same is observed with students choosing clubs and community work while many of them also reported social reasons.

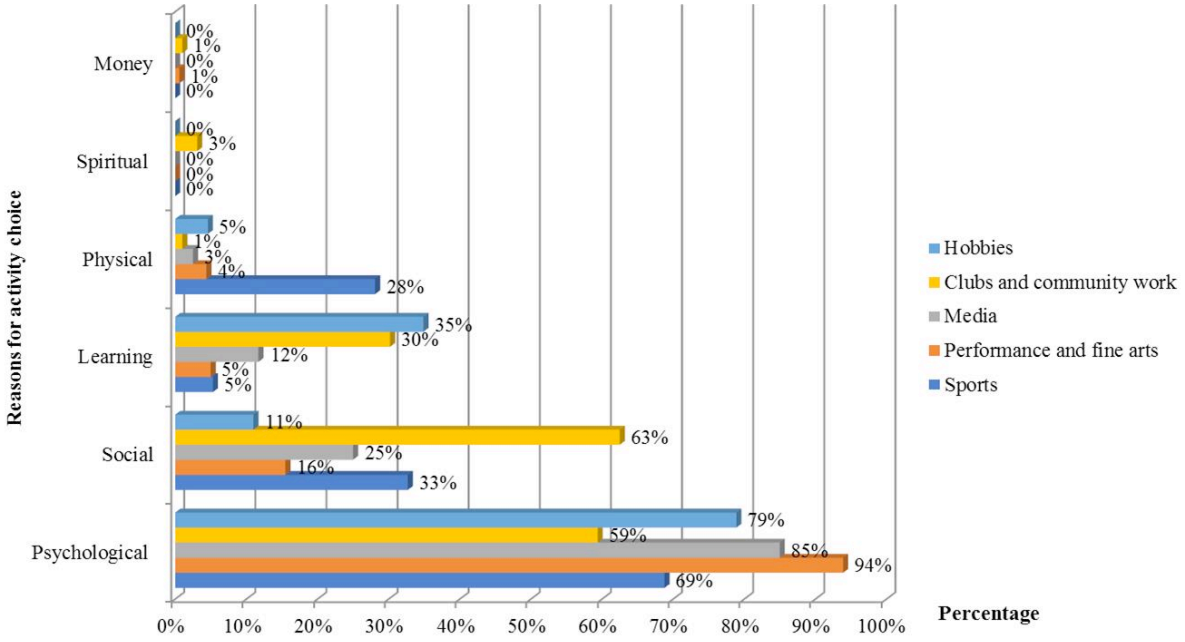

Figure 2: Reasons for students' activity choice (*N*=832)

In Table 2, we present the distribution of reasons for activity choice by gender. Our findings show that girls were more likely to report psychological reasons while boys reported more social and physical reasons.

Types of reasons	Gender	
	Male	Female
Physical	52 (13.6%)	41 (9.1%)
Psychological	279 (72.8%)	353 (78.6%)
Social	125 (32.6%)	116 (25.8%)
Spiritual	1 (0.3%)	2 (0.4%)
Money-related	2 (0.5%)	1 (0.2%)
Learning	48 (12.5%)	69 (15.4%)

Table 2: Frequency distribution of reasons for activity choice by gender (N = 832).

Research Question 3: Are there differences between casual and serious leisure participants regarding their gender, school banding, activity types, frequency and duration of activity participation, and reasons for activity choice?

To respond to this question, we divided the sample into three groups based on their reported SLIM scores. We then compared between the upper and the lower tertile groups (n = 267 and 285), representing "serious" and "casual" leisure participants respectively, across gender, school banding, activity types, frequency and duration of participation and reasons for activity choice.

Table 3 presents the distribution of "serious" and "casual" leisure participants with respect to gender and academic banding. It can be seen that there were more casual leisure participants among girls than among boys. Among girls, academic banding was associated with leisure seriousness, χ^2 (2) = 8.63, p<.05. There were more casual leisure participants among girls from Band 1 schools than among girls from Band 2 and 3 schools. There was no association between school banding and leisure seriousness among boys, χ^2 (2) = .59, p>.05.

Gender	School Banding	% within Banding	
		Casual Leisure	Serious Leisure
Male	Band 1	55 (49.1%)	57 (50.9%)
	Band 2	25 (45.5%)	30 (54.5%)
	Band 3	39 (43.8%)	50 (56.2%)
Female	Band 1	100 (64.1%)	56 (35.9%)
	Band 2	22 (47.8%)	24 (52.2%)
	Band 3	44 (46.8%)	50 (53.2%)

Table 3: Casual and serious leisure participants by gender and school banding (N = 552).

The distribution of "serious" and "casual" leisure participants by activity type is presented in Table 4. We can see that there were more serious leisure participants among those students who chose performance & fine arts as their most important and interesting

activity than among students who chose hobbies and media activities, $\chi^2(4) = 12.39$, $p<.05$.

	% within activity category	
Activity type	Casual leisure	Serious leisure
Sports	126 (47.9%)	137 (52.1%)
Performance and Fine Arts	68 (37.6%)	113 (62.4%)
Media	66 (55.0%)	54 (45.0%)
Clubs and Community Work	45 (46.9%)	51 (53.1%)
Hobbies	60 (55.0%)	49 (45.0%)

Table 4: Distribution of casual and serious leisure participants across the five categories of chosen leisure activity (N = 552).

The distribution of "serious" and "casual" leisure participants by the frequency of activity participation is presented in Table 5. It can be seen that serious leisure participants took part in their chosen leisure activity in a higher frequency than did casual leisure participants. More serious leisure than casual leisure participants got involved in their chosen activity once a week and once a day whereas, more casual leisure than serious leisure participants got involved in their chosen activity once or less than once a month, $\chi^2(3) = 8.64$, $p<.05$.

	% within casual/serious leisure participation frequency			
	at least once a day	at least once a week	at least once a month	less than once a month
Casual leisure	65 (23.8%)	141 (51.6%)	36 (13.2%)	31 (11.4%)
Serious leisure	75 (28.7%)	148 (56.7%)	20 (7.7%)	18 (6.9%)

Table 5: Distribution of casual and serious leisure participants across participation frequency (N = 552).

Table 6 presents the distribution of "serious" and "casual" leisure participants by the duration of their activity participation. We can see that serious leisure participants took part in their chosen leisure in a longer duration than did casual leisure participants. More serious leisure than casual leisure participants engaged three hours or more in their chosen activity, while more casual leisure than serious leisure participants engaged less than three hours per week in their chosen activity, $\chi^2(2) = 10.9$, $p<.01$.

	% within casual/serious leisure activity duration		
	less than 1 hour	1 to less than 3 hrs	3 hrs or more
Casual leisure	22 (8.3%)	165 (62.0%)	79 (29.7%)
Serious leisure	7 (2.9%)	136 (56.9%)	96 (40.2%)

Table 6. Distribution of casual and serious leisure participants across the activity duration (N = 552)

Table 7 presents the distribution of "serious" and "casual" leisure participants across the reasons they provided for their activity choice. We can see that a higher percentage of serious leisure participants than casual leisure participants cited psychological reasons for their activity choice. Also, a higher percentage of casual leisure participants than serious leisure participants stated learning reasons for their activity choice.

Reason for activity choice	Casual	Serious
Physical	34 (11.9%)	30 (11.2%)
Psychological	204 (71.6%)	219 (82.0%)
Social	77 (27.0%)	77 (28.8%)
Spiritual	1 (0.4%)	1 (0.4%)
Money-related	2 (0.7%)	1 (0.4%)
Learning	50 (17.5%)	32 (12.0%)

Table 7: Reasons for activity choice among serious and casual leisure participants (N = 552).

Conclusions

The present study shed light on the ways in which serious leisure is manifested in secondary school students' choice and enactment of their most important and interesting leisure activities. It highlighted the types of students' chosen activities, reasons for their choice and differences related to the level of seriousness of their engagement.

Students' most common chosen activities were sports, performance and fine arts and media-related. Sports and performance and fine arts were identified as "transitional activities" that play an important role in adolescents' development by providing a subjective experience of leisure in a context of effort and demand (Kleiber et al. 1986). Unlike activities which only provide spontaneous pleasure and enjoyment, sports and performance and fine arts activities entail discipline and require commitment which is part of adults' activities (Kleiber et al. 1986).

The choice of sports as the most important and interesting activity is an encouraging finding in view of current leisure participation patterns of Hong Kong secondary school students. Previous studies (Sivan, 2000, 2013) have shown the dominance of sedentary and media-based activities with low popularity of active leisure participation. Our study indicated that the choice of sports activities was more popular among boys than girls while girls chose more performance art activities. This gender difference has been identified in previous studies both locally and internationally which revealed higher participation in sports among males (e.g. Sivan, 2013; McGinnis, Chun & McQuillan, 2003). These gender differences were attributed to different role expectations during adolescents and to benefits derived from participation where males tended to elicit personal achievement in sports while females search for more socializing opportunities and intrinsic motivation (Kleiber & Kirshrit, 1991; McGinnis, Chun & McQuillan, 2003).

Findings of the present study indicated that students' choices of their most important and interesting leisure activity were predominantly driven by their psychological needs. They chose this activity for enjoyment and relaxation, for overcoming boredom as well as for

seeking their autonomy, self-actualization and enhancing their competence. Satisfaction of these needs is of an immense importance for adolescents' development. The importance attached to students' activity choice shows that their engagement in their serious leisure activity pursuit can potentially fulfil these needs. When examining the reasons for activity choice in relation to gender, it was found that girls were more likely to report psychological reasons while boys reported more social and physical ones. This finding could further explain the higher engagement of sports among boys as means for deriving physical and social benefits.

Further examination of activity choice in relation to school banding revealed differences in choice across different school banding. More Band 1 students chose performance and fine arts and hobbies than did students from Band 2 & 3 and there were more Band 2 & 3 students choosing media compared with those studying in Band 1. These differences could be related to the school's culture and contribution. Previous study on leisure education in Hong Kong secondary schools revealed the existence of several strategies that school used which affected students' leisure. These include enabling, facilitating and fostering ways such as giving talks on leisure use and offering extracurricular activities on one hand, and constraining strategies including overloading students with school work and emphasizing the need to use their leisure for study on the other (Sivan & Chan, 2012). It is likely that the choice of performance and fine arts and hobbies activities by students from the higher school banding represents a spill over from their school curriculum since they may have more facilitating and enabling factors to engage in these types of activities.

An examination of the leisure activity choice and pursuit across serious and casual leisure participants revealed differences regarding students' gender, school banding, activity types, frequency and duration of activity participation, and reasons for activity choice. There were more casual leisure participants among girls than among boys and the association between banding and the level of leisure seriousness was found to be significant only among girls. Furthermore, Band 1 school girls were more casual leisure participants than those from Band 2 & 3. Hong Kong education system is exam-oriented and students face heavy load and high demands from both teachers and parents (Tam, 2009). Engagement in casual rather than serious leisure activity may serve as a way to balance this load. One of the unique characteristic of serious leisure is its personal durable benefits which include: self-expression, enrichment, self-actualization, enhancement of self-esteem and self-gratification. Girls might have derived those benefits from other avenues such as academic study and school-based involvement. The higher participation in serious leisure among boys could be attributed to their ability to derive several physical and social needs mainly during their leisure engagement.

With regard to the activity choice, it was found that there were more serious leisure participants among students who chose performance and fine arts activities than among those who chose hobbies and media based activities. Performance and fine arts activities require effort, dedication and commitment and thus may lead to a more serious engagement. Studies on adults who undertook different performance and fine arts activities have identified the six characteristics of serious leisure while participants derived similar benefits from their engagement to those manifested in adolescents' leisure pursuit in the present study (Brown, 2007; Genoea & Liechtyb, 2016). Results of our study further showed that "serious" leisure participants took part in their chosen activity in a higher frequency and to a longer duration than did "casual" leisure participants. Time investment in their most important and interesting leisure activity which also satisfy their

needs is yet another indicator of the significance adolescents attributed to their serious leisure engagement.

Several practical and research applications can be drawn based on the finding of this study. For enhancing and supporting youth development, there is a need to recognize the role of leisure in adolescents' lives and its importance as a context for personal growth. One important channel for facilitating youth engagement in their leisure pursuit for satisfying their psychological needs is the process of leisure education of which schools play a major role (Sivan, 2008; Sivan & Stebbins, 2011). To ensure equity and provide equal opportunities to utilize leisure for personal growth, it is important that schools of all types and levels expose students to a wide range of activities, provide opportunities for their enactment and continue to facilitate students' involvement in serious leisure activities. The implementation of leisure education is timely and highly relevant to Hong Kong schools which have undergone massive reforms emphasizing whole person development and life wide learning (Sivan, 2016). The present study has contributed to the scarce research on serious leisure among adolescents' in general and specifically within the local context of Hong Kong. We recommend that more studies will be conducted using both quantitative and qualitative approached to examine adolescents' meaning making of their casual and serious leisure pursuits across different sociocultural settings.

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Student Attribute Correlates of Academic Achievement in High School Chemistry between Grade 9 & 10 Students

Angela Francisca Veloso, Deped, The Philippines
Vic Marie Camacho, Philippine Normal University, The Philippines
Virgel Duad, Philippine Normal University, The Philippines

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Abstract

This study examined three student attributes namely; level of mathematics anxiety, learning style, and attitude toward Chemistry that generated information on their effect on student achievement in Chemistry.

The study employed the causal-comparative descriptive research method. Instruments used included an achievement test to measure performance involving mathematical concepts in Chemistry, level of mathematics anxiety scale to measure anxiety levels, attitude toward Chemistry scale, and learning style reference. A total of 108 Grade 9 and 10 students from the Institute of Teaching and Learning (ITL) at the Philippine Normal University were involved as respondents. The result of the study revealed that the respondents taken as a whole, performed fairly in the achievement test in Chemistry particularly in the multiple choice and poorly in the open-ended part of the achievement test. Their anxiety in mathematics was positively correlated with their performance in Chemistry involving mathematics.

The respondents, taken separately by grade level showed that grade 9 performed better than grade 10 in multiple choice and open ended tests. Both groups have favourable attitude toward chemistry. Grade 9 has less anxiety level than grade 10 respondents.

The study recommends that teachers should employ an effective approach on how to lessen the students' level of anxiety in mathematics for them to improve their performance in Chemistry. Further, the study recommends teachers to find best ways to get their students interested in Chemistry topics which involve mathematics.

Keywords: Student Attitude, Mathematics Anxiety, Academic Achievement, Learning Style, Chemistry

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Introduction

Basic mathematical skills are important in everyday life, yet many students feel anxious when they are faced with the prospect of solving mathematical problems. Students recall having traumatic experience involving mathematics, such as being ridiculed by their classmates if they did not solve a problem correctly or belittled by the teacher.

More than just memorizing formulas and concepts, Mathematics requires high-ordered thinking skills such as analytical reasoning, problem solving, and critical thinking because mathematics are abstract and spiral in nature. Similarly, learning Chemistry is also a challenge because students are not only introduced to science concepts but also required to apply skills in mathematics. Students tend to have a negative attitude toward learning Chemistry, as both require similar skills and a thorough understanding of problems that they have to solve. Mathematical anxiety, characterized by feelings of tension, apprehension, and fear about performing math, hinders the students' progress and competence in learning and understanding the concepts of mathematics, more so when mathematics skills are needed in learning Chemistry concepts. In effect, students' uneasiness of the discipline affects how they take the examination, their attitude toward the subject, and their behavior in the classroom, hindering their capacity to learn not only courses in Mathematics but also scientific in disciplines like Chemistry.

Mathematics is used as the language of science especially Chemistry. Mathematics difficulty is associated with disinterest in learning chemistry, understanding, and solving problems. Student's fear in mathematics affects their ability to endure and perceive concepts encountered in studying chemistry. It has been observed that so many students fear chemistry and such fear is characterized by mass disenchantment among the students toward the subject. The relationship of the student's mathematics anxiety and their attitude toward chemistry greatly affects their performance in the subject.

The increasing learners' individual interest has led to the shifting of traditional to progressive mode of education, showing a new paradigm as a student-centered learning. The individuals' interaction process is very important to determine their method of learning that is most effective to take place in terms of their learning styles (Zywno, 2002). The study of Ikitde and Edet (2013) indicated that students' attention is being focused on how they can meet challenges in an increased diversity inside the classroom. It is their interest how they demonstrate mastery in the completion of a subject that depends on their way in absorbing the lessons and the teaching methods. Pashler, McDaniel, Rohrer and Bjork (2008) conclude that learning styles can have little evidence with the students' learning style on how they match instructions to produce superior learning.

Students' attitude can be influenced by their achievement which gives an important role in selecting their professional carriers. According to Bennet, Lubben, and Hogarth (2003), students' understanding of science ideas is helpful in science education. These science ideas are referred to the student's views in developing science as the result of experiences in different environments in the field of Science education.

Restrepo and Villaveces (2012) noted that Mathematics and Chemistry are closely related. The close relationship was evidently observed in the emerging subdiscipline known as mathematical chemistry.

Mathematics has an essential use in chemistry. Basic knowledge of mathematics can be used in chemistry to deal with concepts and theories. Mathematical skills are extremely necessary to explore chemistry in its most important concept using some basic mathematics skills and with these calculations, chemistry itself will be extremely difficult (Shodor, 2008).

This study sought to determine and correlate the students' mathematics anxiety, students' learning style, and attitude toward chemistry to their achievement in chemistry.

Conclusions

In light of the findings, the following conclusions on mathematics anxiety, learning style, achievement and attitude of students toward chemistry were made:

1. Students today are very anxious to learn topics involving mathematics. The respondents are visual learners therefore the students are achieved by using visual stimuli rather than auditory and kinaesthetic. The students have a positive attitude toward chemistry thus their performance is not affected towards the subject and the students still has a mastery in the topics of chemistry.
2. It shows that anxiety in mathematics has a marked effect in their learning chemistry than learning style and attitude in chemistry.
3. From the grades 9 and 10 students, Grade 9 students still has a retention of the topics in chemistry because they are currently taking the subject while the Grade 10 students are currently taking different branch of science therefore some of the topics are forgotten.
4. Students' attitude toward chemistry and learning style doesn't affect their achievement in dealing with chemistry concepts involving math skills.

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Contact email: angela.veloso@deped.gov.ph

Applications of the Arduino electronics in the Kinematics

Chin-Chung Yu, National University of Kaohsiung, Taiwan
Jia-Han Hsu, National University of Kaohsiung, Taiwan

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Abstract
Due to high precision, quick response, open source and low price, Arduino electronics, including motherboards and sensors, have potential to be the main parts of physical experiments. Especially, the experimental data can be easily transferred to smartphones and tablets through the Bluetooth communication that greatly enhances the portability of the experimental equipment. There are many commercially available detectors compatible with the Arduino motherboards such as ultrasonic sensors and photoelectric switches which are good choices for the detections of the linear and rotational motions, respectively.
In this article, numerous sensors related with the kinematics are introduced. And we also demonstrated a controllable damping oscillation in a spring-mass system. The motion of the oscillator was detected by an ultrasonic position sensor. The damping force was provided by the coupling between an electromagnet and a permanent magnet mounted on the oscillator. By tuning the strength of the magnetic field, the damping constant can be manipulated. All of the motion detection and the signal access were based on the Arduino sensors and electronics. Such a dynamical motion can be well monitored and the data can be simultaneously transmitted to a computer or a hand-held personal device. This shows that Arduino electronics can replace the expensive equipment for the kinematic experiments.

Keywords: Arduino electronics, motional sensors, oscillation motions

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Introduction

Recently, Industry 4.0 and Internet of Things (IoT) are major trends in the industry and scientific activities. (Lukas, 2011 and Vermesan, 2013) On the other hand, due to the STEAM advocated by educational circles, science-related issues gradually be taken seriously. (Maeda, 2012) In response to the change of the course outline of the high school in Taiwan R.O.C., development of new scientific programs to make learning activities more diversified is necessary.

As a result of the popularity of intelligent products, such as smartphones and tablets, and hand-held sensors and detectors, the Makers use low cost and high innovation to promote their merchandise and creative design in all areas. (MacMillan, 2012) Among them, Fablab Berlin located in Berlin, Germany promoted a well-known activity named the Junior Lab. which is specifically for the 8 to 14-year-old teens to learn the Arduino electronics, Raspberry mainboard, 3D printers, and programming, and then to do some gadgets by themselves. The Arduino mainboard was developed by Banzi, Cuartielles and Mellis in 2005. (Kushner, 2011) The electronic circuit contains a microcontroller to analyze (or transmit) the digital and analog signals. Consequently, it can respond to sensor's signals or control some active devices such as motors. Only DC 5V is required for the operation of the Arduino mainboard. And it can output 3.3V and 5V as a power supply of the sensors or the light emitted diodes (LED). Through the universal serial bus (USB), Bluetooth (BT), or WIFI, the Arduino electronics can communicate with computers, smart phones, and tablets. One of the common mainboards is the UNO board as shown in the Fig. 1. Based on the concept of the open source, the circuit design of the mainboards is distributed on the internet. The hardware of the Arduino electronics follows the Creative Commons license and is allowed to reproduce and redesign. So it can be produced massively and the cost is quite low.

Various types of Arduino sensors have been developed, such as ultrasonic distance sensor, infrared reflection (IR) detection, temperature, and humidity sensors. The prices of most sensors are of around 5USD. The programing of the Arduino electronics is based on the C++ language and the integrated development environment is user friendly and freely for download. The control and sensing programs of the sensors are usually open source and can be found on the internet. Due to the easy access of 3D printers and hardware tools, the public can use computers, smart phones, Arduino electronics and sensors to set up suitable physical experiments instead of buying commercially available equipment with high costs.

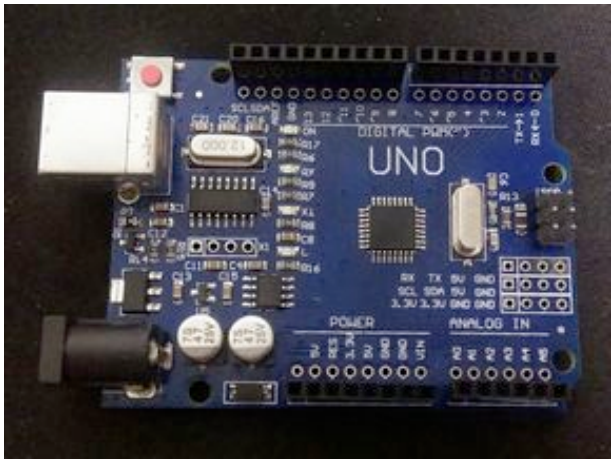

Figure 1: Arduino UNO mainboard

Sensors for the motional detections

The linear and rotational motions are two main topics in the physical courses of the high school. The kinetic quantities including distance, velocity, acceleration, rotation speed, and rotation acceleration are the main concerns in the experimental measurements. The corresponding Arduino sensors for distance are the ultrasonic sensor and the IR reflection detection which based on the principle of the echolocation. Figures. 2(a) and 2(b) are commercially available HC-SR04 ultrasonic sensing modules and TCRT5000 reflective optical IR sensor, respectively. The detection distances of the ultrasonic and IR sensors are in a range of 2-400cm and 1-25mm, respectively. (Cytron Technologies, 2013 and Vishay Semiconductors, 2009) Providing the resolution of the time detection in the Arduino mainboard is in the range of microsecond, the velocity and acceleration are then derived except some extremely conditions.

For the detection of the rotational motion, the optoelectronic switch, based on the blocking of the IR light, will be the best choice for the detection of the revolution in the rotational motion. Figure 2(c) is the FC-03 module for the detection of the optoelectronic switch. Combining the on-off signals from the switch and time detection in the Arduino mainboard, the period of the rotational motion can be obtained. Consequently, the angular velocity and the angular acceleration can be derived.

In the three-dimension kinematics, tri-axis accelerometers and tri-axis gyroscopes are used instead of the ultrasonic sensors, IR sensors and optoelectronic switches. The tri-axis accelerometer and gyroscope are based on the capacitance change in the devices of the Micro-Electro-Mechanical Systems (MEMS). The tri-axis accelerometer measures the accelerations along the x-, y-, and z-directions and obtains the orientation of an object. The MMA7361 chip in the Fig. 2(d) is the common available MEMS sensor for the measurements of the tri-axis accelerometer with a capability from -3G to 3G. (Apex Electrix, LLC, 2013) The gyroscope L3G4200D with a resolution of around 8.75 mdps/LSB can measure the angular velocity rotated around x, y, and z axes. (STMicroelectronics, 2010) It can be applied in the field of the virtual reality input devices, Motion control with MMI (man-machine interface), GPS navigation, appliances, and robotics.

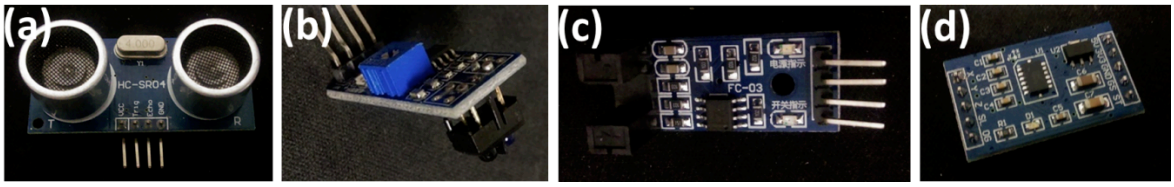

Figure 2: Typical Arduino sensors for the kinematics. (a), (b), (c), and (d) are for the ultrasonic sensor, the IR detector, the optoelectronic switch, and the tri-axis accelerometer, respectively.

Type of the oscillatory motions

Usually an ideally oscillatory motion displays a sinusoidal behavior in the diagram of the position of the oscillator versus time. However, the amplitude of the oscillation gets smaller due to the damping effect provided from the air. Such a damped oscillation can be formulated by the Newton's second law with a restoring force and a damping term as written in eq.(1).

$$m\frac{d^2x}{dt^2} = -kx - m\lambda\frac{dx}{dt} \quad \ldots(1)$$

where m is the mass of the oscillator, x is the position of the oscillator, t is time, k is the force constant, and λ is the damping constant.

The position of the oscillator $x(t)$ can be solved analytically and has the following form.

$$x(t) = x_0 e^{-\frac{\lambda}{2}t}\cos\left[\left(\sqrt{\left(\omega_0^2 - \frac{\lambda^2}{4}\right)}t + \phi\right)\right] \quad \ldots..(2)$$

The $x(t)$ is a sinusoidal function with amplitude decay as sketched in Fig. 3. The decay originates from the exponential term $exp(-\lambda t/2)$ in eq.(2). Consequently, the damped oscillation is characterized by the damping constant λ.

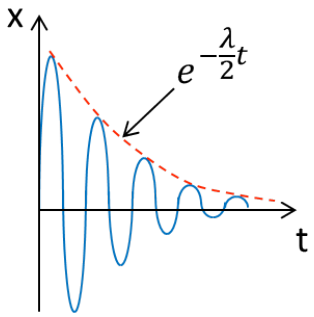

Figure 3: A damped oscillation with a damping constant λ

Electromagnetically coupled oscillator

Usually an oscillator was hanged under a spring and the motion of the oscillator was detected by an ultrasonic sensor. The real-time position of the oscillator was then

recorded by the Arduino mainboard and sent to the computer through the serial communication. Figures 4(a) and 4(b) were the illustration and the photo of the experimental setup, respectively. Figure 5(a) sketched the natural oscillation of the system with a $\lambda = 0.69$. Here, an innovative design for manipulating the damping constant by an electromagnetically coupled magnet that was mounted on the middle position of the spring was introduced as shown in Fig. 4(a). The damping constant increased as elevating the coupled magnetic field. Figure 5(b) showed the oscillation trajectory as magnetic field equal to 67 Oe and resulted in a damping constant equal to 3.03.

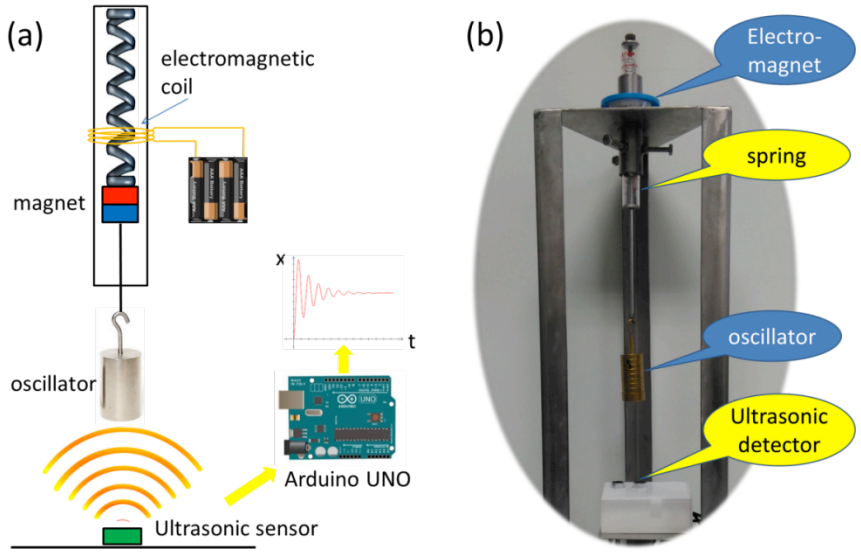

Figure 4: Experimental setup

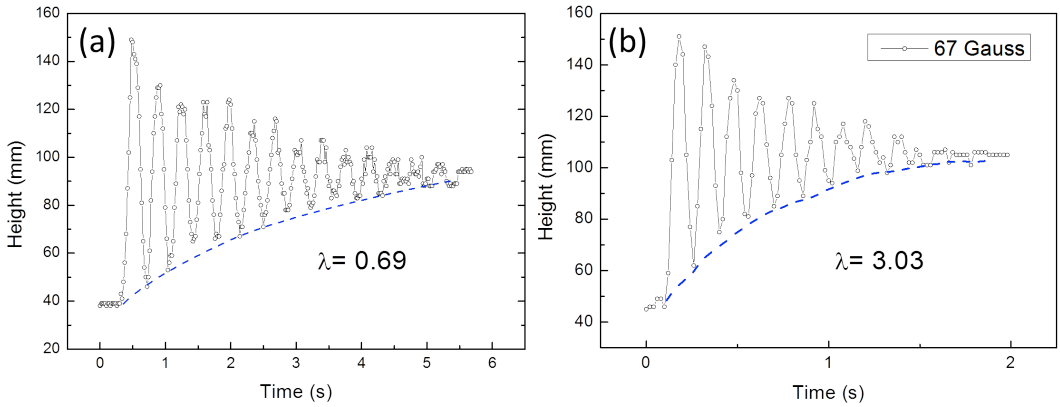

Figure 5: Oscillatory trajectories of (a) the natural oscillation and (b) the electromagnetically coupled oscillation.

Conclusion

Considering the prices, the circulation, the data transmission, the programing and the extensibility, Arduino electronics are undoubtedly the first choice for physical experiments. In this article, we used a simple ultrasonic sensor to detect the motion of an oscillator and obtained well behaved damping oscillations with controllable damping coefficients. In practice, all the experiments constructed by the Arduino

related electronics can communicate with the mobile phone and the tablet via BT and can be manipulated by the Android or iPhone apps. This greatly enhances the portability of the experimental equipment.

In order to use the available resources on the Internet to carry out the experiment setup, the teachers must have the concept of programming and the basic knowledge of electronic circuits. To promote the use of Arduino electronics in the classroom still need more teachers to participate in this field and develop related teaching materials.

Acknowledgements

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Contact email: yucc@nuk.edu.tw

A Critical Analysis on Thai University Students' Reflections towards Politics of the English Language

Suthathip Khamratana, Khon Kaen University, Thailand
Suban Keowkanya, Khon Kaen University, Thailand

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Abstract
The English language is a gatekeeper to positions of prestige in society (Pennycook, 1994), especially due to its dominant status as a world language or as a Lingua Franca. Many take the English language as apolitical, particularly in educational systems worldwide, including Thai's (Methitham, 2011). From a different view, however, there could be many hidden agendas behind the language itself as the English language is not only simple skills, but a more complicated process with socio-cultural and political-economic implications (Lin, 2013). It is problematic to ignore the fact that the English language somehow produces, reproduces, or intensifies an inequality within each community. In fact, the English language has been termed a form of Linguistic Imperialism (Phillipson, 2011).
Thus, this study aimed to critically analyze the reflections of Thai university students towards politics of the English language in Thai educational system. The data was collected from the reflections of 15 Thai university students attending a 15-hour-course of Critical Awareness and Language Development adapted from Open Spaces for Dialogue and Enquiry (OSDE) developed by Andreotti (2005). Critical pedagogy was used as a lens in the analysis of the reflections. The course raised the students' awareness to some extent of the underlying ideologies of the English language and English language curriculum. It is suggested that Critical pedagogy be considered in English educational system in Thailand in order to adjust Thai students to become fully human in a world of superdiversity.

Keywords: English educational system in Thailand, politics of the English language, Critical pedagogy, English language domination, Language rights.

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Introduction

It is irrefutable that in contemporary society the English language plays an avoidably dominant role in our globalized world. This need for English speakers leads to the growth of English education. However, looking deeper into the real status of the English language, one can find many hidden agendas behind the language. The English language produces inequality among English users, as English is a gatekeeper to positions of prestige in society (Pennycook, 1994). This phenomenon is a key point of how inequality is produced, reproduced, or intensified within the community. The English language is not only a set of simple skills and techniques; it is a complicated process with socio-cultural and politico-economic implications (Lin, 2013). Furthermore, the English language has been named as a form of Linguistic Imperialism (Phillipson, 2011) —a favoring of one language over other languages and it is paralleled with other imperial societal structuring through race, class, and sex. However, if linguistic theory merges with political theory, it produces the vital concern of an inequality in minority communities as a result of other languages being marginalized by their social status. Thus, political theorists begin to take the term 'Language Rights' into account (Ricento, 2014).

Focusing on the English language, it spread widely after colonization. Moreover, it has also been criticized as a threat to other languages. It is not only the language itself that is dominant, but also the ideologies of the colonizing countries since language and culture can never be parted. In addition, the cultural ideologies of the dominant countries are naturalized as normal so as to support the culture of power. It could be implied that neocolonialism is partly a planned policy of first-world countries to maintain their domination in developing countries after colonization (Altbach, 1971). There are multidimensional influences of the English language in both post-colonized and non-colonized countries. The English language is somehow dominant in terms of internationalization when the West is currently leading the world market.

There is no difference to Thailand, the focus of this study. In Thailand, the English language has been obtained since the 18th century and utilized for many purposes, such as military, trade, or tourism (Methitham & Chamcharatsri, 2011). Although Thailand has never been directly colonized by western countries, the English language and its domination remain influential components of British colonization in Southeast Asia. The English language came along with the new wave of modernization. It has been more common to learn, though, among the elite Thais (Methitham & Chamcharatsri, 2011). A major drawback is that the elite Thais have been more privileged in accessing English education properly, while people in lower societal status have limited accessibility to English education. Moreover, the adopted teaching methods evaluate success and failure against the English natives' norms and standards. In other words, we are applying the values of both the language and its culture without forming the critical values (Docker, 1978).

In sum, the English language is welcomed to each country's door with no doubts of what may lie behind it, similarly to a Trojan horse (Qiang & Wolff, 2009). Consistently, an Anglo-American power successfully generates the concept of domination as neutral and apolitical in teaching the English language (Methitham, 2011). Nevertheless, due to the fact that Thailand has never been directly colonized

by a western political power, it is important to scrutinize the English language status and English language education in this country more critically. Hence, this research aims to critically analyze the reflections of Thai university students towards politics of the English language and English language educational system in Thailand.

Politics of the English Language

Politics of the English language can be seen in various aspects. Primarily, it is a policy which aims to spread the English language globally, embedding with the former British Imperialism furthers to the modern form of Anglo-American dominant power, eroding the national sovereignty, cultural identity, and political independence particularly in the developing countries.

Focusing on Language Imperialism (Phillipson, 2011), it is a theoretical construct addressing why some languages are used more than others and what ideologies facilitate this phenomenon. Language Imperialism is derived from the term Linguicism. The concept of Linguicism follows ideologies, structures, and practices which are used to legitimate, effectuate, regulate, and reproduce an unequal division of power and resources on the basis of language (Phillipson & Skutnabb-Kangas, 2013). The existence of a hierarchical structure produces a source for Racism (discrimination of people based on their race), Sexism (discrimination of people based on their sex), as well as Linguicism (discrimination of people based on their language). These three discriminating concepts complexly correlate with one another. In addition, Linguicism can be both interlingual among different languages and intralingual when one dialect is more privileged than the others in the same linguistic heritage.

In brief, the domination of one language over another is not only a form of oppression within colonized societies, but also within the native English-speaking countries. It is a prejudice of someone's linguistic history. Accordingly, the English language has been imposed directly and indirectly throughout a global context. How could the language be a tool to prolong the power of its owners? I will explain further the use of Critical pedagogy as a lens to assess this question.

Critical Pedagogy

The ideas arose from human beings are not truly liberated and living in a world of contradiction with a constructed asymmetries of power and privilege (McLaren, 2009). Since historical and social knowledge is deeply rooted by the power of the dominant group, inevitably, some people who hold inferior societal status are marginalized as disadvantaged. Resulting from oppression in society, Critical pedagogy tries to seek a channel of voice and empowerment with the aim to create social justice and equality. From the view of Critical pedagogy, culture signifies the way people live sensibly in a society. It is a set of values which affect the social practices of a community with a shared belief of making sense of the world. For one culture to become more dominant, it needs to be reaffirmed of its central value and as a symbolic wealth of the society. The dominant culture prolongs its status by exercising its role through a concept of hegemony. Hegemony explains the phenomenon of a set of moral and intellectual leadership. It is unknowingly internalized as common sense by the oppressed. It also prolongs its existence

throughout history with the support of hidden ideologies. Ideology itself refers to the presentation of ideas, values, beliefs, or whatever produced by one individual or group and shared by the majority in the society. Hence, power needs no force but becomes more of a natural routine. It inscribed in economy, politics, culture, and education, subtly controlling the minds of the people.

An illustration of oppression can be portrayed from the book *Pedagogy of the Oppressed* written by Paulo Freire (1970). Freire lived in a former colonized country, Brazil, where he questioned the true identity and existence of the common people. The theory is believed to be an important tool to reflect and understand the relationships between the colonizers and the colonized. Moreover, education is also seen as an important tool to perpetuate the existence of oppression in a society- the kind of education which prevents people from developing their powers to perceive the way they exist in this world and have a capability to transform it. Freire (1970) termed this kind of education as 'banking education'. In this system, the oppressor benefits from the use of education as propaganda to blind the oppressed of their current situation (status quo).
Ideologies of the oppressive society could be transcended through a form of education. It was once said that education becomes a weapon against those who are illiterate (McLaren, 2009). To see a broader view of education in which carrying the hidden agenda that comes in a form of a must-learn knowledge, education is not just a process of giving and obtaining knowledge in school anymore. It is a matter of politics and economy, as Michael Apple termed *'Official Knowledge'*.

Official Knowledge

Literacy, literally has a nonpolitical function for most people- education helps people move up in their paths of life, another function of education is to produce economic skills, foster a system of beliefs and values, and create a national identity. Official Knowledge (Apple, 1993), a term used to define democratic education in a conservative age. The knowledge that dominates the learners for making them become under control. Henceforth, the awareness of an Official knowledge needs to be critical, but this does not mean that we must find faults in the policy. Though, it is more important to understand the history and contradictions of power relationships which affect our everyday lives.

Similarly to Freire's (1970) concept of cultural invasion, Apple (1993) regarded culture as one of the most important sites to be examined carefully. Politics involves power and forms of knowing. People in the society need to participate in social movements. In other words, humans are not free-floating individuals. We create culture and politics of culture. Culture is a producer and reproducer of value systems and power relation. Moreover, education can either open the horizon, ensuring mobility in society, and practicing democracy, or it can just as well be a social control, an embodiment of cultural changes. In terms of Official knowledge, the means and ends in education result from the powerful social groups who have made the knowledge legitimate. The aim is to accord or compromise the society by integrating the perspectives of various groups of people under its leadership. Therefore, the dominant power has been produced, distributed, and maintained in the culture of power circulation.

Participants

The participants in this study included 15 undergraduates from one of the Thai state universities in the northeastern region of Thailand. The number of the students was believed to be adequate for creating a safe space for an in-class discussion. Each student was given a pseudonym so that they could communicate anonymously. The students were purposefully selected from diverse backgrounds. The chosen students were balanced by age, sex, educational fields, and social classes.
The procedures of the given course in this study were adapted from the educational project called Open Spaces for Dialogue and Enquiry (OSDE). The purpose of this project was to develop an approach to transnational (global/political) literacy based on reflective ethics, and its conceptual framework is based on postcolonial pedagogies (Andreotti, 2005). The materials chosen for each class' discussion were varied. There were books, articles, news, quotes of famous persons, and video clips. The theme for each session focused on the position of the English language in different contexts worldwide. The materials were balanced in both native Thai and English while I provided further assistance with additional translations. Moreover, some leading questions were used as a guide for eliciting responses from the students. These questions shall enhance the critical thinking development and expand the social and cultural limitations of the ways the students think and do. The leading questions were as follows,

Leading Reflective questions for the students (individual); Why do you think like that ?, Are you sure of your thinking ?-why ?, Will other people agree or disagree with you ?, What do you think influences your ideas ?, Have you ever questioned yourself on why such ideas of some people are fixed about something ? *Leading Reflective questions for the students (in group);* Do you think people in other countries have the same ideas as yours ? Have you ever wondered about people's different backgrounds ? and how such differences can shape one's ideas ?, What/who do you think can shape our ideas? Through what means ?, What is an ideal society in your opinion ? Who/which groups are important in developing society ? What's wrong with the rest of the people ?

Data Collection

The reflective diaries from the students written during each class, an in-class observation by the researcher written as field notes, and an in-depth interview of the students both individually and in a group discussion were used to collect the data throughout the research project. The data collection was done in native Thai language since the low English language proficiency of the students could be an obstacle that may hinder any insightful reflections. This study did not aim to evaluate the students' linguistic ability of the English language.

Data Analysis

In this study, Discourse analysis (Gee, 1999/2011) was used as a tool to analyze the data. The data refers to students' reflections towards politics of the English language. Discourse explains how the language is used by the observation of one's nonverbal messages or contexts including physical settings such as clothes, gestures, actions,

interactions, ways of doing things, symbols, tools, technologies, values, attitudes, beliefs, or emotions (Gee termed these as non-language stuff). We may understand that context helps design the language of what we say, on the other hand, the language itself also creates the context.

Questions based on the concept of the *'six building tasks'* were used to analyze the reflections of the students. The questions from Gee (2011) were; *the significance building tool-,* ask how words or phrases add or lessen the significance of a thing, t*he activities building tool*-, ask what activities the speaker seeks to get others to recognize and also ask about the social groups, institutions, or cultures that set his/her norms, t*he identities building tool-,* ask what identities the speaker intends others to recognize, vice versa, how the speaker positions others in the communication, *the politics building tool*-, ask what counts as a social good or the norms, t*he connections building tool-,* ask if the speaker connects or disconnects between things, t*he sign systems and knowledge building tool*-, ask what type of language the speaker uses, either a technical language, everyday language, or any privilege language. It could be concluded that Discourse analysis helped to identify and analyze the social identity of an individual.

Results

The shared ideas and concepts of the students' reflections were categorized into a theme by using Gee's Discourse analysis. Furthermore, each theme was interpreted by using the theoretical frameworks from Critical pedagogy as a lens. Hence, four different themes emerged namely;

'Oppression', the students pictured how the colonized countries were oppressed under the colonizers. They recognized the cruel existence of the history. The materials and discussion about oppression in the past facilitated them to relate the history to their own experiences. Even though they have never been oppressed in a way the colonized countries had, they shared similar emotions towards oppression such as loss, anger, or sympathy using the '*significance building tool'* to analyze some words or phrases the students produced which added the significance of this issue such as,

Stanza 1 (Significance building)

(Angelic)	*Line 1*	*they were forced to do things, in my mind I want revenge.*
(Taylor)	*2*	*she was looked by other people with mockery when speaking Isaan. (angry face)*
(Emma)	*3*	*I feel sorry we lost in war, we had to accept it, but it's also not fair.*
(Ellie)	*4*	*Nobody likes to be forced. If we are forced to do something often, we will not stand anymore*
(Vicky)	*5*	*I'm worried about my own language and culture too.*

Furthermore, the students related the notion of oppression to their own Thai society which has a long tradition of a seniority system conformity to the elders is still practiced in Thai society. It is in line with Critical pedagogy which pointed out that the hegemony of the society is supported by an ideology which is internalized and naturalized by the citizens (McLaren, 2009). The closest reality the students reflected is the oppression in Thai classroom. They are classified by the varying academic abilities and social classes. The students also perceived the concept of stupidity. Freire (1970) suggested that this is the practice of dehumanization in which humans

are hindered of their own capability into being real humans and being able to transform themselves and the world. Instead, they created a self-depreciation. On the other hand, some students had no concerns about the historic facts since colonization did not affect their lives directly and it happened in the past. These students can be regarded as non-politicized. The overall reflections were of social oppression. However, when turning to discuss about oppression by means of language, the English language in particular, the students were perplexed about the concept of how the English language marginalizes some people. Hence, the second theme emerged.

'Power Dynamics through Languages'- the English language in this sense is used as a tool in an oppressive reproduction and in a power perpetuation of the dominant countries. Initially, the students had no idea how the English language has a different dimension apart from being a communicative tool. They could reflect after a few sessions by connecting politics of the English language to their own native Thai dialect in terms of language discrimination or Linguicism (Phillipson & Skutnabb-Kangas, 2013). It showed that their native Thai dialect, Isaan is still discriminated in modern times since the Isaan dialect (spoken in the northeast of Thailand) has been in the lowest hierarchy among other dialects in the country. In addition, they reflected on an inequality brought by the English language in that there are fewer opportunities for some people to study English which has caused them to be regarded as socially and socio-economically inferior. Nonetheless, in terms of the English language alone, the students still regarded the English language as important and necessary for their lives in the future. They were well aware of politics of the English language but they simultaneously tended to adopt the language use due to their needs, values, and aspirations (Canagarajah, 1999). In accordance to Lee and Norton (2009), the ideological frameworks description about the English language is laissez-faire liberalism which focuses on the freedom of choice of people in deciding their own use of the language.

'Institutionalized Knowledge' - the third theme focuses on English education in Thailand. The students shared the typical experiences of classroom oppression such as mockery from teachers or classmates. There was also the centralized curriculum the students raised about their textbooks and lesson plans which made them become a captive audience (Apple, 2006). Furthermore, not only the students, but the teachers as well that have been deskilled. This knowledge is consistent with Freire (1970)'s notion about 'banking education' in which the students received only the knowledge that has been prearranged and embedded with the ideologies to conform with the norms and values the society has already set. The students were exposed to alternative sources of knowledge at a later age- though, they had already been skeptical about the previous information they received from school. However, they still responded that the English language is a must-learn language in order to complement their career requirements in the future. Their perspectives were formed as a result of the globalization they are living in. This can be explained by the prominent role of neoliberalism (Apple, 2006). It is economically driven rather than Imperialist like the past. Still, Apple (2006) emphasized the fact that neoliberalism has widened the gap between the center and the periphery in all aspects.

'Present Resistance'- this theme emerged unexpectedly since it reflected more of the students' foresights of how they will balance their lives and the reality of oppression, culturally and linguistically. They relied on the modernity of time and technologies of

how their ideas were shaped. Moreover, the fact that Thailand has never been directly colonized by a Western power has been a major influence on them. They have born in a time when some inhumane practices had already been denounced such as the abolition of slavery. Likewise, the rights of the marginalized have been successfully promoted to some extent, and the use of World Englishes (WE) has been recognized more in a period of post-colonialism. Hence, their reflections towards English language discrimination were to be aware of but not violently resist. They were more apt to adjust and adapt themselves to be able to live peacefully. Additionally, they will even use the English language as a tool to gain benefits from the dominant spheres such as education and job market without losing any of their origins and resources as illustrated in stanza 2.

Stanza2 (Adjustment)
(Vicky's diary) Line 1 I think English language is important so that
2 we can read the English minds what they want, it makes us know in advance how to negotiate with them.
3 In contrast, if we don't know any English language, we will not know what the British want.
(Emma's diary) 1 when time changes, I think we have to adjust ourselves
2 but not because we surrender, but instead we need to learn English language in order to voice ourselves and to understand the other side.
(Ellie's interview) 1 English is necessary but sometime it's not necessary to receive everything that belongs to them.
2 we should know language and the grammar but we don't have to speak exactly like them. Why do we have to change to be like them?
3 but we adjust just to be smart enough not to be fooled.

Conclusion

At this point, the analysis of the students' reflections can be used to respond to the objective of this study, what are the Thai students' reflections towards politics of the English language and the English language education in Thailand ? The students agreed on how the English language is a dominant language and embedded with the ideologies of dominant countries for the purpose of perpetuating their power when they connected the language to the history of the colonial period to their own lived experiences. However, they only partly agreed that it was the language that oppresses, but instead argued that it is the people who use the language to oppress. Lastly, a few students disagreed with this point and distanced themselves from politics. Moreover, students who are young and live in the modern world resist the English language domination by using it, conversely, to gain benefits without being disadvantaged or losing their own grounds. In addition, to be able to adjust themselves in globalization where neoliberalism is leading the economic aspects in our time. At this stage, I believe that the students were made aware at some level of the hidden agendas behind the use of the English language and how it produces, reproduces, or intensifies an inequality in the society.

As a final point, I would like to draw an attention to English language learning in the globalization era. It is undeniable that the English language can never be diminished and the results of this study also adhere to this point of view. I do not argue that the English language should be given less importance in our education, rather I would seek an alternative channel for the rights of other languages and dialects.

Sociolinguistics and linguistic anthropology are paying more attention to the fact that the world has changed into one of superdiversity (Blommeart, 2011). Critical pedagogy will help enhance students' awareness, initially, of the hidden regime in the language and policy. Moreover, Critical pedagogy helps terminate the 'banking education' in Thai education where students will not be able to critically scrutinize their realities. In this sense, I support the implementation of a change in the English education in Thailand to be more humane by raising and emphasizing the importance of English language learning in line with the cultural and political diversity expressed in the temporary world.

Limitations- this study was conducted in only fifteen hours. The limited time for the students be exposed to the materials, to one another, or to me, was quite small for eliciting a more saturated data sample from each component. Another concept of time constraint is a person's fixed ideas about something. This kind of provocative issue needs more time to get crystallized. Furthermore, Discourse analysis tools were the most central limitations in this study. When analyzing the data, each reflection can also be interpreted by more than one tool depending on the aspect we were looking for in the answers. Moreover, one person can have more than one idea towards one issue. The reflections were also relative to the points we tended to focus on. This is a contradiction within a person.

Further studies- the sessions provided for the students could be extensively longer. Moreover, the materials could be given in more abundantly and kept updated all the time since the world is changing every second. For this same reason, the world's knowledge should also be discussed. It is best to let the students be exposed to various sources of information from many different directions of perspectives towards one particular issue. This way, the students will have authentic reflections before we can trace how their reflections may alter or not and to what extent. This is to balance their ways of thinking. It is believed that the more the students are exposed to the materials and enter into dialogues, the more they can reflect on themselves and may even seek ways to transform. I personally believe in the dialogical practice (Freire, 1970). They will be guided by Critical pedagogy when reflecting on themselves and their realities. Furthermore, Gee's Discourse analysis tools can be adopted to analyze the data from different angles, but different tools can be used to analyze each situation and context appropriately.

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Contact email: jkaikamahine@gmail.com

Call for a Change in Mathematics Education: From Platonism to Social Constructivism

Hui-Chuan Li, Universiti Brunei Darussalam, Brunei Darussalam
Tsung-Lung Tsai, National Changhua University of Education, Taiwan

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Abstract
At school, children are expected to become numerate in order to be able to function in a modern technological society and contribute to the growth of its economy. However, one of the most frequent complaints of mathematics teachers is that "forgetting is particularly common for knowledge acquired in school, and much of this material is lost within days or weeks of learning" (Rohrer & Taylor, 2006, p. 1209).
In mathematics education, as Renert (2011) noted, influenced significantly by Platonism, early mathematics was popularly viewed as consisting of abstract mathematical objects, which have no causal properties linking them to their environment. Social constructivists challenged Plato's assumptions about mathematics for ruling out social dimensions in its teaching and learning. They argued that mathematics is the theory of form and structure that arises within language (Zakaria & Iksan, 2007) and that mathematics learning acquires an alignment with its cultural practices through communicative practices or dialogic interactions (Cobb & Bauersfeld, 1995).
Thus, in this paper, we present a theoretical synthesis of the specialized literature in the learning and teaching of mathematics, with the aim of calling for a change in mathematics education from Platonism to social constructivism. As stated by Vygotsky (1978, p. 90): "[procedure-oriented learning] does not aim for a new stage of the developmental process, but rather lags behind this process", we argue that mathematics teaching and learning cannot afford to continue with the "teaching to the test" culture.

Keywords**:** mathematics education; Platonism; social constructivism

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Introduction

There is no doubt that 21st century students are in the information age, which presents different challenges to them from those students who were born in the 20th century industrial age. The successful transition to the information age from the industrial age requires to address specific challenges in the area of education and learning. In particular, schools need to help students develop 21st century learning skills such as critical thinking, creative thinking, collaborating and communicating. These skills have always been important for students, though they are particularly important in our information-based economy. For example, to hold information-age jobs, employees need to think deeply about issues, solve problems creatively, work in teams, communicate clearly, learn new technologies and deal with a flood of information. The rapid changes in our world require employees to be flexible, to take the initiative and lead when necessary and to produce something new and useful.

As Hiebert and Grouws (2007, p. 373) noted, "pressures are increasing to provide evidence-based descriptions of effective mathematics teaching". However, they also remarked that:

> Different teaching methods might be effective for different learning goals […]. Some methods of teaching are more effective for, say, memorizing number facts, whereas other methods of teaching are more effective for deepening conceptual understanding and still other methods are more effective for acquiring smooth execution of complex procedures" (*ibid*, p. 374).

A number of researchers consider that mathematics teaching, by nature of its objectivity that was significantly influenced by Platonism, is inevitably restricted by one dominant view of mathematics relating to an objectivist stance (Kirschner, Sweller, & Clark, 2006; Muijs & Reynolds, 2001). Burton (1995, p.276) stated that adopting an objectivist stance means that "mathematical "truths" exist and the purpose of education is to convey them into the heads of the learners". Such mathematics "absolutism" has been questioned by many researchers over the past two decades. For instance, Fan and Bokhove (2014) argued, "one should not classify knowledge or cognitive activities into different levels without taking into account contextual factors".

Constructivist perspectives on learning and teaching have been a popular topic among mathematics educators, psychologists and researchers (Cobb et al., 1991; Francisco, 2013; Levenson, 2013; Li & Tsai, 2017; Tall, 2011; Wood & Sellers, 1997) and as a result, have contributed to shaping mathematics reform efforts in many countries around the world (e.g. Australia, Queensland Studies Authority, 2004; Brunei, Ministry of Education, 2009; The Netherlands, Van den Heuvel-Panhuizen, 2000; USA, National Council of Teachers of Mathematics, 2000; UK, Department for Education and Employment, 1999; Taiwan, Ministry of Education, 1993).

Vygotsky's theory of social constructivism

The widespread interest in constructivism has led to many different meanings of the term. Indeed, in practice, "constructivism is not a singular theory, but a family of

related theories that are not always seen as compatible" (Efran, McNamee, Warren, & Raskin, 2014, p. 1). However, as Anthony (1996, p. 349) stated, "an important tenet of constructivism is that learning is an idiosyncratic, active and evolving process". Pirie and Kieren (1992) also stressed that in line with constructivist perspectives, students themselves have to construct the skills and concepts of knowledge, rather than being taught by teachers.

In Piaget's theories, children's learning is considered from the biologist's perspective. One of his assertions was that young children were egocentric and unable to see a situation from another's point of view (May, 2013). Vygotsky's idea of "social constructivism" (1978) challenged some of Piaget's theories. Vygotsky argued that, while children did make sense of the world individually, they did not, as Piaget asserted, do it alone. He believed that children learned the world socially through the adults around them – or, as Smidt (2013) called them, "the expert others". In this respect, communication and language are seen to be central to successful learning.

Vygotsky proposed the concept of "Zone of Proximal Development" (ZPD) and considered that a child's cognitive development was associated with both its actual development level and potential level. The actual level can be measured by observing a child's independent problem solving ability without any guidance or help, such as by way of a static standard testing approach. Its potential level can be observed after a child has been guided on how to perform. Potential development thus becomes actual development after the process of guidance by a more competent individual. The social communication of learners and teacher, therefore, is essential in negotiating the co-construction of a ZPD (Wertsch, 2007). As Vygotsky (1978, p. 212) argued, "this is what distinguishes instruction of the child from the training of animals". However, unfortunately, as Moll (2014) noted, most classrooms nowadays exist, more or less in isolation, which Dewey (1980, p. 39) criticised strongly when he stated that, "all waste [in education] is due to isolation".

As Lerman (2000) and May (2013) pointed out, Vygotsky's social constructivism and von Glasersfeld's radical constructivism had different perspectives on how children think and learn, with each suggesting different approaches to guiding their learning. Such a distinction between radical and social constructivism, "when seen as a dichotomy, is productive" (Lerman, 2000, p. 210). In line with Lerman (2000) and May (2013), we briefly discuss the differences between these two constructivist traditions, and then we describe a growing interest in social constructivism in mathematics education.

In general, to radical constructivists, "all understanding and all communication is a matter of interpretative construction on the part of the experiencing subject" (Olssen, 1996, pp. 276-7). This definition sees the human cognition as a closed system, in that "things don't get in and they don't get out" (Efran et al., 2013, p. 3), which means that people can be "triggered to learn", but what they do with what they learn lies within their internal structure. Also, "radical constructivism considers absolute meanings for words unattainable" (Loria, 1995, p. 156), suggesting that learners speak their own, as well as private, languages; and also their personal histories influence them to create unique meanings, even though the words they use may be familiar ones.

By contrast, social constructivists highlighted the important role the "expert other"

plays in the learning process. "Expert others" were not simply to await children's readiness, but to intervene in order to support children towards further stages of understanding (Smidt, 2013). Such social interactions represent the "primacy of relational, conversational, social practices [which are] the source of individual psychic life" (Stam, 1998, p. 199). As Ernest (1998) stated, children will not develop the social meaning of important symbol systems and the ways to use them if they are not provided with a social situation of development. In essence, therefore, interaction and collaboration is seen as a crucial tool to help a learner's potential cognitive development to become actual development (Wood & Sellers, 1997).

In mathematics education, as Renert (2011) noted, influenced significantly by Platonism, early mathematics was popularly viewed as consisting of abstract mathematical objects, which have no causal properties linking them to their environment. Hence, social constructivists challenged Plato's assumptions about mathematics for ruling out social dimensions in its teaching and learning. They argued that mathematics is the theory of form and structure that arises within language (Ernest, 1991; Zakaria & Iksan, 2007) and that mathematics learning acquires an alignment with its cultural practices through communicative practices or dialogic interactions (Cobb & Bauersfeld, 1995; Wertsch & Toma, 1995).

Conclusion

Problem solving has also been a focus in mathematics education for many years (Fan & Zhu, 2007; Lesh, & Zawojewski, 2007; Singer & Voica, 2013). Not only is teaching students to solve problems important to them learning mathematics, learning about mathematics through problem solving is equally important (Ontario Ministry of Education, 2005). However, at school, problem solving is often based on a narrower spectrum of story or word problems, which function more like an exercise for students to perform, rather than a challenge for them to solve real-life situation problems (Singer & Voica, 2013).

The aspect that emphasises a focus on classroom talk to encourage students to construct concepts, rather than being taught by their teachers, is not new (Alexander, 2008; Gillies, 2014; Hennessy, 2014). Many researchers in mathematics education by using a variety of approaches, have made many contributions towards providing models to link students' procedural and conceptual understanding (Fan & Bokhove, 2014; Li & Stylianides, in press; Saxe, Diakow, & Gearhart, 2013).

Mathematics education has often been described as "being at war"' in the US; for instance, the "math wars" waged over the Curriculum and Evaluation Standards for School Mathematics in the US in 1989 are prominent examples of bitter disagreements over teaching approaches. However, more recently, the idea of knowledge being constructed by a learner, rather than transmitted by a teacher, has become a widely accepted position in mathematics education (Brough & Calder, 2012; Schoenfeld & Kilpatrick, 2013; Schukajlow et al., 2012; Zazkis, 2011). For example, Schukajlow et al. (2012) compared teacher- and student-centred programmes for teaching the solving of modelling problems to students aged between 14 and 15 in Germany and found that student-centred teaching methods improved both students' achievements and enjoyment. Robison (2012) called for further research on designing accessible resources to support student-centred approaches in mathematics teaching

since she was concerned that this kind of approach could be challenging, especially in mathematics, due to the difficulty of producing materials in a format that could be adapted for students with a range of additional needs.

In many countries, "teaching to the test'' was a common phenomenon, which made mathematics teaching "instructive-oriented" (Li & Tsai, in press; Schoenfeld & Kilpatrick, 2013; Tsai & Li, in press). Indeed, teachers can impart knowledge of many skills and strategies to students. However, unless their students have been actively, and personally, involved in planning, monitoring and reviewing their own learning, the skills and strategies imparted to the students may not be effective. Consequently, in line with the findings in the literature (Ball, 2009; Goos, 2004; Moll, 2014; Webb, 2009), we argue that, when the role of teachers is not a deliverer of pre-packed knowledge, but as a member in a community of learners, a genuine, trusting learning relationship between teachers and students develops. As Webb (2009, p. 21) argued, "changes occurred as a result of the teacher learning how to listen to students and [by] relinquishing control over the students' methods". Hence, teachers need to develop awareness that, if their students' initial understanding is not meaningful, it will not be possible for them to grasp new concepts and information, or they may learn just enough to pass a test, but fail to apply their knowledge outside the classroom (Bransford, Brown, & Cocking, 1999).

This paper by no means claims to be a fully comprehensive study of how mathematics education ought to change in this information age. However, its findings may offer relevant information regarding the teaching and learning of mathematics in a classroom context. Ongoing research into mathematics classroom practice will no doubt contribute further to an understanding of this highly complex and demanding area of education. This would also require deep reflection on the part of researchers and teachers as to how teaching strategies may be adopted by teachers to develop their students' mathematical knowledge in particular, and meaningful understanding in general.

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Parental Home-based Support and Educational Outlook towards Primary School Children in Urban Mongolia

Eri Nakamura, Graduate School of Education, The University of Tokyo, Japan

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Abstract
For the past decades, the enrollment rate of primary school has been increasing in developing countries.
Unfortunately, due to problems such as lack of classrooms, textbooks, and school facilities, as well as qualified human resources, a quality education can be difficult to obtain. Providing quality education is a key issue especially in rural areas and in urban slum areas. Research demonstrates that not only schools but also parents and communities play a significant role in supporting quality education.
This study focuses on primary school students and their families in the capital city of Mongolia, where a rapid population increase has caused serious problems at school. The purpose of this study is to analyze the correlations between parental home-based support, parent's educational outlook towards their children, and the children's school performance.
There are two major datasets collected during 2016 in slum areas of Ulaanbaatar; one set comprised of semi-structured interviews of teachers, and the other created from a questionnaire survey of 8 schools. Analysis of the data shows that most parents work during the daytime and are not able to spend long hours with their children at home. Parental outlook on education and their ability to communicate educational values to their children varied. Even so, the more parents talked about their children's future at home, the more their children were motivated to study. Further research will clarify the influence and impact of parental home-based support on children's education.

Keywords: parental support, quality education, urban slum areas, Mongolia

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Introduction

Due to a lot of effort to promote basic education worldwide, adjusted net enrollment rate in primary education reached 91% in 2014 (UNESCO, 2016). However, when we look at the quality of education, there are many obstacles that children face in the context of school facilities, teachers, and student home environment. According to UNICEF (2016), "38% of children leave primary school without learning how to read, write, and do simple-arithmetic (UNICEF, 2016: 42)." Parents encourage their children to go to school, expecting them to learn basic skills for life, but if they don't learn how to read, write, and calculate, then what is the purpose for these children to go to school?

This study focuses on primary school students and their families in Ulaanbaatar, the capital city of Mongolia. In the suburb of Ulaanbaatar, there are slum-like areas, Ger areas, where a rapid population increase has caused serious problems in schools such as the scarcity of classrooms, facilities, and textbooks. Even though the learning environment is harsh and quality education seems difficult to obtain, a certain number of students perform well at school. On the other hand, based on the semi-structured interviews with teachers, there are a number of students who have difficulties in learning, and in fact, approximately 50% of students' caregivers, who answered the questionnaires, feel that their children are slow learners and have difficulties in school. The purpose of this study is to analyze the correlations between parental home-based support, parent's educational outlook for their children, and children's school performance.

Parental Involvement in children's education

A significant number of studies show that parental involvement in children's education is closely related to the children's academic performance. The positive influences of parental involvement on academic achievement have been reported by several review articles of previous studies and meta-analyses of the literature on the effects of parental involvement (Hoover-Dempsey and Sandler, 1997; Fan and Chen, 2001; Mayo and Siraj, 2014; Wilder, 2014; See and Gorard, 2015; Jeynes, 2017). At the same time, Fan and Chen (2001) argued that research findings in the field of parental involvement had been inconsistent in that some studies showed evidence of a positive effect on school learning, while others found little effect, and only a small number of empirically based studies existed in this field. In an effort to understand correlations between parental involvement and education, researchers have proposed different models of parental involvement in children's education. For example, Hoover-Dempsey and Sandler (1995) suggested model of parental involvement process from level 1 to 5: level 1 is a parent's basic involvement decision, level 2 is a parent's choice of involvement forms, level 3 is the mechanism through which parental involvement occurs, level 4 is tempering / mediating variables, and level 5 is child / student outcomes. Another study focuses on parenting style or caregivers' behavior. Ule, Zivoder, and Bois-Reymond (2015) classified parental involvement in four behavioral aspects: parental educational aspirations and future plans for their children, the role of parents in decision-making in educational transitions and trajectories, parental participation in the school, and parental support with schoolwork.

Despite the favorable influence on children's educational trajectories, there are overt barriers to parental involvement. Hornby and Lafaele (2011) reported in their review article that "[parental involvement] is shaped and limited by a divergent range of barriers related to parents and families, children, parent-teacher differences and societal issues." (Hornby and Lafaele, 2011: 50). When it comes to the barriers related to societal issues, children and families living in disadvantaged areas are more likely to face challenging educational situations. In many developing countries, in general, the school environment for basic education is insufficient. Issues regarding unqualified teachers, lack of classrooms, facilities, and textbooks, little communication between parents and teachers, and few interactions among neighbors, make it more difficult for children to obtain a quality education. Therefore, it is harder for these children to attain academic achievement than those living in more advantaged areas. In reference to parental involvement in children's education, Mayo and Siraj (2015) suggested that "some working-class parents use their personal experiences to diverge from the traditional pattern of socialisation through accomplishment of natural growth. Instead, they create a family environment that actively and effectively supports children's well-being and academic achievement." In this context, parental involvement can be a means of supporting academic performance for students in disadvantaged conditions.

Studies on parental involvement have been done in various different regions of the world. Ule, Zivoder, and Bois-Reymond (2015) conducted semi-structured interviews and focus group interviews in 8 countries in Europe: Finland, France, Germany, Italy, Netherland, Poland, Slovakia, and the U.K., and their study demonstrated patterns of parental involvement in education. Niia, Brunberg, and Granlund (2015) investigated through a questionnaire survey to 13 to 15 year-old students and their parents in Sweden, and found that parents' involvement in school correlated negatively with the academic achievement of the student, presumably because parents of underachieving students communicated more frequently with the schools than students with high academic performance. Dumont *et al.* (2012) collected more than 1,000 samples in Germany and Switzerland respectively to research the relations between family background and educational outcomes, with specific focuses on parental homework involvement. More findings in the United States were reported by Jeynes (2017), who examined the relation between parental involvement with Latino youths and kindergarten to college freshman student achievement, and by Neymotin (2014), who examined the impact of parental involvement measures on the behavioral outcomes of high-school students in the U.S. Furthermore, Khajehpour and Ghazvini (2011) studied the role that parental involvement plays in children's academic performance in Iran, based on a dataset collected from a questionnaire given to 200 boys, the results of which indicated those who were involved in more home-type support (e.g. checking child's programming, talking to the child at home about school related topics, or engaging in educational activities outside of school) had better grades. Most studies of the role of parental involvement were conducted in Europe and the United States, and few have been conducted in developing countries in Asia or other regions. It is fair to say that in-depth research of parental involvement in disadvantaged areas, especially in developing countries, should be the next agenda in order to clarify the impact of parental home-based support on children's education.

Disadvantages in urban slum-like suburbs in Mongolia

Mongolia is recognized as having a large population of nomadic herders. In 2015, approximately 18% of households in the country were herders (National Registration and Statistics Office of Mongolia, 2015), and they usually live in the countryside with their livestock. In recent years, more and more nomadic herder families have moved to the slum-like suburbs, or Ger areas, of the capital city, Ulaanbaatar, because they had lost their livestock due to severe cold in winter. Since there are few job opportunities in rural areas, ex-herders have tended to move to the city, seeking new jobs and new lives. But in reality, they only find simple low-paid work such as private taxi drivers, public work contractors, cooks, and small shop owners, or in many cases, they remain unemployed for years. Due to this problem, a lot of newcomers move to the Ger areas and settle down, which has resulted in a rapid population increase. In 2015, about 1.4 million citizens live in the capital city, which is roughly 45.6% of the country's population (National Registration and Statistics Office of Mongolia, 2015).

Congestion of the population in Ger areas has caused serious problems in education. Most public primary schools in Ger areas have to organize two to four shifts of classes due to the scarcity of classrooms. For example, the first shift classes are from 8:00 to 12:00, the second classes are from 12:30 to 16:00, and the third classes are from 15:30 to 19:00. In the periphery of Ger areas, where infrastructure is in poor condition, there is no electricity along the road or in residences. It is therefore unsafe for children to walk home from school at night in total darkness. Moreover, during the long and cold winter, when the temperatures drops around minus 40 degrees, frozen unpaved roads in residential areas are too dangerous for younger children to walk early in the morning or late at night.

Not only are there not enough classrooms, but also the school facilities, and learning materials are insufficient. In overpopulated schools, the government cannot provide enough textbooks. Only one out of three or four students is able to have their own textbooks, while the rest of the students have to borrow from friends or obtain used textbooks from senior students. It is even difficult for students to find and buy textbooks in their communities. Under such harsh conditions, school teachers reported that there is a number of students who cannot catch up with studying at school and who are likely to drop out of school in the future.

Unfortunately, there are few studies about parental home-based support for children's education in Mongolia, however, taking into consideration the fact that a certain number of students in Ger areas perform better than the other students in the same school and with the same educational environment, there must be some influence on school performance caused by students' home background. This article aims to analyze the relation between parental home-based support and children's school performance in urban Mongolia.

Research Overview

In order to research disadvantaged Ger areas in Ulaanbaatar, this study looks at two districts, Chingertei District and Songinokhailkhan District. These two districts are two major densely populated districts in the capital city, encompassing wide Ger areas. In Chingertei District, there were 14 primary schools as of 2014, while there were 16 in Songinokhailkhan District.

In September and November, 2016, semi-structured interviews with school principals and primary school managers were conducted in 10 primary schools, 5 in Chingertei and 5 in Songinokhailkhan District. Then a questionnaire survey was conducted in 8 primary schools, targeting the 2nd graders' caregivers and the 5th graders' caregivers. S

The sample size of the questionnaire survey is 1,749 in total, 857 caregivers in Chingertei and 892 caregivers in Songinokhailkhan.

Issues for the families of the students in Ger areas

According to the semi-structured interviews with school principals and primary school managers, a lot of issues were illustrated regarding the families of the students in Ger areas. A complex convergence of their living conditions, family background, and school related problems have hindered quality education in these areas.

Issues for the parents and caregivers of the students

Employed parents usually work long hours (days and nights) to make a living and therefore have little time to spend at home. On the other hand, unemployed parents tend to drink a lot of alcohol thereby alcoholic mothers as well as fathers are increasing in recent years. These alcoholic parents are reluctant to come to school to meet teachers. As described earlier, many new comers settle down the Ger areas and they have weak social networks. Because of the week social networks, absences from community during daytime due to work, or alcoholism and other problems, a certain number of parents rarely come to school to attend parents' meetings or even to pick their children up after evening classes.

Issues for the students

Students in Ger areas experience more struggles in terms of home and school environment than those in more advantaged areas in the capital city. They have to spend many hours doing household chores, such as fetching water from water stations, shopping, cleaning, and cooking in order to help their busy mothers and fathers. They usually have classes half a day due to the several shifts of school classes, furthermore there are no spare classrooms or facilities for students to have club activities or to play with friends after school. In addition to these issues, they face the problem of insufficient learning materials, including textbooks and other books. Especially for the students in poor families who cannot afford to buy learning materials, their learning environment at home is scarcely equipped.

The relations between parental home-based support and children's school performance

There is another dataset, collected during 2016 in Ger areas of Ulaanbaatar, which was created from a questionnaire survey of 8 primary schools. Table 1. and Table 2. show the sample size in both Districts. Table 3. and Table 4. show the age groups of 2nd graders' caregivers and 5th graders' caregivers respectively.

Table 1. Sample Size in Chingertei District

Category	School No. 37	School No. 39	School No. 49	School No. 72	Total (persons)
2nd graders' Caregivers	144	73	66	245	528
5th graders' Caregivers	144	102	59	24	329
Total	288	175	125	269	857

Table 2. Sample Size in Songinokhailkhan District

Category	School No. 42	School No. 65	School No. 106	School No. 122	Total (persons)
2nd graders' Caregivers	239	193	0	30	462
5th graders' Caregivers	128	185	60	57	430
Total	367	378	60	87	892

Table 3. Age Group of Caregivers in Chingertei District

	Male (n=224)		Female (n=529)		unanswered (n=104)	
		%		%		%
Age group						
18-19	6	3%	5	1%	0	0%
20-29	33	15%	77	15%	3	3%
30-39	99	44%	284	54%	1	1%
40-49	59	26%	111	21%	0	0%
50-59	16	7%	25	5%	0	0%
60-69	3	1%	8	2%	1	1%
70-	1	0%	0	0%	0	0%
unanswered	7	3%	19	4%	99	95%

Table 4. Age Group of Caregivers in Songinokhailkhan District

	Male (n=270)		Female (n=548)		unanswered (n=74)	
		%		%		%
Age group						
18-19	2	1%	8	1%	0	0%
20-29	38	14%	97	18%	1	1%
30-39	148	55%	279	51%	4	5%
40-49	58	21%	121	22%	4	5%
50-59	15	6%	19	3%	0	0%
60-69	1	0%	5	1%	0	0%
70-	1	0%	0	0%	0	0%
unanswered	7	3%	19	3%	65	88%

Table 3. and 4. indicate that the majority of caregivers are in their 30's and 40's. Therefore, it is presumable that approximately 80% or more of those who answered the questionnaire are the students' mothers and fathers. The survey also indicates that 11% of male and 44% of female caregivers of 2nd graders are unemployed in Songinokhailkhan, while 18% of male and 36% of female caregivers of 2nd graders are unemployed in Chingertei. These percentages are higher than the national unemployment rate of 7.5% (National Registration and Statistics Office of Mongolia, 2015). When we look at the unemployment rates of 5th graders' caregivers, the numbers are slightly lower than that of 2nd graders', but still much higher than the national average. This means families living in Ger areas are classified as having low social economic status in Mongolia.

The questionnaire survey comprises a variety of questions ranging from caregivers' educational background to how they interact with their children at home. To examine the relations between parental home-based support and children's school performance, the main focus was placed upon how and what caregivers do to encourage their children's education at home and one specific question, "Is it too difficult for your children to catch up with the lesson at school?" For this question, those who answered "True." or "Partially true." among the 2nd graders' caregivers were 47%, while those among the 5th graders' caregivers were as high as 52%.

To analyze the possible relation between caregivers' home-based support as well as their background and children's school performance, multiple regression analyses were conducted. For analysis 1, three independent variables: caregivers' years in school (educational background), caregivers' spouses' years in school, and support for home-based early childhood education (ECE), were placed. The result shows that the 2nd graders, whose caregivers' spouses spent more time in school than other spouses, and whose caregivers supported more home-based ECE, have fewer difficulties in studying at primary schools (statistically significant: $p<.05$). Table 5. and 6. show the caregivers' educational background. It is obvious that male caregivers have fewer years in school than female caregivers. This explains the similar tendency of national educational background of male and female comparison. In 2015, the male

gross enrolment ratio of secondary schools (6-9th grades) is 96.0%, whereas the female gross enrolment ratio is 99.3% (National Registration and Statistics Office of Mongolia, 2015). Considering that caregivers who answered the questionnaire survey were mostly female, the mothers' educational background has a little influence on the child's school performance. In contrast, the caregivers' spouses' (mostly the fathers') educational background has greater influence on the child's school performance.

Table 5. Caregivers' Educational Background in Chingertei District

	Male (n=224)		Female (n=529)		unanswered (n=104)	
		%		%		%
Education (years in school)						
0	0	0%	0	0%	0	0%
1-4 (primary drop-out)	9	4%	8	2%	4	4%
5 (primary)	2	1%	4	1%	0	0%
6-8 (lower secondary)	53	24%	94	18%	5	5%
9-10 (upper secondary)	117	52%	281	53%	11	11%
11-14 (higher)	28	13%	86	16%	5	5%
15-18	4	2%	13	2%	1	1%
unanswered	11	5%	43	20%	78	75%

Table 6. Caregivers' Educational Background in Songinokhailkhan District

	Male (n=270)		Female (n=548)		unanswered (n=74)	
		%		%		%
Education (years in school)						
0	3	1%	2	0%	0	0%
1-4 (primary drop-out)	12	4%	16	3%	1	1%
5 (primary)	5	2%	2	0%	0	0%
6-8 (lower secondary)	76	28%	105	19%	4	5%
9-10 (upper secondary)	111	41%	280	51%	11	15%
11-14 (higher)	35	13%	102	19%	2	3%
15-18	1	0%	12	2%	0	0%
unanswered	21	8%	29	5%	56	76%

Analysis 2 looked at seven independent variables related to caregivers' home-based support and their parenting style: talk about what child does at school, talk about how education is useful in the child's future, teach school subjects to child, talk about the child's future dream, too busy to stay at home, understand the child's likes and dislikes, and bothered with child rearing. The result shows that both 2nd and 5th graders, whose caregivers talk about how education is useful in their child's future, have fewer difficulties in studying at primary schools (significant trend: $p<.10$). In contrast, 2nd graders, whose caregivers are too busy to stay at home and 2nd and 5th graders, whose caregivers are bothered with child rearing, have more difficulties in studying at primary schools (statistically significant: $p<.05$).

Conclusion

This study examined the relation between parental home-based support and children's school performance in urban Mongolia. Based on the semi-structured interviews with school principals and primary school managers and a questionnaire survey given to

caregivers, many issues regarding quality education were found, including rapid population growth, lack of classrooms and textbooks, few opportunities for after-class activities, weak social networks between parents, increasing numbers of alcoholic parents, and caregiver's high unemployment rate. In addition, the caregivers reported that 47% of the 2nd graders and 52% of the 5th graders have difficulties in studying at school. One of the key countermeasures designed to support students with learning difficulties could be parental support. The survey suggested that caregivers have positive influences and negative influences on learning. Positive influences are the caregiver's spouses' educational background, the caregivers' support for home-based ECE, and the caregivers talk about the importance of education. On the other hand, negative influences are that caregivers spend little time with the child at home and that they are bothered with child rearing.

For future research, findings on how to promote caregivers to support home-based ECE and how to encourage them to talk about future education at home would contribute to children's better performance at primary school. Moreover, comparative studies for rural and urban settings would contribute to a better understanding of the impact of home-based support on children's education in Mongolia.

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E-Kankor: Opening New Vistas of Higher Education through an Innovative Intelligent Turoing System

Hamidullah Sokout, Kabul Polytechnic University, Afghanistan

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Abstract
Passing the entrance examination to a university is a major step in one's life. Kankor is the nationwide tertiary entrance examination in Afghanistan. Since the score on the Kankor Assessment Test determines the student's academic future, it is highly recommended to do some test preparation so that the score and consequent placement reflect the student's ability. However, due to poverty and lack of public awareness, Afghanistan severely lacks sufficient resources for providing entrance test preparation facilities. Keeping the aforementioned in mind, web-based test preparation systems offer greater flexibility than the conventional systems, as they can be accessed online anytime. In addition to using easily found practice materials, an online test preparation system is the most efficient, dynamic and relatively cheap method to prepare students for the entrance test. In this thesis, I have proposed the design of a web-based test preparation system, known as e-Kankor, to help high school students learn university standards and give them the tools to pass the university entrance examination on the first try. e-Kankor is a student-focused educational environment designed to increase pass rate success. To measure success in my system, I have done several evaluations with capital and provincial users. The major goal behind this study was to conduct long-term longitudinal study and make difference between capital high schools and provincial high schools on three main aspects: (i) *usability*, (ii) *pedagogical* and (iii) *psychological*. The evaluation demonstrated that the e-Kankor system will serve the needs of students effectively.

Keywords: Learner-centered design; e-Learning; Intelligent Tutoring System

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Introduction

Nowadays Information and Communication Technologies (ICTs) have been applied in a variety of fields all over the world. As for instance in education, ICTs have opened up a vistas of opportunities for learners. They have replaced the traditional mode of paper-based learning that offers a more efficient and effective way for teaching and learning. Assessments are an integral part of an educational system particularly at higher school level that is the last door towards higher education. ICTs have been increasingly used to improve the assessment mechanisms at the high school level.

Kankor is an old university entrance examination system all over in Afghanistan. It's the first screening of high school graduates that helps educational authorities to determine whether they are capable to undertake undergraduate courses. Usually those students can pass Kankor Exam who work hard, and prepared well for the entrance examination. Though it is clear that all those who complete high school may not necessarily enter to higher education institutions, it is very common and normal process across the world seeing percentage of students completing higher school studies remain out of the higher education institutions. Indeed, Kankor is a very transparent process to categorize students on the basis of their talents and achievements.

The number of high school graduates has been on the rise in Afghanistan since 2001. Annually, more and more prospective students taking part in entrance examination. In 2012, around two hundred thousand students have taken Kankor, but unfortunately, only four thousand succeeded to enter Afghan public universities. According to (AfghanistanDailyOutlook, 2013) annually approximately 40,000 Kankor participants are accepted from among over 150,000 candidates to particular universities and field of study.

Eligibility of participants to particular field of study based on their Kankor marks and selection priority. For example, if someone selected engineering for her/his career, but she/he cannot achieve the required exam scores needed for the field, he/she will have to study the suggested field which selected from Ministry or discontinue education after several attempts. Although, enrollment in higher education has been rapidly increased in recent decades all around the world particularly in Afghanistan. According to World Bank (WorldBank, 2013). Afghanistan higher education system has grown rapidly in size between 2001 and 2012. As shown in Fig. 1.1 the total number of higher education students in public universities increased from less than 8,000 in 2001 to about 100,000 in 2012. Although, enrollment in private institutions was close to zero in 2001, but by 2012 it increased about 52,000 students, which shows a considerably grown over the same period (WorldBank, 2013).

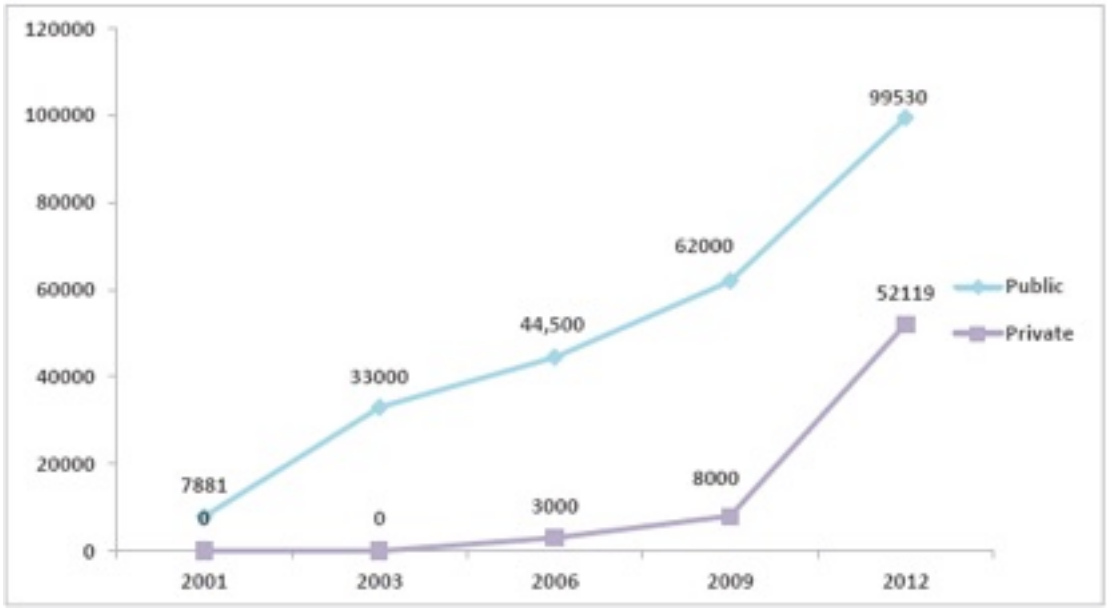

Figure 1: Time trend of enrollments in Public and Private Higher Education Institutions (2001-2012).

The Fig. 1.1 above depicts a significantly rose in Afghanistan higher education particularly from 2009 onwards, and this increase has been the result of expansion of primary and secondary education into Afghanistan higher education sectors and strong demand for higher education. However, every year over 100,000 students remain out of higher education and the majority of them cannot afford to apply for private universities, due to economic problems (AfghanistanDailyOutlook, 2013). Many of the talented students complete their education in misereres economic condition and due to poor economic conditions, several talented students fail to comply with Kankor's requirement. There are no cheap test preparation facilities available to the poor students to compete against the students who have rich background. These students are the only hope for their poor parents against poverty and miseries. If these students fail to get higher education, implies that the deplorable conditions of their families could not be changed. Hence, engulfed in poverty and miseries forever. The following Table1 shows the reports of overall Kankor enrolments, total Kankor eligible participants and those who remain out of education during 2001 and 2014 (Sokout & Paracha, 2015).

Year	2001	2003	2007	2009	2010	2012	2013	2014
Enrolments into particular public universities	No data	15000	18000	35203	25180	32000	42168	67000
Enrolments into undesired institution	2881	No data	No data	No data	16510	8000	13617	41484
Private universities enrolments	0	0	3000	8000	No data	10000	29000	29424
Total Participants took Kankor	No data	42500	50000	89586	117302	147000	175000	228908
Total Kankor eligible Participants	No data	No data	No data	96000	127330	159012	228000	261109
Remain out of higher education	2119	9500	9000	46383	75612	97000	90215	91000
Total enrolments	7881	33000	41000	43203	41690	50000	84785	137908

Table 1: Kankor enrolments time trend 2001 – 2014

As shown in Table 1 above the number of Kankor eligible students has grown significantly year to year, but the enrolments of student into particular universities are not the same and every year they should follow that the ministry of higher education chooses who is eligible for a particular field of study or major which is not suitable for the majority of them.

Research Objectives

The study is focused on Afghan educational challenges particularly university entrance examination where several well deserving candidates fail to pass it, due to lack awareness, lack of test preparation facilities, lack of capability and competency, lack of motivation and so on. To tackle these issues an ICT-based solution called e-Kankor has been proposed, successfully tested and implemented as a pilot in the light of following objectives:

- To highlighted the university entrance examination barriers of high school students and find remedies to it.
- To design and develop an online University entrance test preparation system for Afghan students.
- To evaluate the effectiveness of the system in terms of pedagogy, technically and psychological impacts on the learners (Sokout & Paracha, 2015).

In this study I am going to cover the rest part of the research that has been selected as a future plan; include as follows:

- Long-term longitudinal study will be conducted
- Pilot implementation will be conducted in provincial high schools include rural and urban areas.
- Evaluate the impact of the system to the current situation of Afghanistan.

Research Methodology

The original intended purpose of this research is to provide an innovative e-learning facility to potential students to make them university standard in order to pass the university entrance examination. I would like to investigate:

- How to gauge student learning experience at schools, where there is no special Kankor concern for university entrance exam, no practice facilities and low motivation, particularly in provinces?
- Make difference between capital high schools and provincial high schools.
- Evaluate the impact of the system to final result.

The sub-questions that are generated from this:

- What are the experiences of students based-on none of any Kankor facilities at schools?
- What are the barriers and challenges to improving the learning experience for these students and make ready them for university standard?
- What observation factors could potentially influence these school level effects?
- Does ICT-based system improve the motivation and pedagogical activity of students?
- Does ICT-based system increase the satisfaction of users, urge to use the system?

To address the research question I used Deep-Dive technique (Horwath, 2009), with inductive methods to collect basically qualitative data and some quantitative data. The term “Deep Dive” emanates from a management technique, which utilizes a combination of approaches to help develop solutions for specific challenges. Therefore, I have focus a three-stage mixed method approach (Bergman, 2008). It is a methodology combining quantitative and qualitative techniques to elicit in-depth information from the same subject. It can be considered as a series of data collection efforts from the same participants where I adjusted queries (qualitative and qualitative) to collect through insights to know how they behave and be able to describe why they behave in that manner.

The information has been collected through:

- Semi-structured key information interviews with educational parties;
- Unstructured open environment survey;
- Mini-surveys using structured questionnaires with the participants;
- Literature reviews also has been carried out as source of secondary data.

The multiple sources of information helped me in the triangulation of data to examine the study questions. Therefore, for this research I will prefer to use the same techniques to collect the required and necessary data from the target audience, particularly, provincial high schools.

Research Approaches

The system proposed according to the issues, which identifies in the first section and basically developed according to the investigation and user motivation using two different methodologies. For the developing phase of system, I used Incremental Development Methodology (IDM) in order to have the involvement of users in different stage of system development. This approach helps me to modify the system several times, brought the necessary changes to the system and finally meets the design goals (Online, 2015). In addition, for the experiment of the system prototype we used Motivated Strategies for Learning Questionnaire (MSLQ) to determine the motivation of learners and the means which they expected from the system. These two approaches help us to specify the required needs of learners and develop an appropriate system based-on their expectations.

System Definition

Based-on research investigation we have found that there is no any preparation system in school level to positively effect and make prepare the school graduates to pass university entrance exam. However, according to the collected data there are some preparation courses and Kankor preparation books available outside the schools, which could only take by minority of students who has rich background. Similarly, the existing Kankor books could not enhance the motivation of students and acts as a practice tool to qualify them for higher education. The students should be trained and motivate in order to enhance their skills and aptitude; this could be possible whenever the students directly interacted with some different perspective, practice and create their own understandings.

The proposed system called e-Kankor, which is a web-based system, and based on multiple choices question for Afghan school students in order to make them ready for Kankor exam. According to (Horgen, 2007) multiple choice tests can increase the students knowledge and enhance their motivation, activities and learning in both summative assessment like midterm exams, paper-based exams or final project, and formative assessment which focuses to the monitoring of student's learning and providing the feedback to improve their learning skills like outlining the main point of a lecture by submitting a paragraph or creating something from their prior experience (Sokout & Paracha, 2014).

e-Kankor supports many kinds of questions related to Kankor general exam, ability to grade students automatically, provide pedagogical activity to involve the learners to practice their prior skills and generate their own outcomes, and provide various Kankor materials for students. This system designed with various open source technologies like (PHP and HTML5 for interfaces, JQuery, Java script and MYSQL for database) under the GPL license, in order to give rights to volunteers to easily bring their desired changes to system. In addition, e- Kankor based on Intelligent Tutoring System (ITS), which provides an excellent test-bed for various theories from

cognitive psychologists and stand for immediate feedback and instruction to the users (Goodkovsky, 2004).

Intelligent Tutoring System:

In current century most of the educational environments changed their teaching and learning systems from the traditional way to modern (computer-based) systems. They are easily using computer-based system to increase their learner's motivation and enable them to produce something besides consuming something. This way of learning raises the leaners degree of participation, way of mediation and their thoughts, and is likely to result in learning. Generally, in this century the professionals classified computer-based learning into two categories include classical Computer Based Training (CBT) and advanced Intelligent Tutoring System (ITS). CBT system are based-on manual design which have a predefined structure for all leaners and did not support a specified direction to meet the individual needs and requirement (Boyle, 1998), (Anderson, 2011).

Meanwhile, due to large number of learners and possibility of diverse situations and learning style CBT system strict to provide the necessary materials for learners and provide a quality learning to them. Whereas, ITS are modern and more advanced technique, that enable the learners to motivate and increase their abilities within interactive learning environment (Paracha, Mohamad, Jehanzeb, & Yoshie, 2009). Intelligent Tutoring System (ITS), introduced an essential package of educational technology for learners in order to help them to acquire the necessary skills in their carrier and keep them up-to-date with feedback and instruction. ITS interact with cognitive psychology to provide the best test environment for various theories (Nwana, 1990). ITS unlike other educational technologies, provide considerable ability according to the needs of students to interact with learning materials, representing pedagogical decisions and to achieve their intelligence. It will evaluate each student's ability in order to determine their understandings and skills; and then it will provide the necessary feedback to the learners (Sokout & Paracha, 2015).

Research Design

In order to explore the research sub-questions outlined in section III we have adopted a three-stage mixed method approach introduced by (Sokout & Paracha, 2015). For the first stage we have used grounded theory approach (Glaser, 1992) to collect qualitative data to gain an understanding of underlying reasons, opinions, learning experiences and motivation of students. This was analyzed to identify key factors regarding student experience, problems with current situation, and to identify and propose potential solutions to overcoming the gaps to their understanding and learning environment. In the second stage we have used a creative participatory inquiry technique to involve, parents, teachers and students in our survey to have more focus to solution and propose an appropriate way for them. The result of this stage paves the way for design and content of stage three. The third stage focus to elicit the reaction of proposed solutions with students, to understand their motivation and satisfaction to improve the system for the potential implementation for next phase.

The major aim behind the whole approach was to use tentative research to find the problems that are against the better improvement of school graduates and remain deprived of their right to continue higher education. In addition, to use creative inquiry to develop an appropriate solution to overcome these problems and to acquire students' perspectives on possible solutions that could be used to maximize their motivations and improve their abilities on Kankor entry-exam.

Data Collection Method

The required data has been collected from three different province participants and the result compared with the preliminary data that has been already received from Kabul participants. The preliminary study was carried out in Afghan urban and rural high schools; both private and public schools sample were taken into consideration.
The survey sample size was taken 20 students from each province, which makes it same sample size with preliminary data. During the survey I used sampling methodology, which divided the participants into stages (Clusters), and a simple random sample of the group is selected.

I have collected the required data in each stages of my study using different phases of data collection: (i) Interviews and (ii) questionnaire; in order to explore potential problems and gaps, and draw a conclusion among various perspectives to overcome all the masses. The compression of collected data analyzed and evaluated through four main factors, which cover the vital part of my study. The Fig. 2 and 3 below describe factors statistical result.

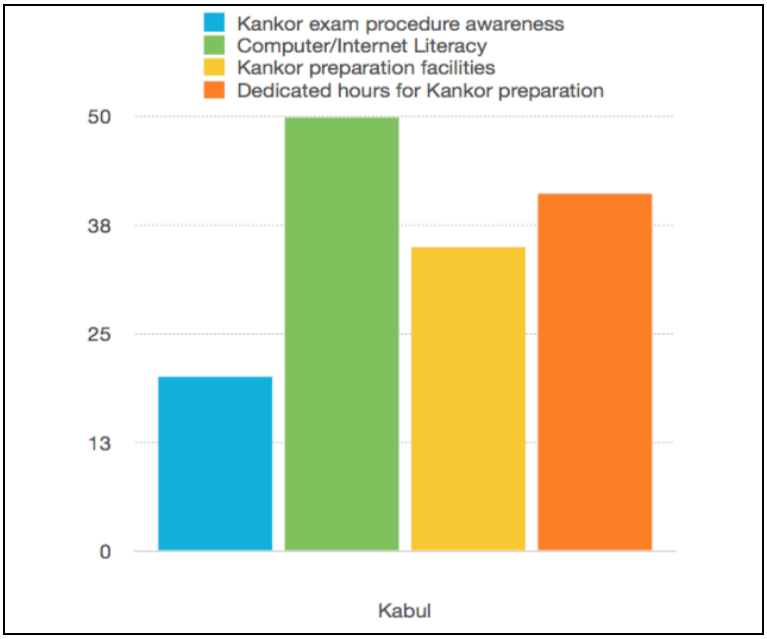

Figure 2: Kabul statistical result

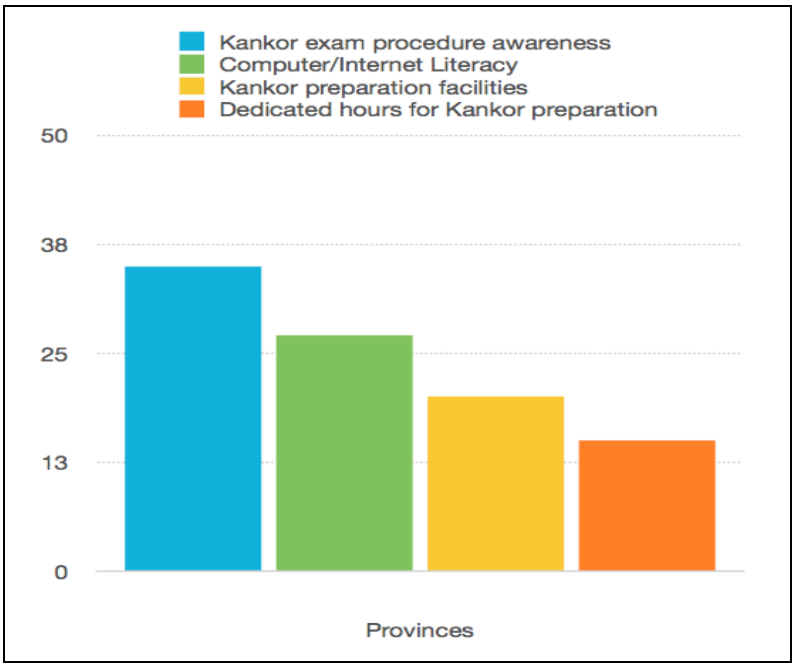

Figure 3: Provincial statistical result

Analysis Method and Tools

The analysis tool was designed in Statistical Package for the Social Sciences (SPSS) to enable us to extract any type of analytic and statistical information as required. I have used Descriptive statistics to define the basic characteristics of our collected data and also used Analytical statistics to describe the association of variables to each other, demonstrate cause and effect relationship between variables and identify the prediction of the behavior of one variable to another. The major goal behind using of these types of statistics is to provide sample and the measures of our data and to determine the relationship between variables (Sokout & Paracha, 2015). The Table 2 explains the result of statistics using SPSS.

The data presented in Table 2 shows the important part of data that has been analyzed during the research. The result of analyzed data was compared with preliminary data and highly highlighted the necessity of the proposed system as an efficient and effective ICT-based solution that could help the learners to motivationally prepare themselves for university standards.

Variables	Type of Variables	Kabul Statistics	Provinces Statistics
Personal Information			
Gender	Dichotomous	Female = 50%, Male = 50%	Female = 50%, Male = 50%
Locations		Urban = 77%, Rural = 23%	Urban = 100%
School Types		Public = 65%, Private = 35	Public = 100%
Questions from the students			
Computer/Internet Literate	Ranked	Strongly Disagree = 50%, Strongly Agree = 50%	Strongly Disagree = 73%, Strongly Agree = 27%
Kankor procedure awareness		Strongly Disagree = 80% Strongly Agree = 20	Strongly Disagree = 65% Strongly Agree = 35%
Kankor preparation facilities	Dichotomous	Courses and available books = 35%, None Preparation = 65%	Courses and available books = 20%, None Preparation = 80%
Dedicated hours for Kankor preparation	Ranked	Inappropriate = 59% Appropriate = 41%	Inappropriate = 85% Appropriate = 15%
Questions from the teachers and parents			
Impact of system to student's knowledge? To what extent are you satisfied?	Likert-type Scale	0 – 25%, 26 – 50%, **51 – 75%**, 76 – 100%	0 – 25%, 26 – 50%, 51 – 75%, **76 – 100%**
Whether the system improves the motivation of students? To what extent are you satisfied?	Likert-type Scale	0 – 25%, 26 – 50%, 51 – 75%, **76 – 100%**	0 – 25%, 26 – 50%, 51 – 75%, **76 – 100%**
Does the system increase the pedagogical activity of student and prepare them for university standard? To what extent are you satisfied?	Likert-type Scale	0 – 25%, 26 – 50%, 51 – 75%, **76 – 100%**	0 – 25%, **26 – 50%,** 51 – 75%, 76 – 100%

Table 2: Kabul statistical result

Results

In this study I have found that there is a big difference between capital and provinces participants, which was verified on different perspectives and draw a conclusion for further improvement of system in future. Furthermore, using of three-stage mixed approach played a key role for collection of data during this research.

The result of analyzed data based-on four main factors, which was used as an outcome of the research and verified the proposed system as a suitable and transparent system. As shown in Table 2 above the first verification was related to Computer and Internet literacy in high school level, in which 50% of Kabul participants using ICT tools in their educational activities that cavers 32.5% private schools and 17.5% public schools. Whereas, the level of ICT usage in provinces schools very low, in which 27% of the learners only interacting with ICT facilities and about 73% of them does not have any interacting with ICTs. According to the Kankor procedure awareness which has the primary priority for succession of Kankor examination, the majority of students especially student from provinces do not access to required Kankor guidance and basically do not have knowledge about the overall rules and procedures; that could help them get through this examination.

The survey shows that only 45% from Kabul participants and 31% from targeted provinces have the basic information about Kankor procedures, which is not more effective and considerable to keep the learners more competent between each other. In addition, for the Kankor preparation facilities only 35% of student's particularly female students from Kabul city and 20% only from the provinces can access to available resources and facilities; but the big number of them taking annually Kankor exam without any preparation. This situation makes the educational environment less competent and minimizes the level of motivation among the learners. Furthermore, according to survey about 41% from the Kabul city and only 15% from the provinces dedicated more than two hours per week their times for practicing of Kankor, but the majority of them appearing in Kankor examination without any practicing and concern. Therefore, e-Kankor system proposed based-on user requirements in the light of research questions mentioned in section III to prove the research hypothesis.

- Hypothesis
- Evaluate the impact of the system between Kabul participants and provinces; do they urge to use such ICT-based solution for preparation of Kankor examination?

Based-on defined hypothesis I compared the result of evaluation that carried out in Kabul and provinces.

Evaluation Result

In order to make sure and address the effectiveness of the proposed system I carried the system in evaluation process and compared the result of evaluation with preliminary data. The overall results that have been completed during the study ended in positive note and the feedbacks gathered and analyzed helped us for further improvement of the system in future.

Field Testing

After the success implementation of system in the first part of research which has been done during 10th March to 8th April 2015 with 20 male and female participants in Kabul city, I have tested the second part of the research in provincial high schools. The purpose of this phase was to receive the feedbacks and comments from provincial participants in order to evaluate the effectiveness of system in various perspectives. The questionnaire was designed according to the three major evaluation aspects (Usability, Psychological and Pedagogical) and basically used to determine student motivation in learning and overall system efficiency. Therefore, we used the Motivated Strategies for Learning Questionnaire (MSLQ) for our experiment. MSLQ is a useful tool in order to address the nature of student's motivation and use of learning strategies in different subscales, which focused to a particular factor. Meanwhile, this reliable tool evaluates the cognitive aspects and differentiate individual in self-regulated learning (Paracha, Mohamad, Jehanzeb, & Yoshie, 2009).

Field Test Result

The second part of the research has been implemented during 16nd July to 6th Sep 2016 with 20 male and female provincial participants including teachers and students. My research questions, for which I have conducted this study include:

- Does the system improve the motivation of students?
- Does the system increase the pedagogical activity of students?
- What is the impact of the system to student's knowledge?

To explore these questions, the majority of participants positively answered the questions and their responses based-on the modified MSLQ. The pie charts below illustrate the evaluation result.

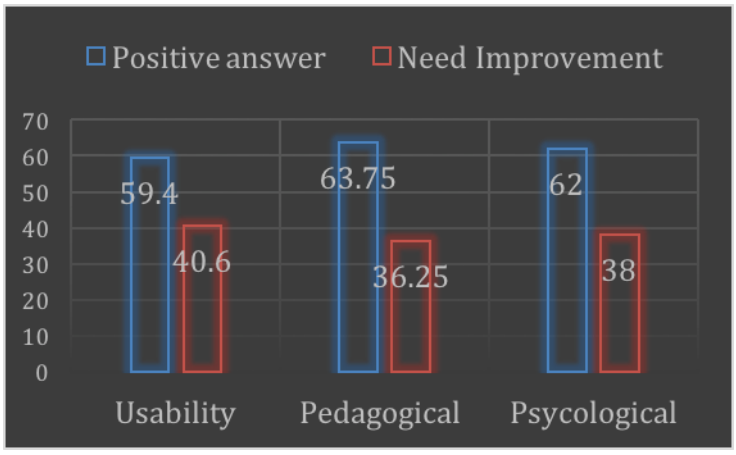

Figure 4: Kabul evaluation result based-on three main aspects

Of the 20 respondents, 60% rated our e-Kankor system as usable, 64%rated it as pedagogically effective, and 62% rated it as likely to motivate students (Fig. 4).

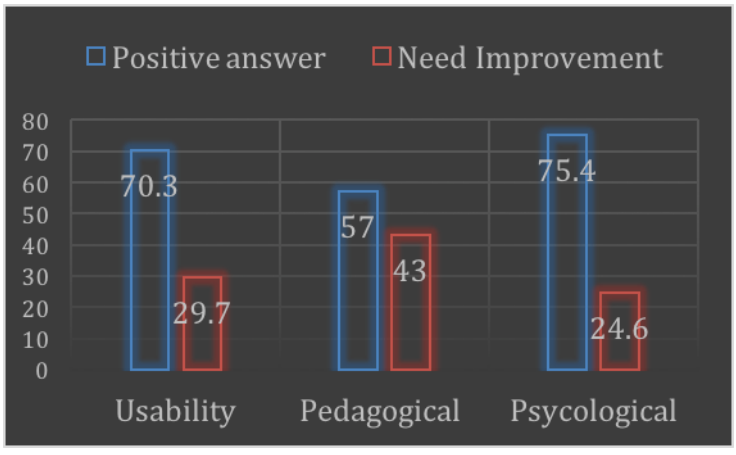

Figure 5: Provinces evaluation result based-on three main aspects

Of the 20 respondents, 70% rated our e-Kankor system as usable, 57%rated it as pedagogically effective, and 75% rated it as likely to motivate students (Fig. 5).

Findings and Recommendations

In Afghanistan, the national higher education entrance examination (Kankor Examination) is held annually by the ministry of higher education. High school student take the examination so that educational authorities can determine who is eligible to enter public and private universities. As the number of student enrollments in Afghan universities has grown rapidly, the existing paper-based Kankor examination system is too tough and flawed for thousands of school graduates who are unable to make it to university.

The proposed system can be a convenient prerequisite for general Kankor examination in the future. It will improve the efficiency and effectiveness of overall Kankor procedure in Afghanistan by replacing the current traditional system. Similarly, the system aimed to create an interactive educational environment between teachers and students to value for effective teaching and learning. The following are specific findings from the overall result of this research:

1. The system pilot that has been tested by students was relevant and satisfactory based on requirements and needs. They were satisfied and expressed their agreements through a variety of system initiatives include (Pedagogical activity, integrative design, exam focus question and contents and Test preparation strategy), which had huge psychological and pedagogical impacts.

2. According to the evaluation result, the system will have a very positive impact in knowledge and awareness of learners, it will not only give them a tool to prepare themselves for university entry examination, but also it will act as an appropriate guider and resource for them.

3. It has been observed and highlighted by the interviewees that the proposed system can be an efficient system, that not only increase their capabilities and competency, it will increase the ICT penetration in high school level that could be an opportunity to access the quality education in school level.

4. According to interviewees however, there are limitations in overall education system that need strong consideration.

However, still long way to go ahead, there are still challenges in Afghanistan education system. Due to long process of the government in enrollment and acceptance of new lecturers for the educational environments (Schools and Universities) particularly for the provinces, it is still need to have more lectures and expand classes and opportunities for young generation. The following are the specific recommendation on the basis of the findings:

1. Increase the capacity building and provide qualified lecturers for the universities to expand the enrollment of students to universities.

2. Provide enough practical practice resources for better teaching and learning.

3. Provide alternative and special practice environment for Kankor practice, also dedicate more time for students to practice.

4. Extend the time of schools from half day to full day.

5. Improve ICT infrastructure in both rural and urban areas.

6. Basic training to school administrations staffs to create a common understanding within the schools.

7. Establish deeper cooperation and coordination with national and international educational sectors.

Future work

The future work will be focused more on the interface to make it more appealing for the user and interactive. Furthermore, we intend to promote the system to general entrance exam, consider new features for secondary and primary level schools and have e-KEPS registration system inside the system as a part of our framework in the future. Similarly, we will cover the whole system localization and make it part of education.

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Contact email: hamid.sokout@gmail.com

Keep Smile Book: An Instrument of Students' Affective Evaluation

Muhammad Hanif, University of Sebelas Maret, Indonesia

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Abstract
This study aims to describe the use of "Keep Smile Book" as an instrument of students' affective evaluation and factors affecting its implementation. "Keep Smile Book" is a diary consists of students' book and teachers' column. This book combined observation and self-assessment technique of evaluation. The students actively involved to assess their-self by a cute way of putting an emoticon sticker on a diary. Descriptive qualitative design was used in this study to explore the phenomena. The research subjects are 88 students and 3 teachers of the fourth to sixth grades of SD Negeri 1 Piji Kudus. The data were gathered through documentation and interview. The result of this study showed that "Keep Smile Book" was valid and eligible to be used as students' affective evaluation shown by low-margin score between of students' and teachers' given. It also gives a choice to the teacher to adopt such kind of self-evaluation on affective domain. By understanding the criteria and having a happy activity, students respectively encouraged to perform noble behavior. The constraint laid on the time consumption in filling the book but the students' involvement contributed to the success of the implementation

Keywords: "Keep Smile Book", Evaluation, Affective Domain

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Introduction

Evaluation is the one of the main component of learning purposes. It is a process to know the achievement and instructional affectivity (Putra, 2013; 76). Generally, evaluation has two vital function, those are to know (1) the students' learning achievement concerning on how the students reach the learning objectives and mastering the competencies involved and (2) the teachers' achievement as the manager of learning concerning on planning, organizing, and evaluating (Arikunto, 2002 & Sukardi. 2010).

Teaching and learning achievement closely relate to the learning goals specifically elicited from *Undang-Undang Republik Indonesia Nomor 20 Tahun 2003* about national educational system of Indonesia (Depertemen Pendidikan Nasional, 2003). National educational system of Indonesia mandated that educational system is aimed to develop students' potential becoming godly human who are virtuous, healthy, knowledgeable, competent, creative, independent, and becoming democratic and responsible civilization. Attempting to those goals, education in Indonesia must cover three domains; cognitive, affective, and psychomotor (behavior). Cognitive domain explicitly shown by aspect of knowledgeable, then affective is represented by godly, virtuous, independent, democratic and responsible (Departemen Pendidikan Nasional, 2008) then behavior is represented by healthy, competent and creative.

Educational system should combine proportionally three domains of evaluation (Anderson & Anderson, 2006: 524). Unfortunately, affective evaluation is rather difficult since evolving non-concrete aspects (Fernandes, 1983). It is quite different with aspect of cognitive and behavior which are laid on the test result and students' worksheet. These aspect can accurately assess because of having a concrete proof. Observation is become the only tool helping teacher to assess the affective domain of students on their daily activity (Mardapi, 2012: 164). This technique is merely inaccurate to use in a large number of students in a class (Camellia & Chotimah, 2012 & Nurbudiyani, 2013).

Unfortunately in most formal schools the affective evaluation is not taken into consideration (Hall, 2011 & Kusumawati, 2015). The case has also happened in SD Negeri 1 Piji. Based on the preliminary observation, the teachers only use general observation without any documentation before stating a score in students report. Deeply, the teachers admitted that this technique is absolutely subjective but then they have no idea to use other technique. Observation will only lay on the teachers experience and give non-objective result since it only shot at one point of view (Suyanto, 2010: 159). Other laxity of this technique is when the teachers take only partial students' behavior as the main criteria (Furqon, 2007: 130).

In developing instructional system, Hopkins et.al (1990) stated that assessment technique for affective domain may consist of testing technique and non-testing technique. Testing technique can be an objective test or essay whether non-testing technique can be a questionnaire with open or closed question. Andayani (2012) said that affective domain assessment can be executed by observation and self-report. The use of observation is based on assumption that affective characteristics can be directly seen from the activity shown or psychological responses (Qomari, 2008: 90). The technique of self-assessment assumes that the affective situation of students can be

derived well and measured only by themselves (Hamalik, 2001: 150) and it will attract the students' responsibility and involvement on their learning (Ross, 2006: 7). Based on those two assumptions, the writer compiles a set of assessment tool named "Keep Smile Book". It consists of a simple diary book for students and observational column for teachers. This book contains 10 (ten) statements related to affective values in daily activities stated in *Juknis Penilaian Afektif* (Departemen Pendidikan Nasional, 2008). Especially, those ten affective values are discipline, orderliness, cleanliness, responsibility, neatness, politeness, social relationship, honesty and godly. The table 1 and table 2 are examples of "Keep Smile Book":

No	Today	Respons
1.	I come to school before 7 o'clock	
2.	I make noise when teacher is explaining	
3.	I trow rubbish into garbage	
4.	I do my homework at home	
5.	My uniform is always neat	
6.	I shake my teacher's hand when will go home	
7.	I go to canteen alone	
8.	I inform my naughty mates to teacher	
9.	I speak to others when praying	
10.	All my answers above is truth	

Table 1: Students Book Format

Students respond those question by attaching small sticker in each statements. The responses can be smile sticker for "yes" and sad sticker for "no" which represented Guttman's rating scale (Sugiyono, 2015: 139) based on their real daily situation. Regarding to reliability, the writer prepared 4 different statements and used alternately.

Students name / **Question number**	**Student 1**	**Student 2**	**Student 3**	**Student 4**	…
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Table 2: Teachers' Column Format

Teachers' column helps the teacher to document the students' activities regarding in affective aspects. After both forms are completed, the writer then compare the student' and the teachers' form. The teacher can conclude whether the situation stated

in students' form and teachers' form are correlated in which to get the final decision about the students affective.

Based on those conditions which the students had not involved in the process of evaluation. So that the writer proposed to observe how the implementation of "Keep Smile Book" become tool of affective evaluation in SD Negeri 1 Piji, an elementary school located in Kudus Regency, Central Java Province, Indonesia. Generally, this study aimed (1) to know the implementation of "Keep Smile Book" in case of helping the role of teachers to evaluate the affective aspect, and (2) to see factors influencing its implantation as a tool of evaluation.

Methodology and Methods

This study used a descriptive qualitative design to gain and describe the specific phenomena of implementation of "Keep Smile Book" as an instrument of affective evaluation. Moreover, by qualitative approach, this study is expected to peel the real situation and factors influencing the implementation effectively. The subjects of this research consisted of 88 students and 3 teachers of Fourth to Six Grades. This research was conducted in early March to June 2016 in SD Negeri 1 Piji

The techniques of collecting data were documentation, which are the fulfilled students' and teachers' books, and interview, to know the students and teachers perception in Keep Smile Book. The writer used unstructured interview to gain more information regarding their feeling on advantages and factors influencing the implementation (Arikunto, 2010: 151).

The analysis of data from documentation is by comparing the result of those two books and then validated by data from interview about the implementation. The data is associated and then the writer took a conclusion.

Discussion

The Implementation of Keep Smile Book

The result of implementation from students' and teachers' book are showed by table 3 below:

Grade	Upper Score		Lower Score		Mean	Margin
	Students	Teacher	Students	Teacher		
Four	9.00	10.00	5	5.2	8.01	1.14
Five	9.57	9.86	1.42	1.43	8.75	0.45
Six	8.57	8.42	3.35	3.07	7.35	0.23
Mean	9.05	9.43	3.25	3.23	**8.03**	**0.06**

Table 3: The Result of Students and Teachers' Book

The table above indicated that the teacher tended to give higher scores. Thus, students who gave the score based their own experiences, tended to give lower score. The data showed that most of affective attributes has appeared on students shown by the mean of the score is 8.03. It means that both students and teacher refers to attach the attributes of affective. The most importance part is the margin between students and

teachers score gave which is 0.06. The limit margin score represented that students and teacher had the same perspective of students affective. This fact absolutely strengthens that both observation technique by teacher is supported by active self-evaluation by students. In other hand, it also gives a choice to the teacher to adopt such kind of self-evaluation on affective aspects. So that the book gave a positive implication in using it as a tool to asses affective domain.

Factors Influencing the Implementation

After the implementation of "Keep Smile Book" for 28 days, the writer conducted some interview to the teacher and to gain their perspective on the implementation and elaborate the influencing factors which are supported or inhibited, to this instrument.

Generally all of the respondents stated that "Keep Smile Book" containing a positive and negative effect. The respondents declared that the positive effect can be seen from students' point of view where they feel happy and unconsciously were assessed. So as the result they gave a truly response or answer based on their daily condition. Beside that the students had higher motivation to fulfil the response on the book since the mechanism is simultaneously individual. In fact, the students were always questioning and waiting for the moment to fill the book enthusiastically. It may be caused by the joyful activity of attaching the interactive stickers. Those also represent that this book made the students act honestly.

According to the first respondent the most inhibited factor was limitation of the time. The teachers felt burdened to fill many observational columns on students' affective attributes while the time is limited in completing a lot of tasks. In line with the first, second and third respondents mentioned the technical view of the book which has to be filled daily. Even though they recognized that Keep Smile Book" particularly give concrete and valid data of students' affective condition.

Dealing with the method of evaluation the respondents agree that this book is more compatible than their usual method based on the observational and subjective evaluation. They admit that their conventional ways is totally laid on subjectivity of their experience. Nevertheless they are still sure to adopt this instrument in the future since its compatibility to help them in task of evaluation. The issues of time will be solved further by particular adjustment.

Conclusion

This study implies that the self-evaluation technique are more accepted than the observational technique used in evaluate affective domain. "Keep Smile Book" hopefully can be an alternative solution as the instrument of students' affective attributes since it combine those two alternative techniques. This book has more advantages compared with its limitation.

The advantages of "Keep Smile Book" are the involvement of students which gain objectivity and enthusiasm of students during the proses of evaluation and affectivity of showing the real condition of students affective attributes which they are unconsciously evaluated. Even though the book take specific time to use, good time management will fully support the implementation

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Contact email: isiqbalsalam1@gmail.com / muhammadhanif@student.uns.ac.id

The Face of Secondary Education: Students' Perceptions on the Functional Differences Between Schools in Macau

Carlos Vasconcelos-Lopes, University of Saint Joseph, Macao

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Abstract
After the handover to China, the complexification of Macau educational circumstances, favored by the progressive expansion of free education coverage due to subsidy schemes introduced by the government, and the exceptionally rapid economic growth, due to the liberalization of the gambling market, significant pressure has been felt by local secondary schools in order to accommodate an increasing diversity of student and parental educational aspirations. Concerns are emerging whether the educational system, which is, in essence, a market regulated one, is responding to these new educational demands by providing students and parents with information and options or even by conceding them freedom of choice. Research was conducted to develop and validate a school perception survey that could be used to measure students' perceptions on the main characteristics of the educational offer of Macau secondary schools. The instrument was developed based on an in-depth review of relevant literature. It uses 25 items to capture students' perceptions on the characteristics of schools, reflecting a consensus-based assessment on the most relevant aspects accounting for variation in the education quality students may experience at a school. A reliability and factor analysis of results confirms the reliability and guarantees the validity of a reduced version of the instrument. The most noticeable findings and the final conclusions of an in-depth analysis of the results are presented.

Keywords: school perception survey, secondary education, Macau

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Introduction

The nature of work is drastically changing. A worldwide employment revolution is ongoing. Businesses are hiring talent on the Internet, as it's faster and cheaper than the traditional hiring process. They are meeting the labor needs of their projects on a case-by-case basis, rather than by engaging full-time employees. This use of the Internet to find specific skills, in turn, is creating a growing network of freelancers that promote themselves in very creative ways. A growing proportion of individuals are now not only surviving while working independently, they are also thriving.

How does Macau educational system handle this kind of reality, in times when educational systems worldwide are becoming unprecedentedly flexible to meet these dynamics? Is it preparing students for increasingly active and fluid professional lives, with multiple career changes, requiring systematic professional reinvention? Arguably, not much. According to Ouyang, Jin & Tien (2016), Macau educational system locks students into a fairly rigid occupational path early in their teens. "The strict tracking education system and highly competitive college entrance system require students in Macau to make crucial vocational decisions at a very young age" (p. 254).

In market-regulated educational systems, which is the case of Macau (with more than 90% of the schools being private), parental choice should be the major school accountability mechanism. Macau parents and students, however, have reduced access to information with which to judge the educational merits of the educational offer of schools (Chou, 2012). It is in fact very difficult to challenge the educational options that schools decide to make available to them. Even because what seems to matter the most, for the school structure inherited from colonial times, is that educational processes can continue being religiously free of surprises. After all, Macau affluent casino-based economy places low demands on requirements for the quality of education (Chou, 2012).

This study aims primarily at contributing to raise public awareness of Macau educational circumstances. The study will also help the educational community and the educational policy authority to configure better how Macau secondary students, in general, perceive the main strengths and weaknesses of the education they experience at their schools. To an extent that does not require deep examination to be recognized, a better agreement between the educational interests of students and their families and the offer of the mainstream educational providers in Macau can only come about on the basis of a much sharper sensibility of all parties concerned to the functional specificities of the local school structure.

Conceptual Framework

The specific reference frame students were asked to use in the observation of their schools emerged from an extensive search of existing literature on the quality of educational organizations. Each item of the developed instrument simply asks students to assess the strong or weak presence, or absence, of the perceived characteristics of schools that are normally pointed by students, teachers, and parents worldwide as most likely making a difference regarding student learning. Even tough,

the selection of a point of view could not be avoided. Qualitative distinctions between schools can be drawn from many different advantage points.

Perceiving school quality

According to Pang (1999), quality school education has emerged in the South-Western region of China as a popular topic of the educational debate in Hong Kong in the 1990s, after becoming a major educational research interest for Western countries in the 1980s. In Macau, concerns about the quality of school education are only now slowly emerging. This slow local awakening is probably due to the monolithic economic structure of Macau, strongly concentrated on the tourism and gambling industry, which places no significant demands on the quality of school education (Chou, 2012). The economic system simply "does not place enough pressure on the education sector to ensure that the quality of education progresses with the times" (Chou, 2012, p. 106). The reduced pressure Macau society puts on quality school education is probably also explained by "the lack of transparency" of the local school structure (Chou, 2012, p. 101). Parents simply don't have access to adequate information to make smarter decisions in choosing schools.

To make things more complicated, quality school education is a slippery concept (Harvey & Green, 1993). Different conceptions of quality inform the perceptions of different educational stakeholders (Pang, 1999). The ambiguity of the concept of "quality" in education can even be pointed as the protective fence behind which all sorts of irresponsive school structures have been able to remain unaccountable (Harvey & Knight, 1996).

According to Harvey & Knight (1996), citing Harvey & Green (1993), "quality can be viewed as *exceptional*, as *perfection* (or consistency), as *fitness for purpose*, as *value for money* and as *transformation* [emphasis in the original]" (Harvey & Knight, 1996, p. 1). The latter viewpoint was the one adopted by this study. It links the quality of a school to its transformative capability or the quality of the learning of its students. This is also the frame with the highest generalizing potential. The transformative notion of quality is well established in Western philosophy and is also at the heart of the transcendental philosophies of the East (Harvey & Green, 1993). Student satisfaction with school life would be indicative of fitness-for-purpose quality, but it is well known that "Macau students' motivation to learn is not noteworthy" (Chou, 2012, p. 100). Direct links between student satisfaction with school life and the quality of education provided by schools are difficult to establish.

Main dimensions of school quality

The set of items included in the instrument, echoing what students, teachers, and parents tend to mention as having to be in place in an educational setting in order for students to learn,
was intentionally designed fair to Asian educational values, namely to the ones shared by "Confucian Heritage Culture" societies, to which education is not only for individual academic scores and future professional achievements but also for social development and personal self-actualization (Wong, 2001). The items were grouped under five school differentiating categories, namely Curr*iculum Organization & Structure*, *Teaching & Learning Environment*, *Student-teacher Relationship*, *School*

Life & Facilities and *Management & Leadership*. These broad categories reflect a consensus-based assessment on the most relevant factors accounting for variation in the quality of the education students may experience at a school. The specific meaning of each one of these five factors is elaborated below.

Curriculum organization & structure

The first factor includes items describing the curriculum offered by a school. According to Biggs & Tang (2011), one of the major direct, and indirect, determinants of student learning is the curriculum framework the school makes available to its students. Particularly important is the extent to which the curriculum supports conceptual understanding and deep learning. Students must be "able to take knowledge and use it in new ways" (Perkins, 1998, p.13). This requires that students have curricular choices (Glasser, 1990). The items of this category inquire students whether the organization and structure of the courses are good and if there is a good deal of choice over how students go about learning at their school.

According to Pang (1999), another important domain of experience at a school relates to how students perceive the relevance of the curriculum, and even of schooling. Curriculum relevance encourages engagement with the subject matter and deep approaches to learning, which can have a powerful impact on students' progress in learning (Snyder, 1971). According to Glasser (1990), a curriculum perceived as irrelevant leads students to see their education as having little relationship and value to their personal and professional future. Students are therefore also inquired whether most of what is learned at their school is interesting and has "real world" application and if, by studying there, they guarantee a very successful future.

Teaching & learning environment

The second section of the instrument covers the students' perceptions of the teaching and learning environment. The kind of students' approach to studying and their perceptions of teaching are two of the most direct influences on the quality of the learning at a school (Prosser and Trigwell, 1999).

Students differ widely in the prior knowledge and skills they bring to school (Entwistle & Ramsden, 1983). The teaching approaches have, necessarily, to fit the characteristics of the students enrolled. The teaching strategies may vary from, at one end, imparting knowledge and providing hierarchic supervision to student work, and, at the other end, providing guidance to student self-regulated study.

High-quality learning and deep levels of understanding, according to Vermunt (1998), are markedly dependent on the self-regulation of learning. Also, Biggs & Tang (2011) argue that coping with student diversity in the schools of the twenty-first century is largely a matter of making teaching and learning more active. "The learner does not only receive pre-existing knowledge but is actively involved in putting knowledge to work" (Biggs & Tang, 2011. p. 82). Active teaching methods encourage students who don't spontaneously engage in higher order cognitive processing to do it. "Good teaching is getting most students to use the level of cognitive processes needed to achieve the intended outcomes that the more academic students use spontaneously" (Biggs & Tang, 2011, p. 7). The items of this category inquire students whether the

teachers are knowledgeable at their school and whether teachers' explanations really help students grasp things better. Students are also inquired whether teachers don't just give information on the subjects; and whether they are concerned with improving the way students think. Deep and self-regulated approaches to learning also differ considerably from the surface and passive approaches, for example, in the need of detailed manuals and direct supervision from teachers (Vermunt & Verloop, 1999). Students are finally inquired whether the classroom quality of learning materials is high at their schools, if the availability of learning resources is more than enough and whether students really have to understand the subject to get good marks.

Student-teacher Relationship

The third group of items aims at assessing how students perceive the relationship between themselves and teachers regarding assisting, or not, student learning. According to Pang (1999), a very important domain of student experience at a school concerns the student-teacher relationship. A supportive learning environment is extraordinarily dependent on the adequacy of the relationship between students and teachers. Dissatisfaction with it may not necessarily lead to resistance and disciplinary problems. Even successful students may not be deeply engaged or putting forth a high level of effort and commitment.

A distant and indifferent form of interaction is unlikely to be sufficient for making students gaining access to the language and practices of specific disciplines (Hounsell, 1987; Anderson, 1997). As relationship building often requires a profound mindset change in students, it hardly can happen by instantaneous adjustment. It rather is, according to Hounsell (1987), an emergent outcome of a dialogical process. It is best facilitated by teachers taking the students' perspective into account, or by giving them a voice in the process. The items of this category inquire students whether the teachers expect all students to succeed at their school and if they are approachable and provide extra assistance when students need it.

That does not imply assuming that all students' aspirations have to be satisfied. "Students prefer, and act as if there is 'congruence' between the learning environment and their own learning habits. However, (constructive) 'friction' between teaching and learning is often necessary to make students change and to develop their learning strategies" (Vermunt & Verloop, 1999, p. 281). Also, Entwistle, McCune & Hounsell (2002) advocate "the importance of challenging students' existing ideas or beliefs as a way of provoking development" (p. 9). Trying to assess the existence of conditions for the establishment of that kind of judicious communication, students are also inquired whether they receive appropriate workload and study pressure at their school and if students establish a close relationship with them.

School life & facilities

The fourth factor picks up the items related to school resources and facilities. School facilities, despite they are not self-enacting in themselves, can be expected to impact student learning in discernible ways. There is strong, consistent evidence for the effect of basic physical variables (air quality, temperature, noise) on learning (Higgins, Hall, Wall, Woolner and McCaughey, 2005). Some studies also suggest that the characteristics of the physical space (of the classroom, the catering services, the

navigation inside the school, the ICT access, the extra-curricular activities, the school-community extensions, etc.) may all exert non-negligible influence on learning (Higgins *et al*., 2005). The strongest consensus in the literature relates this category to the provision of minimal conditions for learning. Students who are forced to cope with severe constraints created by the lack of teaching and learning resources or inadequacy of school facilities may experience detrimental effects on attainment, engagement, academic self-esteem, attendance and physical well-being (Higgins *et al*., 2005). The items of this category thus inquire students whether at their school students are provided with good quality facilities (classrooms, labs, Internet, library, cafeteria, etc.) and good quality academic support (health services, financial aid, career services, study abroad program, etc.).

Beyond the level of meeting basic standards in this area, the literature also tends to link student self-identification with the school environment, or school connectedness, with quality of school education, seeing it as desirable to promote student wellbeing and to prevent adolescent involvement in a range of health-risk behaviors (McNeely, Nonnemaker and Blum, 2002). In that sense, students are also inquired whether at their school students are provided with beautiful, comfortable and very easy to get around facilities, and a wide choice of extracurricular activities (intramural sport and fitness programs, intramural performing arts programs, student body committed to community service, etc.).

Management & leadership

The fifth, and final, factor brings together all the items helping to create a supportive school climate for learning that the literature roughly relates to school management and leadership. Research has been suggesting that a clear link exists between student learning and perceived strong school leadership. Principal leadership is, according to Edmonds (1979) and also Lezotte (2001), one of the strongest indicators of quality of school education. Strong leadership, according to (Cheng, 2001), is one with a vision. A "vision is a dream" (p. 54), a picture of a promising future for the school, something to strive for, a collective ambition. "The school is perceived as successful when this dream comes true" (Cheng, 2001, p. 55). Visions make a difference on how schools perform differently, and achieve differently, even for schools immersed in the collective Chinese culture, where uniformity and conformity values prevail (Cheng, 2001). The presence of a strong shared vision for the school is apprehended through items asking students whether their school deals effectively with most learning hindrances (such as student and teacher absenteeism, bullying, plagiarism, etc.) and whether the school makes sure that students' raised concerns are well responded.

In the very core of the issue of vision, according to Cheng (2001), is the phenomenon of trust. “Vision is about trust" (Cheng, 2001, p. 66). By primarily serving economic or political interests above the school, or by placing the focus on bureaucratic efficiency, rather than on the educational aspirations of students and the community at large, educational administrators can make schools very unfavorable contexts for the development of visions (Cheng, 2001), and therefore, for the emergence of trust. "Following rules and regulations may easily become the objectives of the school leaders, with little reference to the educational goals of the school" (Cheng, 2001, p. 55). Trust is "the most powerful predictor of school effectiveness" (Mitchell *et al*., 2015, p. 168). A high level of trust among students, teachers, and parents is the basis

for cooperation with one another and for a high level of engagement in teaching and learning (Bryk & Schneider, 2002; Forsyth *et al*., 2006; Forsyth, Adams & Hoy, 2011; Hargreaves, 2007; Leana & Pil, 2006; Price, 2012; Tschannen-Moran, 2014; Van Maele *et al*., 2014).

Factors related to the Chinese culture, according to Wong (2001), may favor a slightly different understanding of the concept of school leadership, not exactly in line with the experience and literature from the West. Gaps of mutual trust between teachers and school principals can be expected to be wider (Wong, 2001). The key factor continues, nevertheless, being the same: trust. "If school heads are faithful to the cause of educating the young … and truthful to their fellow teachers, they will build up trust among them, and the impact would be long lasting" (Wong, 2001, pp. 49-50). Following this line of thought, the items of this category inquire students whether most people at their school trust each other and whether the primary concern of the headmaster extends beyond rules and regulations, into the quality of education and welfare of students.

According to Pang (1999), another very important domain of student experience at a school concerns social interaction, how close the students perceive the classmates, teachers and other people relate. According to Glasser (1990), students have to trust they are immersed in a safe environment, permeated by a sense of social fairness. They must feel free and a sense of belonging to a community that places a high value on learning. Following this line of reasoning, students are inquired whether the value of education for money spent is high at their school, whether they really feel that they belong there and whether they would recommend their school to others.

Methodology

Participants

Participants were students of Macau secondary schools. They were selected diverse regarding age, gender and grade level, in an attempt to match, as closely as possible, the demographics of Macau secondary student population.

Instrumentation

The main measurement instrument used by this study was self-developed, based on an in-depth review of relevant literature. It comprises 25 items aiming at capturing students' perceptions on the characteristics of their school.

The instrument uses a 4-point scale (strongly disagree, disagree, agree, and strongly agree). It was assumed that more points would create excessive intricacy making the survey difficult to respond by participants. It was also assumed that the presence of a neutral response option, like neither agree nor disagree, would facilitate the easy sliding trough questions while offering mindless responses. The fact that respondents are "forced" to deliberate more on their answers provides more detailed insight and makes the results less subjective.

Procedures

The sample was designed following the same two-stage stratified process used in PISA studies (OECD, 2016). In the first stage, individual schools offering secondary studies were selected with probabilities proportional to size, the measure of size being a function of the estimated number of secondary students enrolled in the academic year of 2015-2016 (cf. DSEJ, 2016). 56 schools were selected from a total of 65 schools offering secondary studies in Macau. The second stage of the selection process sampled students within sampled schools. Approximately 1% of students were selected from each school eligible population with equal probability. The number of participating students per school was not allowed to be less than 3, even when the targeted minimum percentage for student-response was met.

The survey was administered outside schools in the Spring of 2017. The participants were informed that the study aimed at measuring secondary students' perceptions on the main characteristics of Macau schools; that the study was absolutely anonymous; and that, even though they had volunteered to respond, they could decide to discontinue their participation in the study at any time. Instructions were provided both orally and in writing. Participants completed the questionnaire, normally, within 3 minutes.

Findings and Discussion

Tests were performed to check the reliability and validity of the developed instrument and its scales.

Reliability

The Cronbach's alpha coefficient was calculated, and a value near .9 obtained, suggesting excellent internal consistency of the items of the instrument. A preliminary analysis of the patterns of correlations between the 25 items of the questionnaire did not recommend the elimination of any item. They correlated fairly well, without any of the correlations being particularly large.

Factor analysis

Both Bartlett's test of sphericity (Bartlett, 1954) and the Kaiser-Meyer-Olkin measure of sampling factorial adequacy (Kaiser, 1974) suggested superb suitability of the dataset for factor analysis.

Despite there were no theoretical grounds for expecting that the factors were not fairly independent, an analysis of the correlation between factors after oblique rotations was conducted. These tests, using several methods of factor extraction and rotation, confirmed that the extracted factors were not markedly correlated. Assuming that the factorial solution was nearly orthogonal (cf. Tabachnick and Fiddell, 2007), a *Principal Components Analysis* with an orthogonal (*Varimax*) rotation was selected as the method of analysis. The Kaiser criterion (factors with eigenvalues greater than one) was the criterion used for deciding on the number of factors to be retained for rotation. A Scree plot was also computed to aid in that kind of decision.

The initial structure of factors that had emerged from the literature review was partially challenged by the factor analysis. An optimized structure, contemplating mostly items loading strongly on only one factor, materialized. This version of the instrument, contemplating 5 factors, each one represented by a significant number of strongly loading items, reduces the initial 25 variables instrument to one with only 20 (Figure 1).

Curriculum Autenticity
- *Scale 1.* Most of what is learned at this school is interesting
- *Scale 2.* The structure of the courses is good
- *Scale 3.* There is a good deal of choice over how students go about learning
- *Scale 4.* Most of what is learned at this school has "real world" application

Student-teacher Relationship
- *Scale 8.* Teachers don't just give information on the subject; they are concerned with improving the way students think
- *Scale 12.* Teachers expect all students to succeed at this school
- *Scale 13.* Teachers are approachable and provide extra assistance when students need it
- *Scale 15.* Students establish a close relationship with teachers at this school

School Life, Resources & Facilities
- *Scale 10.* The availability of learning resources is more than enough
- *Scale 16.* Students are provided with good quality facilities (classrooms, labs, Internet, library, cafeteria, etc.)
- *Scale 17.* Students are provided with good quality academic support (health services, financial aid, career services, study abroad program, etc.)
- *Scale 18.* Students are provided with beautiful, comfortable and very easy to get around facilities
- *Scale 19.* Students are provided with a wide choice of extracurricular activities (intramural sport and fitness programs, intramural performing arts programs, student body committed to community service, etc.)

School Conectedeness
- *Scale 21.* This school makes sure that students' raised concerns are well responded
- *Scale 22.* Most people at this school trust each other
- *Scale 23.* The primary concern of the headmaster in this school extends beyond rules and regulations, into the quality of education and welfare of students
- *Scale 25.* I feel I really belong to this school, I would recommend it to others.

Cognitive Engagement
- *Scale 11.* Students really have to understand the subject to get good marks in this school
- *Scale 14.* Students receive appropriate workload and study pressure at this school
- *Scale 20.* This school deals effectively with most learning hindrances (student and teacher absenteeism, bullying, plagiarism, etc.)

Figure 1. Optimized structure of items.

The new names adopted by some factors in this better internally differentiated framework deserves some explanation.

Curriculum authenticity

A curriculum is described as authentic when it combines relevant and rigorous instructional activities into a cohesive unit (Newmann, King, and Carmichael, 2007). The notion of a relevant curriculum is straightforward. A curriculum is more relevant the more it challenges students with activities and problems whose solution requires the development of real-world problem-solving capabilities. The concept of a rigorous curriculum, or a curriculum that does not underestimate the learning capacity of students, stems from Bloom's taxonomy (1956). A curriculum is more rigorous the more it manages to move students up the taxonomy to addresses higher levels of cognition (Blackburn, 2012). The content of a rigorous curriculum is not just interesting to students; it challenges their critical thinking and creative problem-solving abilities.

School connectedness

"School connectedness refers to the belief by students that adults in the school care about their learning and about them as individuals" (Blum & Libbey, 2004, p. 231). Students feel connected to schools where they feel safe and supported by staff and where expectations for academic success are high. The prevalence of meaningful relationships, based on trust, are, therefore, paramount. Students who feel disconnected from school evidence higher rates of anxiety and emotional distress (Shochet, Dadds, Hamm, & Montague, 2006). Disconnected students tend to be tardy, skip classes, and engage in disruptive behavior.

Cognitive engagement

This unexpected perceptual dimension was almost completely ignored by the preliminary literature review. The student body of a school, and thus the school itself, can be perceived as being more or less cognitively committed. The other possibility, reflecting a low level of cognitive engagement tends to be associated by the literature to behavioral engagement, or normative compliance (Fredricks *et al*., 2011; Luhmann, 1995). Students apparently make a distinction whether the student body of a school is in essence focused on learning, however surface or rote that learning may be, or mainly focused on complying with behavioral requirements (enhancing adherence to classroom rules, obeying directives on class attendance, homework completion, preparation for class, participation in class, attention, concentration, effort, persistence, and avoidance of risk behaviors, such as skipping school, etc.).

Results

The questionnaire was developed to not only to allow participants' quick response to its 25 items but also to allow an easy to grasp presentation of results. Average responses of each item are displayed bellow in a line graph that allows very straightforward inferences (Figure 2).

	Strongly Agree 1	Agree 2	Disagree 3	Strongly Disagree 4
Most of what is learned at this school is interesting				
The structure of the courses is good				
There is a good deal of choice over how students go about learning				
Most of what is learned at this school has "real world" application				
By studying at this school students guarantee a very successful future				
The value for money of the education provided by this school is high				
The teachers are knowledgeable at this school				
Teachers' explanations really help students grasp things better				
Teachers don't just give information on the subject; they are concerned with improving…				
The classroom quality of learning materials is high at this school				
Teachers expect all students to succeed at this school				
Teachers are approachable and provide extra assistance when students need it				
Students establish a close relationship with teachers at this school				
Students really have to understand the subject to get good marks in this school				
Students receive appropriate workload and study pressure at this school				
The availability of learning resources is more than enough				
Students are provided with good quality facilities				
Students are provided with good quality academic support				
Students are provided with beautiful, comfortable and very easy to get around facilities				
Students are provided with a wide choice of extracurricular activities				
This school deals effectively with most learning hindrances				
This school makes sure that students' raised concerns are well responded				
Most people at this school trust each other				
The primary concern of the headmaster in this school extends beyond rules and regulations…				
I feel I really belong to this school, I would recommend it to others				

Figure 2: Average responses of each item by all the students participating in the study.

As it is possible to see, students perceive Macau secondary school structure positively, though not enthusiastically. We can better understand this comprehensive measure of student perception through a simple bar graph providing a very elucidative picture of how Macau students, in general, perceive their schools along the main item aggregating factors identified by this study (Figure 3).

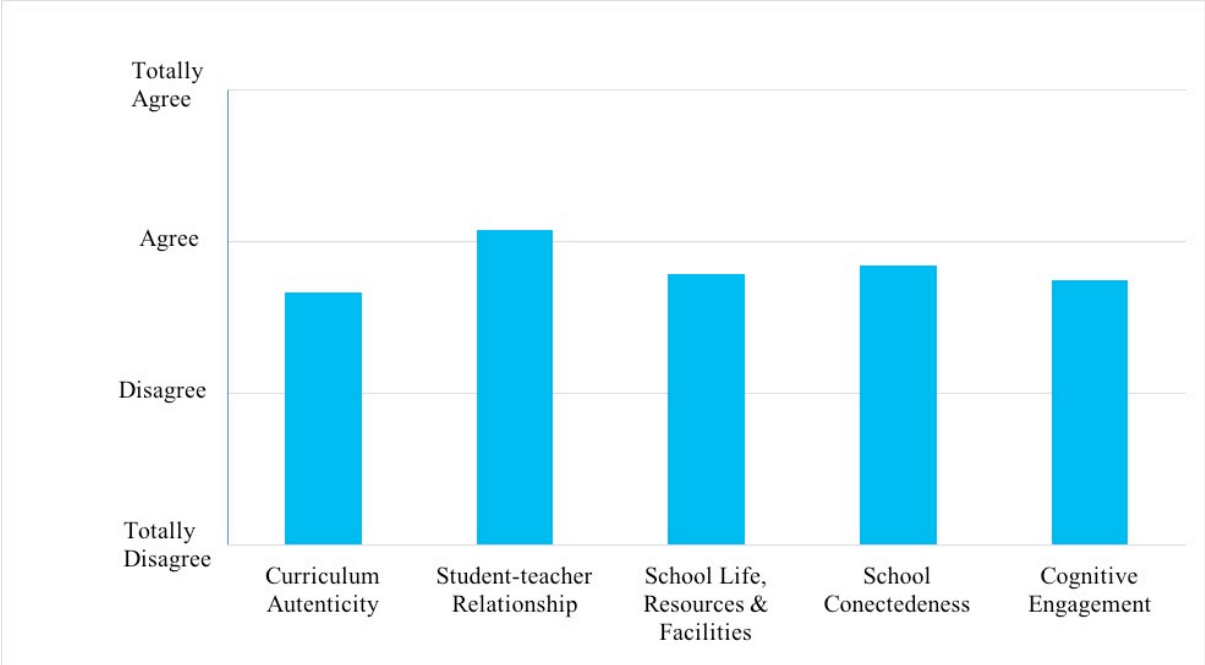

Figure 3. The average score of each factor by all students participating in the study.

The student-teacher relationship is the dimension of school experience students seem to perceive more favorably. Curriculum authenticity, on the other hand, seems to be the area where students' perceptions are the least positive of all. This latter result is disturbing, particularly in the context of Chinese pragmatic orientation and "extrinsic career-based motivation in making educational choices" (Lai *et al*., 2011, p. 282). Chinese pragmatism is well known and superbly illustrated by Deng Xiaoping's statement: "it doesn't matter whether a cat is white or black, as long as it catches mice" (Kesselman *et al*. 2009, p. 64). This result may suggest that the "cat" of Macau secondary school structure is experiencing difficulties in catching some "mice." The result may even contribute to explain why, year after year, so many Macau secondary school graduates choose to drop out the system and further their studies in Taiwan or Mainland China.

This global picture may well not be reflected in the results for specific schools, and no such claims are inferred. The study could not draw distinctions between schools, as the number of participants from each school does not constitute a representative sample of its student body. Nevertheless, the distribution of student perceptions already suggests that significant differences will ultimately be found among schools in Macau (Figure 4).

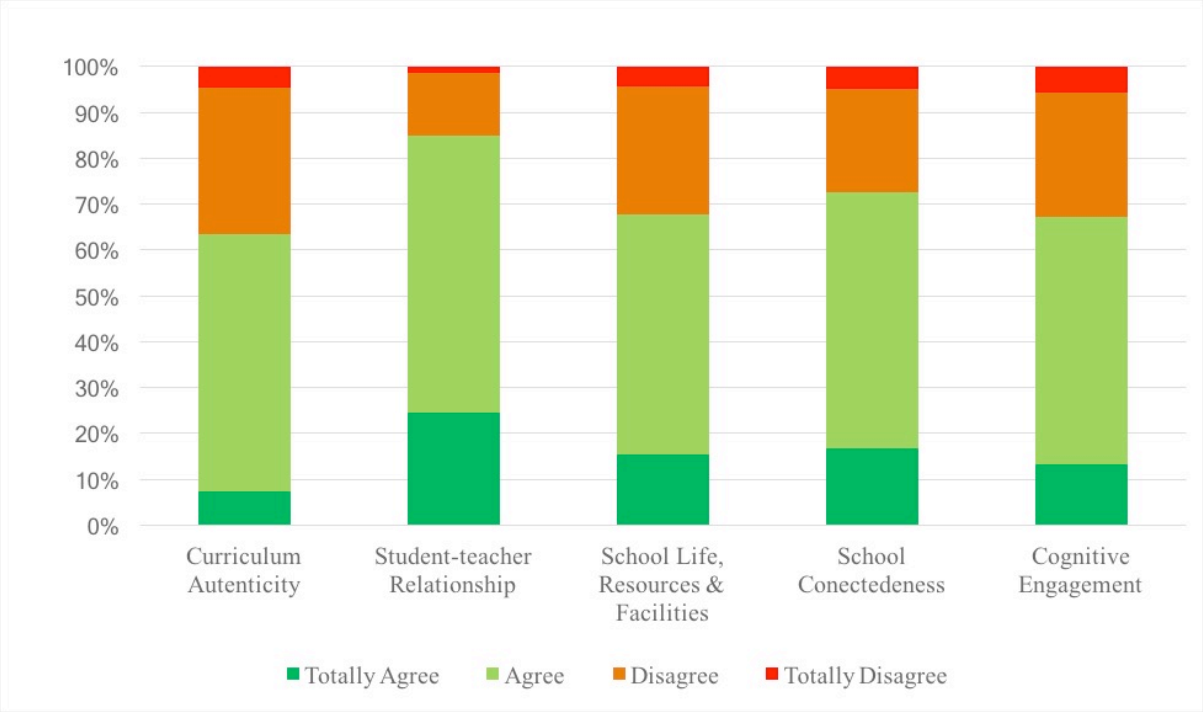

Figure 4. Distribution of responses of each factor by all the students participating in the study.

The perceptions concerning the curriculum and the cognitive engagement of students are the ones where these differences appear to be more striking. The unevenness of results in these areas can be a reflection of the fact Macau keeps being a highly stratified educational system, with schools segregated by the ability of its student body.

Conclusion

Some caution is recommended against drawing sharp conclusions from the above results. This study was not designed to test any hypotheses or theories. The rigorous assurance that the results will generalize to other samples of the same population requires a subsequent move into confirmatory factor analysis, which is clearly beyond the scope of this study.

Despite its exploratory nature, however, the study offers some insight into how Macau secondary school structure is perceived by its students. Results point to the student-teacher relationship being the aspect Macau students perceive more favorably. Results may also indicate the curriculum and the cognitive engagement of students as the two areas of major concern associated with secondary school education in Macau. Any of these dimensions of school effectiveness deserve urgent research attention. Particularly, the latter. Do the perceived levels of cognitive engagement report a flaw in the engagement of many students, or are them an inherent trait of the cognitive engagement expected at some schools? A non-negligible proportion of Macau secondary students, particularly the ones in lower track schools, is likely receiving low-quality instruction.

Student perceptions are valuable tools to inform educational improvement decisions. Despite its limitations, this study suggests that Macau market-based mechanisms of

regulating education may be privileging specific interests of a reduced number of institutional stakeholders and keeping competition between schools far from being healthy and at the service of public interest. While respecting and showing proper deference towards these other interests, all with their own legitimate claims on the educational system, it's possible to argue that there is plenty of room for holding Macau schools more accountable for ensuring that government subsidies are used appropriately and that each and every one of its students is on the path towards knowledge and achievement.

The primary purpose of education is no longer the spread of obedience like it used to be under the conditions of aristocratic societies. It's hardly acceptable that post-colonial education in Macau can accommodate so many students (and schools) disregarding sophisticated learning tied to real-world issues. If a higher proportion of Macau students can see fulfilled their civil right to a world-class education, or simply avoid being subjected to lower educational expectations or alternate standards, this will not only be beneficial to their personal and professional future but, ultimately, to the future of Macau as a whole.

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"Surau Merantau"; A Curriculum Development Based on Minangkabau Ethnic's Culture

Rosalinda Ayu Purbasari, Universitas Sebelas Maret, Indonesia
Muhammad Hanif, Universitas Sebelas Maret, Indonesia
Ahmad Hirzi Fadlillah Tovani, Universitas Sebelas Maret, Indonesia
Sunardi, Universitas Sebelas Maret, Indonesia

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Abstract
This study aims to determine the nature and purpose of *"Surau Merantau",* a school based on *Minangkabau* ethnical culture and its basis of curriculum development. "*Surau Merantau"* is a Junior High School carrying a concept of local culture from West Sumatera. Located in Tangerang, Banten, this school concerns on the growth of current generation who rated precocious physically, yet mentally unready. This research is a case study in qualitative approach. The subjects are the director, teachers, and students of *"Surau Merantau"*. To collect the data, writers use observation, interviews, and documentation, as well as the researchers' note. The analysis of the data uses interactive analysis. Based on the results of this study, the essence of *"Surau Merantau"* is a school adapting *Minangkabau* ethnical culture that focuses on wandering *(Merantau)* as learning experiences. The objective of "*Surau Merantau"* is to score mature generation in appropriate mental and physical growth. The curriculum is a natural synthesis of competence-based curriculum. Adopting the special philosophy of adult education (andragogy) of ethnic *Minangkabau*, the curriculum is in the form of a student-centered program combining correlated and eclectic curriculum. The instructional model uses "*TABEL*"; Tasking, Behaving, Experiencing, and Learning, a model where students learn directly to the expertise or in the workshop laboratory with class divisions based on skill they want to master. The curriculum management uses models of weekly, monthly, semester, and annual evaluation. Therefore, the result of this study can be used as a reference to establish the concept of education in nearly idea.

Keyword: Andragogy, Culture, Curriculum, Minagkabau, Surau Merantau

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Introduction

Schools in Indonesia use National Curriculum not School Based Curriculum, which means the government has the uniform standard for all schools in Indonesia. As Indonesia is an archipelago country which is derived from more than 17.000 islands and divided into 34 provinces, it seems impossible to unify the competence standard to all over schools in Indonesia.

During two decades (1994 – 2016), the curriculum has changed for six times. The rapid of curriculum made the assessment of the students cannot be evaluated wholly with the same curriculum. There must be three significant assessment elements to be analyzed first before changing the curriculum. They are pre, summative, and formative (Kelting-Gibson, 2013). The difficulty to do the assessment is because one student experienced different curriculum during their school periods from elementary to high school.

Another aspect to assess the student is, understanding that student has their own characteristics. They have different needs, different dreams, different characters, different point of view, and different characters. If they are treated the same, it will be like a doctor who has different patients, different illness, and different diagnoses but given only one prescription. In another way, it can be called a malpractice in education.

Besides the needs of the students, each province in Indonesia consists of various ethnic that has a unique and particular culture in educating the children. One of the ethnic with special characteristics in their education system is *Minangkabau*. It is an ethnic group originates from West Sumatera. This ethnic group has its own characteristic in educating their children called *Surau Merantau.*

Surau is derived from its local language means Mosque, while *Merantau* means wandering. In their philosophy, boys after they reach ten years old, they have to wander to find experiences in real life. They don't have any space in their house anymore and they may back home after they get their own definition about success and experiences to face the real life. They stay in *Surau* while they are wandering.

This model is adopted by a Junior High School in a form of curriculum. The school is called *Surau Merantau*, a school based on *Minangkabau* ethnical culture and its basis of curriculum development is from "*Surau Merantau"* concept. This study aims to determine the nature and purpose of *"Surau Merantau",* a school based on *Minangkabau* ethnical culture and its basis of curriculum development. This school concerns on the growth of current generation who rates precocious physically, yet mentally unready.

Literature Review

The goal of National Curriculum in Indonesia is the objectives obtained based on Nation's philosophy, ideally and comprehensively (Hamalik, 2013). It is mentioned in Indonesia National Education System Constitution the year of 2003 number 20, the 37th article, that the government designs the National Curriculum for nationwide uniformity of content and standards in education for all School in Indonesia. Yet, in

the 38th article it is mentioned that each of school in Indonesia is free to develop their content of curriculum based on their own local wisdom without ignoring the goal of National Curriculum.

The concept of local wisdom that is brought to develop the curriculum is to engage the member of units of a social system to accomplish the common goal. The social system constitutes a boundary within which an innovation of a curriculum diffuses (Rogers, 1983). The local society probably easily accepts the tradition which is a part of the tradition from their ethnic's culture. If it is developed in to the modernization of education, it will lessen the cons from the society.

To achieve the national goal, it must be break downed into to the instructional goal which can be achieved after teaching and learning process in the classroom. The instructional goal is classified into five domain, they are verbal information, intellectual skill, psychomotor skill, attitude, and cognitive strategies (W. Dick, L. Carey, J. O. Carey, 2002). "*TABEL"* is the method used in teaching and learning activities that covers those five domains.

To optimize the instructional objectives, teacher emphasizes the students to internalize every activity into habit by increasing their critical thinking, integrating thematic curriculum, and recognizing the student's multiple intelligence (Olivia, 2009). *"Surau Merantau"* uses the thematic Curriculum to gain the optimal instructional objectives.

Methodology

Design Of The Reserach

This research belongs to qualitative research with a case study method which investigate a bounded system (a case) or multiple bounded system (cases) over time through detailed, in depth data collection involving multiple source information and reports a case description and case-based themes (Creswell, 2007). There are at least six of evidence in case studies reflects the research of both of them: documents, archival record, interviews, direct observation, participant-observation and physical artifacts (Stake, 1995)

Data and Data Source

In this research, the data is the implementation of curriculum of *"Surau Merantau"* includes structure, components, method, technique, materials and output competences expected in implementation. The data source is the director, teacher, and students.

Procedure of Collecting Data

The procedure of collecting data are observation and interview. Observation is used for collecting data carried out by writer to make a note about the event or phenomenon happening by observation in the class. Interview is used foreliciting certain information from the respondent (Yin, 1994). In this research, he used unstuctured interviewed where the questions are not specifically limited and set so that the converstion can flow freely. The questions are asked in unstructured several topics can be discussed.

Technique of Analyzing Data

Technique of analyzing data of this research is descriptive qualitative. Descriptive qualitative research is the process of implications of data in order to make it easier to read (Singarimbun, 1995). The steps of analyzing data are classifying the data of observation and interview, analyzing the data from the result of observation and interview, then drawing the conclusion and suggesion based on proposed problem.

Discussion

Philosophy of Surau Merantau

Minangkabau is one ethnic group in West Sumatera, Indonesia which is popular with the tradition of wandering. They call it *Merantau*. The tradition teaches them to obtain an entrepreneur skill naturally due to fulfill their daily needs. Their entrepreneur skill has been proven for their business that spread widely in Indonesia. People, especially men are accustomed to apart from home and their parents since they are ten years old. Based on the tradition, they have to experience the reality, face the adventure, and may back home when they are success already.

During the journey when they are away from home, they are allowed to stay at mosque (*Surau*) at night. Besides a place for praying and staying, mosque is also place where local people learn more about religion. They also learn about the meaning of life. Formerly, mosque has the same function as school or *Madrasa*. The tradition of *Surau* and *Merantau* then become the root in developing the curriculum in the basis of andragogy education in the basis of *Minangkabau* Ethnic's Culture in Junior High School with the students at the age of eleven to thirteen.

Concept of Surau Merantau

There are four systems of *Minangkabau* Ethnic that are being used in adopting *"Surau Merantau"* curriculum. They are *Surau, Rantau, Lapau, and Tabek*. *Surau* which means mosque, a place for Muslim to pray is also a place to build students' character. The character that is formed in *Surau* is to build independent character, survival, life-management, strong faith, attitude, social ethic, social-entrepreneurship, and life experience.

Rantau means wandering. In the age of eleven, the students are separated from their parents. They seek knowledge apart from their home. It teaches them to gain the experience from nature. It develops their life-skill through experiences.

Lapau means café or bar. It doesn't mean that *Lapau* in *"Surau Merantau"* is a place for partying. The similar thing is the concept and analogies. *Lapau* is a place for student to have interaction with another student. The owner of the café or the bartender is a counselor. This place has a function to get rid from the humdrum or something stressed the students for a while. While the students can have a counseling, it is also a place to actualize their knowledge and skill. Besides, *Lapau* is build for information and solution center.

Tabek figures out as a river. A river is where local people interact with another. There might be also stranger. River is where the people catch fish to earn their living. It analogizes as the social environment around the school. Students are not only taught how they do a good manner to the teacher or their friends, but they are also taught how to behave with the society.

Programs in Surau Merantau

To achieve the objectives, *"Surau Merantau"* divides the programs into three parts. They are major program, supporting program, and instructional process. The major program is designed to facilitate the students' life skill. This program divides into forming and constructing. In forming the students' character, there are two important aspects students need, they are motivating, which comes from their teacher, parents, friends, and themselves, and constructing the mindset that is done by the teachers. If all aspects are met, the students find no obstacles in performing.

The supporting program is moral and skill. Moral support can be form of motivation support and atmosphere support. While the skill support is a constructive consequence. It is a kind of reward and punishment system.

The characteristics of instructional process is integrated, thematic, and supportive learning. As Ki Hajar Dewantara said, "*Tut wuri handayani*," which becomes the slogan of Indonesia Educational System that means as a leader, must provide the moral and self-esteem boost from the rear. This concept is summed up in a method of learning called *"TABEL"*.

Method of Learning

The method of learning that is used in *"Surau Merantau"* is *"TABEL":* Tasking, Behaving, Experiencing, and Learning. The teacher explains the purpose of the study then the instruction clearly in the very first beginning. This step is called Tasking. The role of teacher when the students do the task from the teacher (Behaving) is as supervisor. During getting experience (Experiencing) from the subject, the teacher is available as consultant when the students find problems in the field. The last but not least, students are discussed, led by the teacher about the experience of learning. The teacher will give confirmation, answer the student's question and draw the conclusion. To be a good coach, a teacher should encourage the students to do self evaluation and reflection (Milad, 2017).

The Difference between Surau Merantau, School, and Homeschooling

"Surau Merantau" is an alternative between schooling system and homeschooling system. It is a school education that brings home education. Students are educated with the basis of their local culture and tradition to gain learning experience. In schooling system, it is the teacher who determines what the students have to study and take the control to separate the failure and successful students (Raja, 2012). While homeschooling, is a control from parents to the children to set their own educational

system (Ng Kim-Soon, 2015). In*"Surau Merantau",* students are free to choose their own activities supervised by teachers.

Conclusion

"Surau Merantau" is an informal school in the same level of Junior High School which develop competence based curriculum and adopt the local culture, *Minangkabau* becoming a new concept of curriculum concerning on the mental growth of the students through the basis of andragogy. *"TABEL"* as the method of learning is a process compiled in strategy giving an adult style learning to the students. This special method differentiates *"Surau Merantau"* with schooling and homeschooling system. To support the learning activity, students are facilitated with *Surau, Rantau, Lapau, and Tabek* as the system to encourage them in solving the problem they found during learning process.

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Contact Email: rosalinda@student.uns.ac.id

Creating Opportunities for Change: Non-Cognitive Skills Instruction in the Classroom

Arnold Arao, Kurashiki Board of Education, Japan /
University of Missouri, United States

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Abstract
To address the demands of accountability mandates such as data-driven, evidence based instruction and the need for 21st century skills, educators have revisited practice looking for ways to nurture student motivation, increase time on task and promote learner autonomy. Classrooms have been digitized, material made accessible and initiatives implemented to create positive, school-wide environments. Yet, despite such changes, a number of educational challenges remain, including lower than expected graduation rates, an increase in mental, emotional and behavioural disorders (MEB) and less students pursuing and completing higher education. Unfortunately, such changes fail to address the fact that students often lack the competencies to effect lasting, positive change. Current research has demonstrated that competencies such as grit, resilience and tenacity -- referred to as non-cognitive factors -- have significant and lasting impact not only on students' academic outcomes but also across multiple domains (Durlak et al., 2011; Farrington, et al., 2012). These competencies have also proven to be effective preventive measures mediating risk factors for a number of MEBs including depression, substance abuse, aggressive behaviour and school withdrawal (Beets et al., 2009). Moreover, non-cognitive skills are far better predictors of student success over and above IQ, student GPA and academic test scores (Dweck at al., 2014). As more and more research points to the importance of non-cognitive skills instruction, educators are coming to understand that these competencies form the foundation from which students thrive.

Keywords: Non-cognitive skills, social emotional learning, achievement gap, developmental psychology, teacher practice

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Introduction

Every door is barred with examinations and opens but to the golden key of the crammer … not what is of most real use and importance in life, but what "pays best" in examination, is the test of desirability. *- Grant Allen*

21st century education is characterized by an emphasis on *educational equity.* Ensuring that every student is afforded the same *quality* of education and that schools function as effective equalizers of opportunity have guided much of current educational reform (Confrey, 2008, p. 35). Policy makers have argued for more exacting academic demands including more rigorous criteria for high school graduation, increased student participation in advanced coursework, and higher standards within course content. To achieve this goal, they have instituted test-based accountability measures holding schools responsible for student performance (Boykin & Noguera, 2011, p. viii). By engaging in a systematic pattern of coursework, raising expectations to spur student performance and emphasizing mastery of content knowledge, it is believed that students will become *college* and *career ready*, having developed the cognitive abilities required to succeed in post-secondary education and that set the foundation for ongoing success as they enter the workforce.

This focus on cognitive ability has been the cornerstone of post-industrial education. Modern societies draw on this belief and rely on standardized achievement tests to sort individuals and to assess and monitor the performance of schools, districts and even nations. However, despite over a decade of such measures, many students still struggle with schooling and gaps in academic performance persist[1] (Boykin & Noguera, 2011, p. 5; Confrey, 2008, pp. 36-38; Kautz, Heckman, Diris, ter Weel, & Borghans, 2014, p. 9).

These approaches and much of conventional schooling rely on the ability of tests to accurately reflect cognitive ability or "intelligence". Over the past century, researchers have revised their definitions of "intelligence" and subsequently refined measures of cognitive ability. It is now commonly accepted that intelligence has a number of facets. Psychologists generally distinguish between *fluid intelligence* (how quickly people learn, often measured using IQ tests), and *crystallized intelligence* (the amount of acquired knowledge, reflected in achievement tests). Unfortunately, such distinctions often fail to make their way into practice. Despite the fact that these tests measure different facets of intelligence, many use IQ tests, standardized achievement tests and even grades interchangeably "as mutual surrogates … measuring the same thing, even in the face of obvious differences" (Duckworth, Quinn, & Tsukayama, 2012, p. 440; Kautz et al., 2014, p. 13).

This usage of test scores to measure student ability is problematic, especially when such measures are considered to be reliable indicators of learner ability. One often replicated study, demonstrates how incentives can significantly increase IQ scores

[1] Though many educators are familiar with gaps defined along socio-economic (SES) lines, academic performance gaps span multiple dimensions. Gaps exist between first-order learning outcomes (traditional education consisting of "basic" knowledge and academic skills) and higher-order learning outcomes (referred to as "knowledge transfer skills", the generation of new knowledge by applying accumulated knowledge and skills to real-world situations). A third dimension encompasses the global academic achievement gaps and the existence of a skilled workforce (Boykin & Noguera, 2011, p.5).

particularly among low-IQ individuals. Using M&M candy as incentives for correct answers, participants raised their test scores by an average of 12 IQ points (Edlund, 1972). Other studies have examined the predictive factor of IQ, concluding that IQ does not sufficiently account for variations in life outcomes. Heckman (2008) looked at such outcomes including divorce rates, employability and earnings between high school graduates, dropouts and individuals passing the General Educational Development (GED) program[2]. Accounting for cognitive ability (IQ), GED recipients were no better than high school dropouts with shorter length of employment, lower earnings, poorer health and higher rates of divorce and incarceration (Kautz et al., 2014, pp. 25-26). A focus on cognitive ability as the basis for *college* and *career readiness* fails to account for other variables that allow students "to learn as much as he or she is capable of learning" (Wayman, Conoly, Gasko, & Stringfield, p. 172). A more holistic approach to education is required.

Educators who have spent time in the classroom intrinsically understand this and tend to prefer the measurement of student ability via course grades or class rank. Course grades not only measure student test performance, but also reflect student behaviour, affect and attitude, which are fundamental for academic, professional and social success (Farrington, et al., 2012, p. 3). As Duckworth and colleagues (2012) point out, standardized achievement tests fail to capture the qualities required to "cross the finish line" and graduate from college. Instead, direct teacher observations of student behaviour, represented in grades, measure a student's ability to "get it done" in a much more powerful way (p. 13).

These particular "patterns of thought, feelings and behaviour" (Bourghans, Duckworth, Heckman, & ter Weel, 2008, p. 974) contribute to the education process and are often not represented in traditional academic measures, particularly not in standardized academic achievement tests (Garcia, 2014, p. 6). As Heckman (2007) cautions, an overemphasis on "smarts" undermines the effects of human capital interventions because it is based on a misconception of learner development and ignores the importance of skills known to determine successful life outcomes.

These "skills", sometimes referred to as "soft skills" and more commonly as "non-cognitive skills", include problem-solving, critical thinking, emotional health, interpersonal skills, work ethic, persistence, creativity, self-control and community responsibility, which are closely tied to the *psychological personality* of the student. A number of studies indicate that not only are they crucial to academic performance, but also are better than IQ or standardized achievement tests at predicting academic and life outcomes (Bourghans et al., 2008; Duckworth et al., 2012; Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011; Farrington, et al., 2012; Garcia, 2014; Kautz et al., 2014). Though most schools and teachers are aware and concerned about the development of these skills, many feel that instruction of these skills is not feasible and difficult to justify given the competing demands for resources and difficulty predicting clear, discernable benefits to students' academic progress (Jones & Bouffard, 2012, p. 12; Zins, Bloodworth, Weissberg, & Walberg, 2004, p. 193).

[2] Passing the GED (achievement test) confers a certification of high school equivalence to American students

However, the world has become more complex, technical, multifaceted and competitive. Technological advances have enabled media to gain access into the most private spheres of our lives. Adolescents and young adults are bombarded with messages and models communicating quick, shortsighted decision-making, impulsive and violent behavior, as well as emotional dis-regulation (Elias, Parker, Kash, Weissberg, & O'Brien, 2008, p. 208). In the face of these influences, it is imperative students have the chances and support required to develop and practice the skills to "generate and coordinate flexible, adaptive responses to demands and to generate and capitalize on opportunities in the environment". (Garcia, 2014, p. 3; Kautz et al., 2014, p. 10; Schechtman, DeBarger, Dornsife, Rosier, & Yarnall, 2013, p. 75; Durlak et al., 2011, p. 406).

Unfortunately, the weakening of family and community support systems, institutions traditionally responsible for such informal education, has produced a deficiency in the socialization and development of learners that undermines the capability of students to "fulfill their personal and professional potentials" (Garcia, 2014).

A Framework for Understanding Non-Cognitive Skills Instruction

Anyone can become angry – that is easy … but to be angry with the right person, to the right degree, at the right time, for the right purpose, and in the right way – that is not easy. *- Aristotle, Nicomachean Ethics*

The idea of developing non-cognitive skills is not new. Since the time of Aristotle, philosophers, sociologists, psychologists and educators have recognized the importance of cultivating social and emotional competencies in learners. The American educational reformer John Dewey (1933) was one of the first to propose the inclusion of empathy and interpersonal skills in the formal educational environment. The success of works such as Howard Gardner's *Multiple Intelligences* (1993) and Daniel Goleman's *Emotional Intelligence* (1995), renewed interest in students' social and emotional development (Zins & Elias, 2006, p. 1). Practitioners and researchers, recognizing that IQ and test scores were unable to account for the varied results of individuals across both school and life outcomes, made concerted efforts to identify "the factors at play … when people of high IQ flounder and those of modest IQ do surprisingly well" (Goleman, 2009, p. 9). These "specific cognitive behaviorual and affective skills needed to effectively enact key roles in a given context" (Elias et al., 2008, p. 249) figure prominently in 21st century education, spanning cognitive, intrapersonal and interpersonal domains, and are considered essential for individuals to achieve their full potential as adults.

21ST CENTURY SKILLS AND COMPETENCIES

COGNITIVE COMPETENCIES	INTRAPERSONAL COMPETENCIES	INTERPERSONAL COMPETENCIES
COGNITIVE PROCESSES & STRATEGIES Critical thinking, problem solving, analysis, reason/argumentation, interpretation, decision making, adaptive learning, executive function	**INTELLECTUAL OPENNESS** Flexibility, adaptability, artistic & cultural appreciation, personal & social responsibility, appreciation for diversity, continuous learning, intellectual interest & curiosity	**POSITIVE CORE SELF-EVALUATION** Self-monitoring, self-evaluation, physical and psychological health
KNOWLEDGE Information literacy, technology literacy, oral & written communication, active listening	**WORK ETHIC / CONSCIENTIOUSNESS** Initiative, self-direction, responsibility, perseverance, productivity, grit, self-regulation, metacognitive skills	**TEAMWORK & COLLABORATION** Communication, collaboration, cooperation, coordination, interpersonal skills, empathy/perspective taking, trust, service orientation, conflict resolution, negotiation
CREATIVITY Creativity, innovation		**LEADERSHIP** Leadership, responsibility, assertive communication, self-presentation, social influence with others

Table 1. A conceptual model of 21st century skills and competencies (Adapted from Schechtman et al., 2013)

In a recent review, Farrington et al. (2012) situated these competencies within an academic context consisting of academic behaviours, learning strategies, social skills, academic perseverance and academic mindsets.

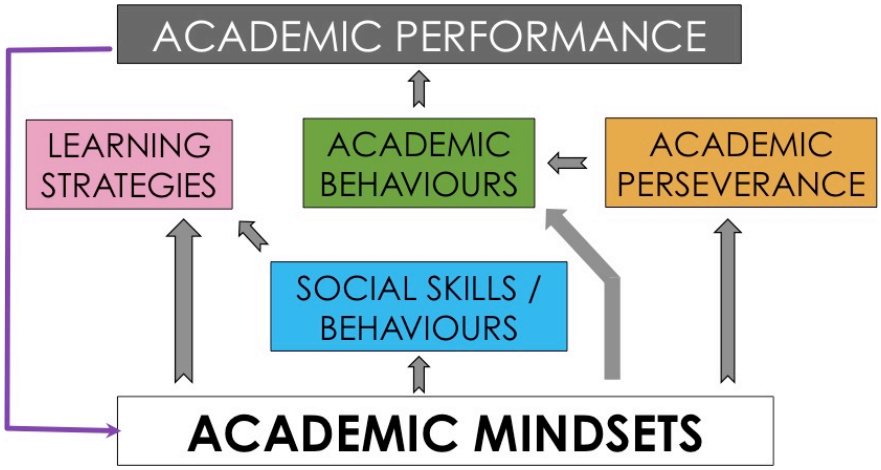

Figure 1. A conceptual model of non-cognitive skills on an academic framework (Adapted from Farrington et al., 2011)

1. *Academic behaviours* have the most direct impact on academic performance. All other competencies work through academic behaviours to impact academic performance.

2. *Social behaviours* have long been linked to positive academic performance across multiple domains (Beets, et al., 2009; Duckworth, Grant, Loew, Oettingen, & Gollwitzer, 2010). Positive social behaviours allow students to participate productively in classroom activities "interacting effectively with others and avoiding socially unacceptable responses" (Gresham & Elliott, p1990, p.1 as cited in Farrington et al., 2012, p. 48).

3. *Learning strategies* involve how learners perceive and respond to academic tasks and demands. As learners continue to implement effective strategies to engage with tasks, they develop a deeper repertoire from which to draw and become more adept at selecting and implementing learning strategies. This ability is a defining characteristic of mastery learning.
   Learning strategies can take the form of cognitive, metacognitive and resources oriented strategies and are effectively implemented in four phases:
   i. Defining and identifying the learning task;
   ii. Setting goals in relations to the task and developing plans to reach those goals;
   iii. Enact tactics/strategies and monitor progress;
   iv. Reconfiguring approaches to future tasks based on cumulative experience (Duckworth et al., 2010; Farrington, et al., 2012, p. 40).

4. *Academic perseverance* involves not only the initial momentum in a focused direction (motivation) but also the ability to maintain that momentum in the face of obstacles and distractions (tenacity / grit). This is integral to ensuring that implemented strategies and behaviours have the opportunity to succeed. Duckworth concluded that grit is "essential to high achievement" over and above the contributions of intelligence and ability, and that what students lack in tested achievement they can make up for in grit (Duckworth, Peterson, Matthews, & Kelly, 2007, p. 1088).

5. *Academic mindset* underscores all these competencies and consists of how learners views themselves in relation to the learning environment – the process of learning and the effort required to support academic performance. A central component to academic mindset is students' belief in their academic ability (self-efficacy), which has a substantial impact on what Dweck calls "academic tenacity" (i.e. perseverance). Students need to believe that their efforts will produce desired outcomes. Self-efficacy has been shown to predict levels of academic performance above and beyond measures of academic ability and history of test scores (Dweck, Walton, & Cohen, 2014, p. 5). Mindset can be understood to be aligned along the following parameters:
    - Fixed versus incremental theory of intelligence
    - Performance (performance approach or performance avoidance) versus Learning Goals (mastery goals)
    - Communal versus competitive goals (research shows that students are more motivated and successful when learning activities involve cooperative rather than competitive or individualistic goals)
    - Existence of long-term goals or academic purposes contributing to students' engagement and tenacity
    - Degree of self-regulation and self-control allow students to move beyond temporary distractions and remain focused on long-term achievement[3].

Research has demonstrated that non-cognitive skills can be developed and shaped and are more malleable than raw intelligence, which tends to solidify by the age of seven. The shaping of non-cognitive skills is dynamically complementary where early investment in competency building enhances the effects of future competency development both directly and through cross-pollination (Kautz et al., 2014, pp. 11, 61).

Like all instruction, non-cognitive skills instruction is effective when aligned with learner development. For example, during the adolescent years, non-cognitive skills are much more malleable than cognitive ability. Unlike interventions that target academic skills or academic behavior, which often appear spectacular in the short term but rarely if ever maintain their effects over a longer term, the most effective adolescent interventions target non-cognitive skills development (Kautz et al., 2014, pp. 7-8). As a preventive intervention, non-cognitive skills instruction is particularly crucial during sensitive periods of adolescence, transition to upper secondary and transition to post-secondary (tertiary) education.

Adolescence

The middle school years are characterized by decreases in school performance and engagement, observed in student grades (i.e. academic measures) and communicated in student self-reports of self-efficacy, motivation and attitude toward school (Farrington, et al., 2012, p. 55). During this time, there is a stage-environment mismatch between learner development and educational systems. As students become more individualistic and ready to assume greater responsibility for learning, middle schools assert more control and limit opportunities for students to exercise

[3] One notable example is Walter Mischel's Marshmallow experiment, which demonstrated a strong correlation between the ability to exercise self-control and improved scores on achievement tests (Shoda, Mischel, & Peake, 1990, p. 985).

autonomy and choice. Moreover, academic demands tend to decrease just as students develop the capability to engage in more complex, abstract forms of problem solving, (Blackwell, Trzesniewski, & Dweck, 2007, pp. 246-247).

Though young children are often unable to distinguish between ability and effort, adolescents begin to equate increased effort with a lack of ability. At a time when learners are particularly sensitive to social comparisons, middle school classrooms emphasize the relative standing of students based on their abilities, recognizing students who apparently succeed with little effort over their peers who struggle.

Transition to senior secondary

The high school environment produces vastly different challenges for learners. Along with managing more demanding coursework and navigating a variety of social challenges, students must wrestle with dynamic developmental changes, all this with less support and monitoring from teachers and parents (Farrington, et al., 2012, p. 59). In a survey of high school dropouts, 69% reported that their school environment did not motivate, inspire or support them to succeed, a feeling shared even among those who remained in school (Dweck et al., 2014, p. 2).

Most educators attribute declines in students' grades to students' low academic skills; however, drops in academic performance are the result of declines in effective academic behaviour, a characteristic common among all students regardless of academic proficiency. Indications of this change in academic behavior manifest early. Roderick (1994) found that, regardless of which grade students eventually dropped out, at-risk students experienced substantial declines in their academic behaviors (e.g. grades and attendance) as they *transitioned* into high school. This finding -- that a student's capacity to manage the high school transition highly predicts school dropout -- has been replicated in multiple studies (Farrington, et al., 2012, p. 59).

Transition to postsecondary

This period is often summarized as culminating in a deficit of social capital. Simply put, too few students pursue tertiary education and fewer still complete it. Currently in the U.S., for the first time in history, the retired population is more educated than those adults entering the workforce (Nagaoka, et al., 2013, p. 45).

Colleges demand a new kind of learning from students, requiring them to draw from the content knowledge of high school as they incorporate the more conceptually oriented learning prevalent in post-secondary education. Students need to adopt beneficial mindsets and effective learning strategies, utilizing and applying their synthesized knowledge to understand and solve real world situations (Farrington, et al., 2012, p. 69). They must engage in meta-learning processes, being aware of what they know and what they do not know, and being able to ask for and secure help when they need it (Yoder, 2014, p. 6). Essential to all this is students' self-control – their ability to overcome immediate gratification in pursuit of long-term goals. As Duckworth and Seligman (2006) point out "a major reason for students falling short of their intellectual potential [is] their failure to exercise self-discipline" (p. 939). *College readiness* entails that, over and above course content knowledge, students

need to develop appropriate non-cognitive skills to adapt to this new environment and make knowledge meaningful and pertinent.

This need for well-developed non-cognitive skills extends into the workforce. Results from a survey of over 400 employers in the United States indicate that, in contrast to writing, mathematics, science and history/geography, which ranked 6th, 15th, 16th and 19th respectively out of 20 skills, the four most important skills are oral communication, teamwork/collaboration, professionalism/work ethic and critical thinking/problem solving (Garcia, 2014, pp. 9-10; Kautz et al., 2014). Consistent with these findings, the confederation of British industry identifies a desire to learn, the ability to apply learning to improve and take advantage of change, communication, working with others, problem solving, the ability to manage one's self and one's career as foundations for *employability* (Kautz et al., 2014, p. 30).

The impact of non-cognitive skills both inside and outside the classroom argues for educators to redefine what it means to be *college* and *career ready* (Garcia, 2014, p. 10; Nagaoka, et al., 2013, p. 50).

Putting Non-Cognitive Skills into Practice

Excellence in education is when we do everything we can to make sure students become everything they can. *- Carol Ann Tomlinson*

The emphasis on quality measures of academic performance, though important to ensuring educational *equality*, is not enough to promote the aims of educational *equity* because it fails to address the condition required for learning. To ensure that each student has the best possible opportunities to learn, educators must first help students develop the capability to capitalize on learning opportunities. The competencies that function to fulfill this role have been described as non-cognitive skills. Understanding that academic behavior is not a pre-determined characteristic of students but rather a product of students' interaction with their educational environment, educators' goals should be to create safe and supportive contexts that create opportunities to practice and promote the development of non-cognitive skills necessary to succeed (Beets, et al., 2009; Durlak et al., 2011; Duckworth et al., 2010; Dweck et al., 2014; Jones & Bouffard, 2012; Yoder, 2014).

In an exhaustive meta-analysis, Durlak et al. (2011) identified four elements common to the most effective non-cognitive skill instruction, represented by the acronym S.A.F.E.:

1. **S**equenced, coordinated activities that connect to skills;
2. **A**ctive forms of learning;
3. **F**ocused on developing one or more social skills; and
4. **E**xplicit about targeting specific skills.

Non-cognitive skills instruction should also be intentional and relevant, seen as a natural component of classroom and school culture, reflect the collaborative efforts of students, staff, teachers and parents (i.e. all stakeholders), and also exist outside the classroom -- in hallways and playgrounds and even in students' homes and their communities (Jones & Bouffard, 2012, p. 7). Teachers can actively support and deliver non-cognitive skills instruction by ensuring their practice provides

opportunities for students to engage with and develop these skills. Drawing from Yoder (2014), the following is a general list of practices teachers can incorporate to foster non-cognitive skills in their students.

	DESCRIPTION	DETAILS
Student centered Discipline	Use proactive classroom management strategies rather than reactive, punitive measures through which students practice and learn now to regulate their own behaviour and problem solve difficult situations that arise.	Developing classroom rules and consequences and allow opportunities to practice these rules.
Teacher Language	Encourage effort over ability, focusing on what the student has accomplished and what the student needs to improve. Encourage and support students in their efforts at self-monitoring and self-regulating behaviour and emotions.	Use of metacognitive prompts and models
Responsibility & Choice	Provide students with controlled and meaning choices. Develop "democratic" classrooms where students are able to provide meaningful input into the development of classroom expectations and procedures as well as the academic content and even how academic content is learned.	Incorporate practices such as peer tutoring, reciprocal teaching, cross-age tutoring or participating in service learning or community service programs
Warmth and Support	Create structure in the classroom where students feel included and appreciated by peers and teachers	Improve communication density, implement morning meetings, set aside small moments throughout the day or using class projects to allow students opportunities to share what they have been learning
Cooperative Learning	Implement these qualities to ensure that cooperative learning is effective: ✓ Positive Interdependence ✓ Individual Accountability ✓ Promoting one another's success ✓ Applying interpersonal and social skills ✓ Group Process	Have students work in collaborative groups to develop rubrics to evaluate presentations, web content, literature etc.

Self-reflection and Self-assessment	Provide opportunities for students to measure their work and the work of their peers against performance standards Support students' goal-setting and monitoring progress toward their goals. Help students identify challenges and develop effective strategies to overcome these challenges Help student recognize when they need help and how to seek it	Timely and effective feedback allows students to recognize what strategies worked well and what didn't. Handwritten comments on report cards that suggests strategies to help students improve, substantially reduces the likelihood of school withdrawal.
Balanced Instruction	Provide students with different avenues to engage with material	Strive to effective balance direct instruction with active learning as well as collaborative with individual learning
Academic Press and Expectations	Academic press refers to a teachers' implementation of meaningful and challenging work Academic expectations focus on the teacher's belief that all students can and will succeed. Teachers should ensure that students feel pressure to succeed as well as feel responsible for accomplishing or failing to accomplish their academic work	Teachers with high (and achievable) expectations of their students produce students who are capable of achieving those expectations. Students who understood learning as understanding (versus memorization or doing academic tasks) are more likely to employ a wider range of learning strategies

Table 2. Effective teaching practices for non-cognitive skills instruction (Adapted from Yoder, N., 2014)

Conclusion

Education would be much more effective if its purpose was to ensure that by the time they leave school, every boy and girl should now how much they do not know and be imbued with a lifelong desire to know it. *- William Haley*

As teachers, it is tempting to ascribe poor academic performance to students' poor cognitive ability, lack of motivation or unwillingness to make an effort. This usually results in either teachers redoubling efforts to "get the message across", providing additional work and firmer guidance, or worse, teachers giving up on the student, ascribing poor academic performance to cognitive inability (*The student just isn't smart enough*). However, such practices tend to view academic performance without considering the conditions required to support learning. All students want to learn. Students continuously try to make sense of their environment and their academic behaviors reflect how successful they are at making meaning. Unfortunately, expectations are often placed on them that they are not yet capable of achieving, leading to frustration and disassociation from school and education. Increased expectation and greater academic press only serves to frustrate and alienate struggling students further. Facilitating the development of students'

capabilities by bolstering non-cognitive skills closes the gap between students' capabilities and the academic and developmental expectations placed on them.

A substantial body of research has shown that non-cognitive skills and cognitive development are interdependent. Even small changes in mindset have been demonstrated to produce dramatic results in academic gains (Blackwell, Trzesniewski, & Dweck, 2007; Duckworth et al., 2010; Duckworth & Seligman, 2006; Durlak et al., 2011). In a substantive meta-review, Durlak et al. (2011) concluded that the effects of non-cognitive skills interventions accounted for an 11-percentile difference on achievement test scores (p. 419).

In addition to academic performance, non-cognitive skills also predict a wide range of life outcomes, including employment, health and criminality. In one study, Yaeger and Dweck (2012) investigated how an incremental theory of intelligence (mindset) impacted real-world aggression. Building on the idea of incremental intelligence, the intervention emphasized the potential for change throughout one's lifetime, despite the difficulty and uncertainty of it. Subjects participated in a controlled experience of exclusion (a virtual game of catch). When participants were given the opportunity to retaliate, students in the treatment group showed less aggressive retaliation and more prosocial reaction[4]. In a one-year follow up, students in the incremental mindset group were more likely to be nominated by teachers for improved conduct both toward their peers and within the classroom (Yaeger & Dweck, 2012, p. 308).

The predictive power of non-cognitive skills rivals and even outperforms traditional measures of cognitive ability, predicting length of schooling, labour productivity, longevity, relationship stability and criminality *in addition to* academic performance. Despite the ability of non-cognitive skills to predict and impact success across school and life, non-cognitive skills instruction should by no means replace or even take away from the academic reforms and practices that enhance cognitive abilities. Instead, it should be integrated to foster development and instruction by making students capable of capitalizing on educational opportunities. Programs that promote non-cognitive skills instruction should be an integral part of an effective educational portfolio. Only when the development of the whole child becomes central to educational reform can educational equity be made a reality.

[4] Participants were asked to "retaliate" by giving a dish that was identified as distasteful by the person who had excluded them. In addition, they could include hot sauce and/or a personal note explaining their choice. The incremental mindset group allocated 40% less hot sauce than the control and were three times more willing to send a prosocial note explaining and even apologizing for their choice.

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Contact email: arnoldarao@gmail.com

Components of an Inclusive Postsecondary Transition Program for Older Students with Intellectual Disabilities at a Four-Year University

Jennifer Martin, Florida International University, USA
Diana M. Valle-Riestra, Florida International University, USA

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Abstract
This paper provides an overview of ***Project Panther PLUS*** (***Postsecondary Learning for Universal Success***), an inclusive postsecondary transition program for students with intellectual disabilities (ID) ages 22-26 at Florida International University (FIU) in Miami, Florida, USA. With an emphasis on employment and independent living, ***Panther PLUS*** provides students with the tools needed to change their lives for the better, specifically in areas such as Self-Determination and Career Development and Employment. During the two-year program, students have the opportunity to participate in the Students Transitioning to Adult Roles Person-Centered Planning (STAR PCP) process in which they invite members of their support system to help plan their future by setting short-term and long-term goals around five transition domains (e.g. Campus and Community Engagement). Setting and committing to these goals are crucial for success in the program, as students are required to participate in specialized internships and an intensive yearlong independent living component during their second year.
Unlike ***Panther PLUS***, many postsecondary transition programs focus on younger student populations, usually between the ages of 18-21. When designing ***PLUS***, it was imperative to consider the older population and its implications in terms of program design and support and the needs in the local community. Since these older students have been out of school for up to six years, we have learned, during our first year of implementation, that they often require more support and have modified the program design to better align student needs while still keeping with the primary goals of meaningful, paid employment and independent living upon graduation.

Keywords: postsecondary transition programs, special education, higher education, students with intellectual disabilities (ID)

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Introduction

Project Panther PLUS: Postsecondary Learning for Universal Success is a certificate, non-degree inclusive postsecondary transition program for students ages 22-26 with intellectual disabilities (ID) at the School of Education and Human Development at Florida International University (FIU) in Miami, Florida, USA. Launched in Summer 2016, the two-year program is designed to develop a well-rounded and self-sufficient young adult in an inclusive and supportive University community of learners who will be marketable for competitive, integrated, and paid employment and be able to live independently upon graduation.

Unlike ***Panther PLUS***, many postsecondary transition programs focus on younger student populations, usually between the ages of 18-22, as those students are eligible and receive federal funding for transition services outlined on their Individualized Education Plans (IEP) through a US federal law called the Individuals with Disabilities Education Act (IDEA, 2004). At the age of 22, students with disabilities age out of the provisions of IDEA (2004) and move into the adult service agencies in their communities (Grigal et. al., 2012). In fact, about one-third of postsecondary transition programs partner with the local K-12 public school system and allow the students to be dually enrolled at both the University and their high school (Plotner & Marshall, 2015), much like ***PLUS'*** sister program also at FIU – ***Project Panther LIFE: Learning Is For Everyone***.

Due to scarce research and the limited number of programs serving older populations, it was imperative to consider the population's unique needs and adapt the design to better align these needs with the pilot cohort. In this paper, we will be discussing the design of ***Project Panther PLUS***, including curriculum, system of supports, internship and employment opportunities, and independent living instruction along with the ways in which we have modified the program design during the first year of implementation to better fit student needs.

Before we delve into the design of the program, it is important to first understand the importance of a college education for this population and the federal legislation that allowed for the development of ***Project Panther PLUS***.

A College Education

For many students, attending college upon high school graduation is a rite of passage for a number of reasons including tradition, future career goals, and for some, even the social aspect of campus life. Receiving a college degree nearly guarantees a higher salary for many graduates as they are better equipped for the workforce. In fact, those adults earning a Bachelor's degree make almost twice as much as those with only a high school education (Papay & Griffin, 2015). College also provides students with a number of opportunities to develop soft skills such as problem solving, communication, and discipline, all of which are required for success in a future career (Grigal, Hart, & Weir, 2012).

However, students with ID did not always have the same opportunities and privileges in terms of acquiring a postsecondary education due to low expectations and minimal opportunities available (Grigal & Hart, 2013). In fact, only 23% of high school

students with intellectual and developmental disabilities (I/DD) attend a two-year or four-year college (Grigal & Hart, 2013) with only 11% of high school students with ID having the goal of attending an institute of higher education (IHE) on their educational plan (Grigal et. al., 2015). Research also shows that students with ID are less likely than their peers without a disability to graduate from high school (Mock & Love, 2012) and those students whom graduate often receive a special diploma that unfortunately, does not make them eligible for a college education.

The low statistics of students with ID attending college are not to be interpreted as evidence of a lack of student achievement but instead, a lack of understanding on the part of educators of these students' potential (Cook, Hayden, Wilczenski, & Poynton, 2015) coupled with low expectations from families and administrators. Until recently with the Higher Education Opportunity Act (HEOA), educators wrongly believed that encouraging a student with ID to attend college meant setting them up for failure but this misconception stems from the "educator's focus on disability and weakness rather than abilities, strengths, and learning variabilities" (Cook et. al., 2015, p. 42). As educators, it is important to remember that while these students do have a disability, they also have abilities that should be recognized, praised, and encouraged, as with any other student.

Considering the low numbers of students with ID receiving a postsecondary education, it is no surprise that it is also reflected in their employment outcomes. Students with ID are more likely to be unemployed, and even underemployed, and subsequently, are an at-risk population for indefinite poverty (Mock & Love, 2012). The employment rate gap only worsens as those with I/DD age as only 32% of adults ages 20-30 have secured employment when compared with 74% of adults without disabilities (Grigal & Hart, 2013).

Because of the staggering statistics of outcomes for students with ID, specifically those related to employment, the federal government took further action and reauthorized the HEOA of 2008 with specific provisions related to the postsecondary education of students with ID. Due to the HEOA (2008), students with ID now have unprecedented access to college in the form of Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID) (Mock & Love, 2012) and access to federal financial aid.

The Higher Education Opportunity Act (HEOA) & TPSID Programs

The HEOA of 2008 increased access to postsecondary education (PSE) for students with ID. The HEOA defines a student with intellectual disability as:

> ...a student (1) with "mental retardation" or cognitive impairment, characterized by significant limitations in intellectual and cognitive functioning, and adaptive behavior as expressed in conceptual, social, and practical adaptive skills; and (2) who is currently, or was formerly, eligible for a free appropriate public education under the IDEA (Mock & Love, 2012, p. 290).

In 2010, Congress authorized the creation of 27 model demonstration projects (TPSID programs) through grants and a TPSID National Coordinating Center (NCC) at the

University of Massachusetts Boston via the Office of Postsecondary Education (OPE), Think College (Papay & Griffin, 2015; Grigal & Hart, 2013). The NCC is tasked with providing oversight for the evaluation of the 27 colleges and universities that were awarded the TPSID model demonstration grants and gathering comprehensive data on outcomes and strategies (Papay & Griffin, 2015; Mock & Love, 2012).

The goal of TPSIDs is to "create, expand, or enhance high-quality, inclusive higher education experiences to support positive outcomes for individuals with I/DD" (Grigal & Hart, 2013, p. 1). The TPSID grants create access for students with ID to postsecondary education through a certificate or non-degree program in an inclusive academic and social environment alongside their peers without a disability on the college campus (Papay & Griffin, 2015). As required by the HEOA, TPSIDs must:

> … (1) [be] designed to support students with ID who are seeking to continue academic, career and technical, and independent living instruction in order to prepare for gainful employment; (2) include an advising and curriculum structure; (3) require students with ID participate on not less than a halftime basis with nondisabled students in (1) regular enrollment in credit-bearing courses; (2) auditing or participating in courses for which the student does not receive regular academic credit; (3) enrollment in noncredit-bearing, non-degree courses; or (4) participation in internships or work-based training (Mock & Love, 2012, p. 290).

Although the population of TPSIDs is that of students with ID, their goals for attending college are the same as any other student wishing to attend college including "employment, a better job than a high school diploma may offer, and lifelong social networks" (Mock & Love, 2012, p. 290).

Also through the HEOA, students with ID in programs approved the U.S. Department of Education (DOE) as a comprehensive transition and postsecondary (CTP) program are eligible to receive three (3) specific types of federal financial aid including Pell Grants, FSEOG grants, and Federal Work Study programs (Papay & Griffin, 2013; VanBergeijk & Cavanagh, 2012). Prior to the HEOA, federal financial aid was only available to full-time degree-seeking students which, for the most part, automatically disqualified students with ID in postsecondary transition programs (VanBergeijk & Cavanagh, 2012). Although this does not guarantee a free college education for students with ID, this is a leap in the right direction as these students now have more financial aid options for higher education and do not need to consider it a solely out of pocket expense, much like regular college students.

Program Overview

Project Panther PLUS is a partnership led by the School of Education and Human Development at FIU in collaboration with Parent to Parent of Miami, Inc., Best Buddies, and the Center for Independent Living (CIL)with a focus on employment and independent living while providing the student with an authentic college experience at a four-year University.

With the overarching goal of meaningful and paid employment and independent living in the community, the program also focuses on the following six objectives: (1) to utilize a person-centered-planning process that will enable students to establish and work toward meeting individual and program goals related to the transition domains of Career Development and Employment, Academic Enrichment, Campus and Community Engagement, Independent Living, and Self-Determination; (2) to enhance students' community participation and development of appropriate communication, social, and self-determination skills that will empower them to become self-advocates and independent, productive members of their community; (3) to provide students' families with the necessary information, resources, guidance, and support to facilitate their students' transition toward increased independence and employment; (4) to provide academic and social access and support so that students may participate in classroom based (University coursework) and experiential (campus life and community integration) learning activities; (5) to help students develop their independent living skills and achieve a healthy work/life balance through coursework and seminars/workshops centered on transition domains (e.g. health/nutrition, technology); and (6) to provide employment preparation for students as they work to develop the skills to participate in meaningful, inclusive employment opportunities on the University campus and South Florida community.

The program was launched in the Summer 2016 semester with five (5) students and plans to accept its second cohort of students for the Summer 2017 semester.

Program of Study (POS)

As ***Panther PLUS*** is a certificate, non-degree program, students enroll at the University as non-degree seeking students and audit courses instead of enrolling for college credit. Enrolling in courses for audit exposes the student to college-level material and allows the student to receive constructive feedback from the professor and interact with peers their age in the classroom.

Similar to the way degree-seeking students choose majors, students can select from two Areas of Specialization based on their future career goals – Health & Wellness and Computing & Technology – with additional areas to be designed for future cohorts. These Areas of Specialization allows for a further customized University experience as much of the coursework and the internship and employment experiences are specific to that area.

The Program of Study (POS) is aligned with transition domains (e.g., Career Development and Employment, Academic Enrichment, Self-Determination) and outlines the key components of the program: (a) required and elective University coursework, (b) campus-based specialized internships, (c) community-based specialized internships, (d) online continuing education courses and its accompanying seminars, (e) *Living Well and Working Well with a Disability* seminars, (f) one-year Independent Living Experience, and (f) required weekly workshops (e.g. Technology, Sexual Health, Financial Literacy, etc.). The POS is used as the main curricular framework to guide students throughout the program and is modified based on the students' chosen Area of Specialization.

The POS can be viewed as the requirements needed in order to graduate from the ***PLUS*** program and includes nine (9) general University courses (e.g. Essay Writing, Public Speaking), four (4) University courses in the student's selected Area of Specialization (e.g. Foundations of Nutrition, Computer Data Analysis), and five (5) online Ed2Go continuing education courses (e.g. Interpersonal Communication).

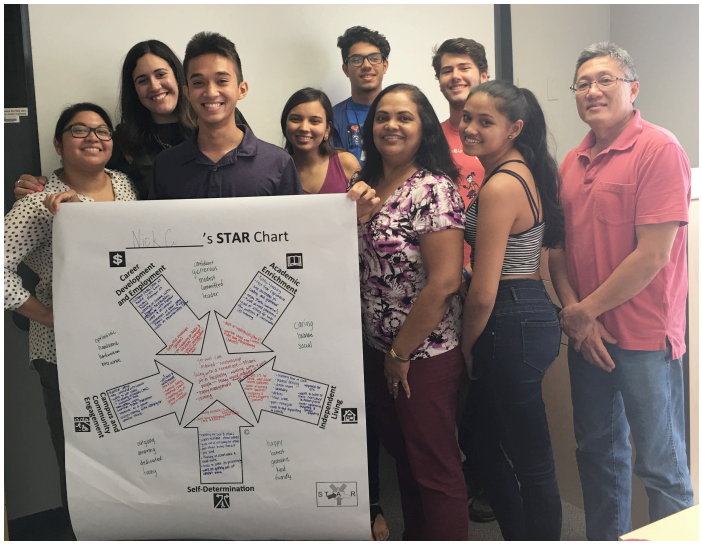
STAR PCP Process

Embedded in the POS is the Students Transitioning to Adult Roles (STAR) Person-Centered Planning (PCP) process that encourages students to plan their future by setting short-term and long-term goals around five transition domains with members of their support system: Career Development and Employment, Academic Enrichment, Independent Living, Self-Determination, & Campus and Community Engagement.

The STAR PCP process allows "students to become empowered to explore and share a vision of their own future [including] where they want to live, the work they want to do, the skills they need to learn, the interests they want to pursue, and the relationships they want to build" (Hayes & Muldoon, 2013, p. 5). Engaging in this process allows the student to form a roadmap of where they currently are and where they want to go.

The goal-oriented, student-centered process begins during their first semester of the program and is revisited every other semester until the exit interview during their last semester to ensure the student is working on the established goals. As with planning their future, the student is responsible for setting up all aspects of the STAR PCP meetings, which includes inviting members of their support system (e.g. family members, friends, and program staff), reserving a conference room, and planning refreshments.

The STAR chart collects information at the meeting from the student and his/her support system. The student guides the process by identifying their interests, strengths, and weaknesses along with feedback from his/her support system. The chart serves as a visual reminder that the student is the focus of the STAR PCP process (Hayes & Muldoon, 2013) and is especially important for families to allow their son or daughter to take control of his or her future.



Picture 1: ***Panther PLUS*** student and his support system at his STAR PCP Meeting.

In the outside areas of the star, members of the support system are asked to share positive adjectives that describe the student (e.g. helpful, friendly). In the middle of the star, the student takes the lead and shares his/her comprehensive vision for his/her future long-term (e.g. in five years) in terms of the five (5) transition domains, such as having full-time employment and/or living on their own or with a roommate. In order to reach the goals listed in the middle of the star, the student and his/her support system must first identify the levels the student is currently performing at in the transition domains (e.g. takes public transportation, does not like to ask for help).

With the current performance levels identified, the group must select the most appropriate short-term goals and skills (e.g. intern at library, learn debit card) in each domain that will need to be mastered in order to achieve the ultimate long-term goal and identify key persons that will assist them in doing so.

The completed STAR chart allows the students' support system to visualize the short- and long-term goals and allows program staff to complete the STAR Action Plan to track progress (e.g. initiating early planning stages of objective) on each goal identified.

The STAR PCP process is crucial for success in the program to utilize the coursework, activities, and specialized internships in order to build a strong resume that will help the student become who he/she wants to be.

System of Supports

In order to ensure success at the University, the program provides students with a system of supports including a Program Coordinator (PC), Student Support Specialist (SSS), Faculty Advisor, CIL Youth Transition Specialist, Parent to Parent Transition & Educational Support Specialist (TESS), and a Best Buddies Employment/Community Liaison (ECL).

The Program Coordinator is responsible for the daily implementation of the program and direct student services including advising. The Student Support Specialist (SSS) is a FIU graduate student who assists with the inclusion of ***Panther PLUS*** students in

University courses and campus life by fostering academic independence, encouraging student responsibility and accountability for their own learning, and modeling appropriate social behaviors. The SSS meets with the student individually one (1) to three (3) times per week for approximately one (1) to two (2) hours each session and completes weekly Individual Student Mentoring Logs. The SSS is also responsible for leading seminars centered on the Ed2Go online continuing education course for the semester to assist with comprehension of the course material and answer questions.

Beginning in their second semester of the program, ***Panther PLUS*** students are responsible for selecting and reaching out to a faculty member to serve as their faculty advisor. Faculty advisors provide advisement, guidance, and support by focusing on increasing access and participation for students and modeling the appropriate communication and interactions that take place between a University professor and a University student. Faculty advisors are also responsible for discussing research in the student's field of interest and assisting with course assignments/projects and the comprehension of coursework. Faculty advisors meet twice weekly with students for approximately a one (1) hour session.

Through the program's partnership with Parent to Parent of Miami, Inc., families receive support through a Transition & Educational Support Specialist (TESS) who keeps them updated about program events and activities. The design of the program is such that University staff can focus on providing direct support to the student, much like a regular degree-seeking program, and the TESS can focus on answering family questions and concerns and connecting families to resources and information.

Through the program's partnership with Best Buddies, students are provided with an Employment/Community Liaison (ECL) that serves as a job coach during their time in the ***Panther PLUS*** program. The ECL focuses on providing employment access and on-site support to the students prior to, during, and after their community-based specialized internships. Additionally, the ECL engages in an assessment process before beginning her work with each student to develop an Employment Profile with the student's employment needs and goals.

Through the program's partnership with the Center for Independent Living (CIL), students are required to attend twice-a-week required seminars titled *Living Well and Working Well with a Disability* led by a Youth Transition Specialist. These seminars assist ***PLUS*** students to develop important life skills while participating in meaningful learning opportunities that encourage independent living and social skills and equip them with the confidence, awareness, and hands-on experience needed to live in the community.

Although ***PLUS*** students are considered non-degree seeking students, they have the same access to the University resources as any other student, including the Disability Resource Center (DRC), Center for Academic Success (CfAS), and Counseling and Psychological Services (CAPS). The program highly encourages students to access these "natural supports" to receive further guidance in their coursework and integrate into campus life.

The DRC is responsible for providing all registered students with a disability with their course accommodations and communicating these learning needs to the professor. The program strongly encourages, but does not require, all students to register with the DRC in order to access their course accommodations including extended time on exams, a note taker, and limited distraction rooms.

The CfAS provides individual and group workshops and tutoring to assist in the development of academic skills needed to succeed at college. In order to further support the student, ***PLUS*** requires all students to register with the CfAS and receive at least one (1) hour of tutoring per week on their coursework.

CAPS provides mental health services to students that facilitate and enhance their personal learning, emotional well-being, and academic skills development through the Student Health Center. Unlike the CfAS, ***PLUS*** does not require that students receive regular counseling but highly encourage it and our support staff frequently refers students to CAPS in order to help cope with the daily stress and frustrations of managing class, internship, and employment.

Employment Preparation

As one of the main goals of ***Project Panther PLUS*** is employment, the program aims to prepare its students with the skills necessary to attain and maintain employment upon graduation, and even prior to that. During the two-year program, students participate in campus- and community-based specialized internships, attend required career workshops and activities focused on Career Development and Employment, and create and maintain an electronic portfolio (e-portfolio).

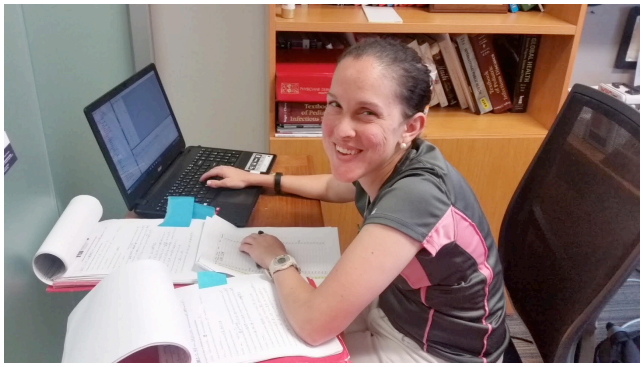
Career Workshops & Activities. In partnership with Best Buddies and FIU's Career Talent & Development office, ***PLUS*** students are required to attend a number of career workshops and activities throughout the academic year also aimed at equipping students with the necessary skills needed to secure and maintain employment.

In addition to offering individual employment support to the students, the Best Buddies Employment/Community Liaison (ECL) also offers workshops and events such as Resume Building & Interviewing Skills, Employability Skills Training, and a networking event with potential employer, throughout the academic year.

FIU's Career Talent & Development office also offers a number of workshops and trainings to all university students focused on making their career dreams a reality. In order to ensure that ***PLUS*** students are accessing the wide variety of workshops, students follow a semester-long tracking sheet that outlines required activities to be completed and uploaded to their e-portfolio before the end of the semester. Example activities include a Face-to-Face Meeting with the Assistant Director, Resume Building Workshop, and Professional Dining Etiquette.

Campus- & Community-Based Specialized Internships. The program is designed such that ***PLUS*** students participate in campus- and community-based specialized internships in their selected Area of Specialization (Computing & Technology or Health & Wellness) both on campus (semester 3) and in the community (semester 4 &

5) to further develop their employability skills and better prepare them for securing paid employment (final semester).



Picture 2: ***Panther PLUS*** student working at her campus-based internship site.

During these experiences, student interns are assigned a direct supervisor at each location to whom they report to when they arrive at their internship site. Their direct supervisor is responsible for identifying a list of tasks for the student intern to complete and models completion of tasks, challenges the student intern by increasing responsibilities, and provides ongoing feedback both to the student intern and to the program.

All internship sites, both on campus and in the community, are encouraged to follow the same new employee procedures as they would with any other employee and/or intern. Students are supported during their campus-based internship by the Student Support Specialist and during the community-based internship, by the Best Buddies Employment/Community Liaison. The Student Support Specialist visits and assists the student on-site at the campus-based internship by clarifying task lists, assisting with completion of tasks if needed, and assisting the student in communicating his/her needs to the internship supervisor.

The goal of these specialized internships is to provide the students with an unpaid employment experience that simulates paid employment to equip students with the foundational soft skills (people skills) needed to succeed in a job.

Independent Living Experience (ILE)

The Independent Living Experience (ILE) is a year-long experience in which students focus on developing their independent living and self-advocacy skills to better prepare them for their future. ILE focuses on fostering the development of independent living and self-advocacy skills, furthering self-determination, and promoting social and conflict resolution skills.

ILE begins with a three-month immersive on-campus experience wherein the students live on FIU's Biscayne Bay Campus at Bayview Apartments for the summer. The three-month experience is aimed at helping the students to transition away from the family home to campus living in order to prepare them for independent community living. Following the campus-based ILE where the students learn appropriate independent living skills, they then transition into independent community living with less support for the final two semesters of the program.

Through the program partnership, the Center for Independent Living (CIL) provides hands-on workshops, *Independent Living Mentoring*, three (3) times per week focused on further developing the students' independent living skills. The curriculum focuses on twelve (12) units including Money Management and Student Awareness, Meal Preparation, and Personal Grooming.

In order to further ensure success for the students in the campus-based ILE, students are supported by two (2) Live-In Resident Coordinators (LRC's), also FIU undergraduate or graduate students that live alongside the students in the apartments. The LRC's serve as peer facilitators to encourage a positive, healthy, and safe living environment that fosters independence through the promotion of daily independent living skills, self-care, and appropriate social behaviors. In addition to program support, there is a Resident Assistant (RA) assigned to every floor in the Bayview Apartments who is on-call in case of emergencies.

At the end of the three-month campus-based ILE, students are expected to move into independent living in community. In the community, students can live on their own or with a sibling, fellow ***PLUS*** students, or roommate of their choice. Due to each family's budget and personal situation, the program works closely with CIL and the students' family in selecting an apartment within the family's budget range and close to the university campus to allow for ease of accessibility for university courses.

Electronic Portfolio (E-Portfolio)

In order to increase marketability for employment, ***PLUS*** students are required to create and maintain an electronic portfolio (e-portfolio) through PortfolioGen that results in the culminating project of their time in the program. The Program Director and SSS guide students through the process of creating the e-portfolio and uploading artifacts (e.g. assignments) around the five transition domains: Career Development and Employment, Academic Enrichment, Independent Living, Self-Determination, & Campus and Community Engagement. The e-portfolio serves an electronic resume with examples of the student's work that can be provided to potential employers.

The artifacts are carefully designed by program staff to allow potential employers to read and see what the student has learned and accomplished during his or her time in the ***Panther PLUS*** program. Examples of artifacts include All About Me biography, Career Interview Paper, and Budgeting Plan.

Conclusion

Postsecondary transition programs provide students with ID, a historically marginalized population, access to an authentic college experience, a feat that was previously impossible before the passage of the HEOA (2008). The college experience goes well beyond simply learning in a college classroom though.

By being included on campus in University courses and campus life, students have access and options that help them to evolve into an adult learner and be in control of their learning, make choices, and expand their social circles with similar age peers and those with similar interests. The University experience allows students not only to

broaden their academic horizons but also to learn and further develop the foundational soft skills required for success in potential employment and in the community.

Project Panther PLUS aims to help in closing the achievement gap for employment and independent living outcomes for students with intellectual disabilities and their non-disabled peers. The program is designed to provide students with an authentic college experience in an inclusive University community of learners by allowing students to access, enroll, and participate in coursework and campus life. Although ***Project Panther PLUS*** is only in its first year of implementation, the program hopes to grow and expand in the coming years in order to help them to lead successful and fulfilling lives.

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Contact emails: jemartin@fiu.edu, riestrad@fiu.edu

Influence of Learning Motivation and Behavior on Learning Experience and Academic Satisfaction in Higher Education

Hisaki Kawamoto, Tokyo Institute of Technology, Japan
Yuki Watanabe, Tokyo Institute of Technology, Japan
Kazuyoshi Hidaka, Tokyo Institute of Technology, Japan

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Abstract
Managing and evaluating educational outcomes are challenging because of their intangibility and heterogeneity. In particular, Parrish's Learning Experience (LX), results in a change in value, motivation, or behavior related to study, is seldom to consider as an integral part of Perceived Outcome Quality (POQ). Therefore, our primary purpose is to propose a new evaluation method of POQ with LX to realize more accurate course evaluations. The research is based on the following research hypotheses: H1) Improving attitude toward learning positively affects LX; H2) Meta-cognition skills positively affect LX; H3) LX positively affects Student Outcome Satisfaction (SOS); H4) LX positively affects Net Promoter Score (NPS), students' voices and royalties. For the surveys, we made a questionnaire to measure LX levels, and made good use of the questionnaires in previous works to measure academic satisfaction, meta-cognition skill, academic outcomes, and attitudes. The voluntary participants were thirty Japanese students in Tokyo University of Science and seventeen Japanese students in Aomori Chuo Gakuin University. The results of Structural Equation Modeling showed that H1) Improvement of learning behavior had the considerable relationship to LX; H2) Meta-recognition skills did not have the significant relationship to LX; H3) LX did not have the significant relationship to SOS; and H4) LX made the significant impact on NPS. In conclusion, we could show that there were meaningful relationships among learning attitudes, LX, and NPS. Therefore, LX could be an important factor of the conceptual model of POQ to measure more accurate course evaluations.

Keywords: Learning experience; perceived service quality; course evaluation; academic satisfaction; net promoter score

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Introduction

Background

Quality assurance in education is a critical concern for many schools and instructors. The concept of Instructional Design (ID) has provided models and theories to make an educational instruction more effective and attractive for a long time. However, although the conceptualization of the service quality and the measurement of it have been debated in the service management field, there is still room for improvement in measurement of educational service quality. Parasuraman, Zeithaml and Berry (1985) mentions that service products have four different traits, intangibility, inseparability, heterogeneity, and perishability, compared to physical products'. Additionally, educational service has a delayed benefit service character which makes the quality management more challenging. Fujimura (2008) says that service benefits can be classified into two types, the immediate benefit service and the delayed benefit service. The immediate benefit service is that customers can feel benefits in a short time, such as food services and retailing services. The delayed benefit service is that customers need long-term to feel benefits, such as educational services and medical services. For example, educational outcomes are difficult to be obtained in a short time because not only it takes time to learn subjects but also hardworking is necessary to achieve goals. As well as, academic outcomes, such as test scores and grades, are probabilistic events because it may depend on students' intelligence and their efforts. Likewise, the outcome quality management in education is a quite difficult theme. Therefore, in this paper we focus on how to measure perceived outcome qualities (POQ) and how much students totally satisfy with their outcomes (Student Outcome Satisfaction: SOS).

Currently, a popular service quality concept is the American Customer Satisfaction Index (ACSI) model, the cross-industry measure of customer satisfaction, originally defined by Fornell (1992) and revised by Fornell and Johnson (1996) and University of Michigan (2005). Four years later, based on the ACSI model, Japanese Ministry of Economy, Trade and Industry (2009) developed the Japanese Customer Satisfaction Index (JCSI) model (Figure 1). Like the ACSI model, the JCSI model has six factors, customer expectations, perceived quality, perceived value, customer satisfaction, customer voices, and customer loyalty or advocacy, and the model shows relationships among the six factors.

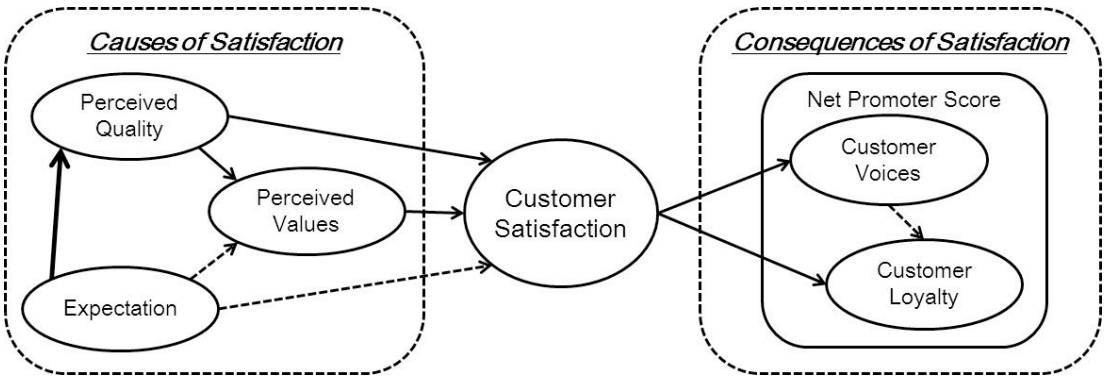

Figure 1: Japanese Customer Satisfaction Index Model (The solid-lines show the strong relations and the broken-lines indicate the weak relations)

Another famous service quality model was developed by Gronroos (1984) in Norway. His model focuses on measuring the perceived service quality, which has 2 dimensions, technical quality and functional quality. The technical quality is what the customer gets and the functional quality is how the customer gets the outcomes. After a decade, adding an

environmental dimension, Rust and Oliver (1994) revised Gronroos' model to the three-component model of service quality which has service product, service delivery and service environment. Furthermore, Brady and Cronin (2001) developed Rust and Oliver's model to the new perceived service quality model from their further research, which has three factors, outcome quality, interaction quality, and physical environmental quality (Figure 2). It is almost same as Rust and Oliver's concept; however, each dimension has three sub-categories so this is useful to break down educational service into quality units. Based on the model, the outcome quality has three sub-categories, waiting time, tangibles or results, and valence or non-monetary costs. This model indicates that customers evaluate the outcome quality not only by tangibles or results but by the waiting time to obtain them and by the valence to obtain them.

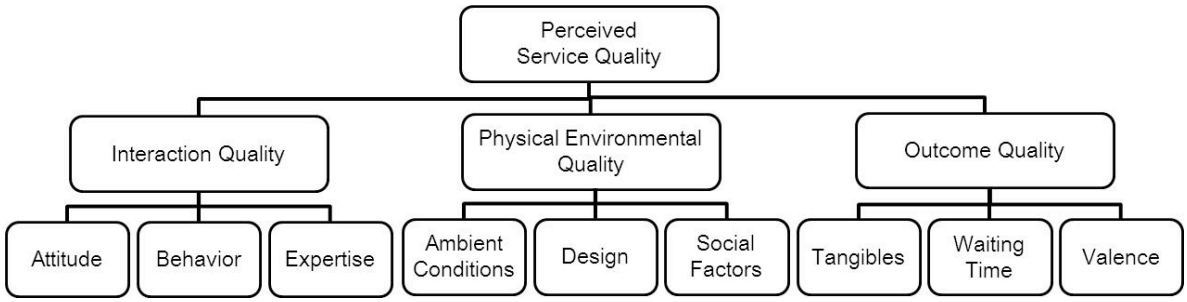

Figure 2: Brady and Cronin's conceptual model of perceived service quality

These models indicate the affective factors would be in the interaction quality or the physical environmental quality as the process quality. However, in educational situations, the affective factors, such as to realized learning values, to increase learning motivation, and to improve learning behavior, could be very important educational outcomes to promote learning engagement and sustainability. However, most service quality concepts do not include affective factors as tangibles of outcome quality.

In addition, the most popular learning motivation and satisfaction model, Keller's ARCS model, also does not include the affective factors as the consequence of education. Keller's ARCS model (Keller, 1983 1987) and Keller's ARCS-V model (Keller, 2009), which describes the emotional pass among the cognitive domain (performance and consequence), the affective domain (curiosity, motives, expectancy and effort), and academic satisfaction (Figure 3). His model shows that the affective domain affects the cognitive domain, then the cognitive domain influences the educational outcomes, and after that the educational outcome has an effect on academic satisfaction.

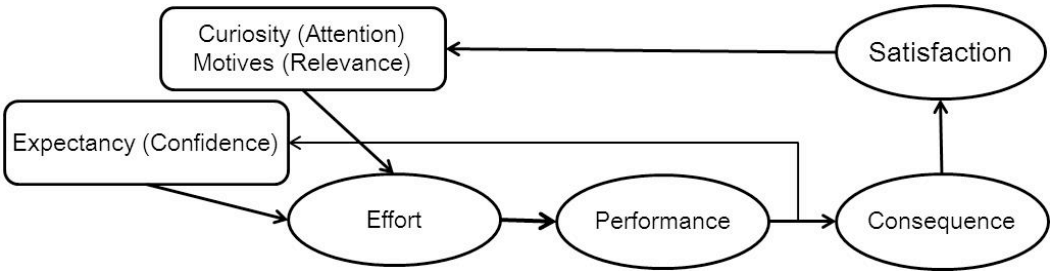

Figure 3: A Macro-Model of Motivation, Learning, and Performance

Enhancing Model

First of all, we focus on outcome quality measurement in this research, because it is the critical concern for schools and instructors, like we mentioned above. Secondly, the tangibles in the figure 2 were renamed learning outcomes. However, Brady and Cronin's model is too general to measure educational service quality so we need to break down learning outcomes into sub-categories. Then, we need to defined a new learning outcome measurements based on a new educational concept model.

In fact, several researchers argued about the educational outcomes. Bloom (1956) defined learning outcomes in the taxonomy of educational objectives. Based on his definition, the purpose of learning has a cognitive domain, an affective domain and a psychomotor domain. The cognitive domain includes knowledge and the intellectual development; the affective domain involves emotional feelings, values, motivations, and attitudes; the psychomotor domain has physical movement, coordination, and use of the motor-skills.

Another concept is Gagne's five categories of learning outcomes (Gagne, 1985), which includes information, intellectual skills, cognitive strategies, motor skills, and attitudes. This classification also tells us the educational outcome has three components, the cognitive domain (information, intellectual skills and cognitive strategies), the affective domain (attitudes), and the psychomotor domain (motor skills). The table 1 shows the summary of them. Therefore, we wander if the affective domain could be in the service quality model, excepted emotional feelings.

Table 1: Classifications of learning outcomes

Researcher	Cognitive domain	Affective domain	Psychomotor domain
Bloom (1956)	Knowledges Intellectual development	Emotional feelings Values Motivations Attitudes	Physical movement Coordination Use of the motor-skills
Gagne (1985)	Information Intellectual skills Cognitive strategies	Attitudes	Motor skills

Yet, based on the classification of learning outcomes, the affective factors could be one of the learning outcomes and it might affect satisfaction. However, although some researchers tried to find the relational pass from learning motivation to academic satisfaction, they concluded that the learning motivation and academic satisfaction did not have the significant pass relationships (Stephen, 2013; and more).

However, several points to be improved are in the previous research methodologies. First, they measured the affective factor at that moment but did not measure the change during the course work. For example, students may feel benefits recognizing how much they increased their interest and motivation and improved their learning behavior through a lecture; therefore, measuring how much growth is necessary as POQ. Secondly, students' characters were not considered. High metacognition skills may help students to see their changes of their affective achievements. Although test scores and final grades are explicit knowledge, motivational and behavioral changes are tacit knowledge (Somech, 1999). Furthermore, students' primary purpose of study is knowing and understanding the subject and obtaining high scores and grades. In contrast, enhancing their learning motivation and improving behavior are not their primary purpose. In fact, schools and teachers do not evaluate and tell students their changes of learning attitudes. Thus, affective achievements would be tacit achievements. Therefore, we think that the more students have metacognition skills, the more

they recognize the affective achievements. Finally, the affective achievements is intent of students so it probably affects the net promoter score (NPS), or students' voice and royalty (Reichheld, 2006). These ideas We mentioned above have not discussed enough yet.

We use the research framework for Learning Experience (LX) (Parrish & Wilson, 2008) as a part of outcomes in the affective domain. LX tells the levels how much students gain values and motivation of a particular subject through participation in the lecture. Parrish's LX concept has six levels; Level 1: no experience, which means students did not learn anything; Level 2: mindless routine, which means students did not have specific goals; Level 3: scattered/ incomplete activity, which means students gave up or changed their direction in the middle; Level 4: pleasant routine, which means students felt happy to study the subject and join the lecture; Level 5: challenging endeavors, which means students wanted to study hard; and Level 6: aesthetic experience, which means students realized that the subject was related to their future goals and wanted to study more.
Considered these ideas, this study focused on the investigation how much obtaining LX affects students' SOS and NPS. There have not been any researches which found the relationship among learning motivation, learning behavior, LX, POQ, SOS and NPS.

Objectives of Study

Enhancing the conceptual model of POQ of educational services our purpose (Figure 4). We focus on influence of LX as a part of POQ to students' SOS and NPS. These findings could realize more accurate course evaluations in higher education. The research is based on the following research hypotheses: H1) Improving attitude toward study positively affects LX;
H2) Metacognition skills positively affect LX; H3) LX positively affects SOS; H4) LX positively affects NPS, students' voices and royalties. The figure 4 shows the hypothetical research model, which combined JCSI model, Brady's POQ model with Parrish's LX, Bloom's taxonomy of objectives, and Keller's ARCS model.

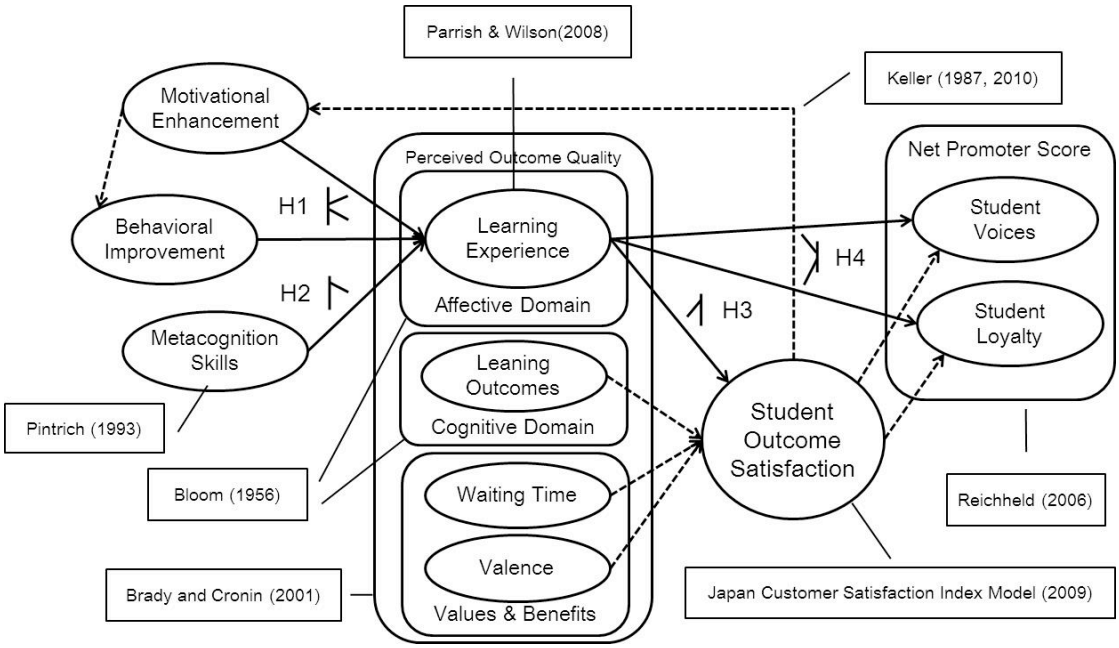

Figure 4: Enhanced conceptual model of educational POQ with LX and our hypotheses (Broken lines represent theories and models demonstrated by privious researches)

Research Methods

Participants

For this study, thirty Japanese college students at Teaching Methods in Information Studies (TMIS) class in Tokyo University of Science and seventeen Japanese college students at Interpersonal Communication I (ICI) class in Aomori Chuo Gakuin University were involved. The range of their age was from eighteen to twenty two (27 males and 20 females). The students in TMIS were in the similar age range and with the similar subject knowledge background. In the same way, the students in ICI had the similar backgrounds. However, the background of the students in ICI was different from the TMIS students'. The instructor in TMIS class and one in ICI class were different.

Data Collection

All students took the lecture every week and there were about fifteen lectures during the first semester in 2016. One lecture was one and half hours for two credits. The first semester of both universities was held from April 2016 to August 2016 and the second semester had been held from September 2016 to January 2017. In the first day of the second semester, students were asked to fill in a questionnaire about the class of the first semester in 2016. We used paper based questionnaires to measure their (1) POQ, (2) SOS, (3) NPS, and (4) meta-cognition skills. We used the same questionnaires to all forty seven students.

Questionnaires

The students were required to report on a Likert scale from 1 to 5 for all questions, excepted for LX level.

(1) POQ (Perceived Outcome Qualities)

This questionnaire consisted of thirteen questions assessing the outcome quality of the class. It is based on the perceived service quality concept (Brady and Cronin, 2001), which POQ has three sub-factors, waiting time, tangibles, and valence (Figure 2 & 4).

We made a question of waiting time and a question of valence. The waiting time and valence could be measured through the service costs concept (Lovelock, 1999). The service cost includes money, time, physical effort, psychological burdens and sensory burden. The questions are: "Do your overall results of this class convince you on the basis of your study hours during the semester?"; "Do your overall results of this class convince you on the basis of your efforts during the semester?". We did not include any questions about monetary costs because their parents usually paid the tuition.

The learning outcomes could be separated two factors, the cognitive achievements and the affective achievements, from the taxonomy of educational objectives (Table 1 & Figure 4). The cognitive domain has seven questions about qualities based on Enhancing Teaching-Learning Questionnaire (ESRC, 2009) The sample questions include: "How much you learned from this course unit? (1) Knowledge and understanding about the topics covered (2) Ability to think about ideas or to solve problems" Two questions about achievements (Tokyo Institute of Technology, 2009): "How much did you achieve your goal through this course unit?" and "How much did you succeed in the exam and the grade of this course?".

Parrish's LX level was measured by asking one question (Table2). To know the LX level of students we asked students to choose one level from the table2. The question is: "Please choose one level from the Table2, which is most applicable to your current situation?"

Table2: Measurement of LX level

Level of LX	Situations
Level 1	I have not learned anything what I need in this lecture. The lecture is not interesting.
Level 2	I just do what the teacher assigns. I do not have a specific goal in this lecture.
Level 3	I get interested in this subject through the lecture. However, I might not work hard if I am busy for something else.
Level 4	I get interested in the subject through the lecture and I work hard.
Level 5	I get interested in the subject through the lecture and work enthusiastically. I search or read related topics outside of the class.
Level 6	I get very interested in the subject through the lecture. I realize that this subject is very important for my future so I want to study more in the future.

(2) SOS (Student Outcome Satisfaction)
SOS is measured by one question: "Are you satisfied with your overall outcomes in this class?".

(3) NPS (Net Promotor Score)
NPS has two questions for students' voices and students' royalty. The question of the students' voice is that "Do you recommend this class to your friends or junior students?"; the question of the students' royalty is that "Do you want to take an advanced class or related class of this subject, if available?"

(4) Meta-cognition skills
This questionnaire consisted of six questions assessing the students' overall meta-recognition skills (Umemoto, 2013). The questions include: "I usually make my study schedule at first."; "I usually consider what I need to study and how I should study at first."; "When I am studying, I consider my study methods are effective."; "When I am studying, I usually check I could memorize what I learn."; "When I am studying, I try to know what I do not understand."; "I usually try to meet my study schedule."

Statistical analysis
This study employed descriptive statistics and reliability analysis to establish validity of the measurement scale. To identify the relational pass among learning motivation, learning behavior, LX, SOS and NPS, Structural Equation Modeling (SEM) was used. The data obtained from the survey were analyzed using SPSS and AMOS for Windows, Version 24.
Figure 5 shows our research model for SEM.

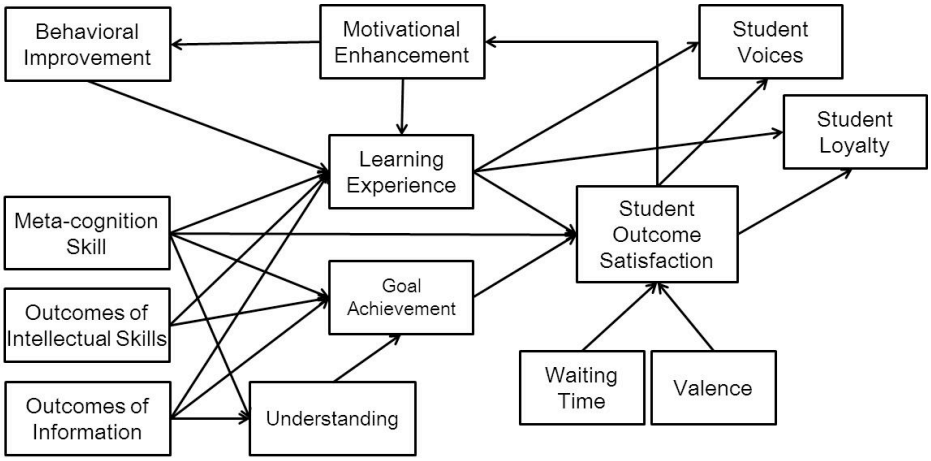

Figure 5: The research model for SEM

Results

Descriptive statistics

The table 3 shows the results of descriptive statistics. Since metacognition skills, information outcomes, and intellectual skill outcomes have subscale, we examined the internal consistency of them. The result showed that metacognition skills (α = .77) and intellectual skills (α = .71) have moderate internal consistency and information (α = .60) has low internal consistency. We checked the result of information in detail, but we could not find any problematic questions so we included all questions in this analysis.

Table3: *Means*, *SD*, α, and correlations among variables

	Mean	*SD*	α	1	2	3	4	5	6	7	8	9	10	11	12
1 SOS	4.17	.84													
2 LX	4.19	1.25		.36*											
3 Goal achievement	3.74	.74		.56**	.20										
4 Motivational enhancement	3.98	1.07		.49**	.44**	.46**									
5 Behaviors improvement	3.89	1.11		.42**	.47**	.45**	.88**								
6 Student voices	4.30	.93		.35*	.42**	.21	.36*	.39**							
7 Student royalty	4.02	1.11		.41**	.58**	.30*	.47**	.55**	.79**						
8 Metacognition skills	3.53	.80	.77	.21	.04	.01	-.06	-.01	.11	.04					
9 Understanding	3.43	1.19		.53**	.13	.62**	.48**	.45**	.14	.19	.02				
10 Information outcomes	3.96	.64	.60	.49**	.37*	.59**	.41**	.38**	.49**	.57**	.06	.29*			
11 Intellectual skill outcomes	3.74	.77	.71	.36*	.55**	.25	.46**	.37**	.20	.43**	.02	.21	.39**		
12 Waiting time	4.04	.96		.23	.03	.23	.49**	.44**	.18	.12	-.13	.52**	.17	.27	
13 Valence	4.06	.92		.35*	.07	.38**	.58**	.52**	.23	.19	.01	.59**	.34*	.22	.84**

*p<.05, **p<.01

The table 3 indicates that SOS was significantly correlated to LX, goal achievement, motivational enhancement, behavior improvement, student voices, and student royalty. The table 3 also says that LX was significantly correlated to SOS, motivational enhancement, behavior improvement, student voices, and student royalty. Finally, meta-cognition skills do not have the significant relationships to any other variables.

SEM

Using the experimental model in The figure 5, we conducted an analysis by AMOS and deleted arrows until all arrows' p-values are lower than 0.10. The figure 6 shows the results of SEM. We assessed model fit by evaluating the overall pattern of the fit indices, including the chi-square, comparative fit index (CFI), and the root-mean-square error of approximation (RMSEA). The fit indices of this model were χ^2 (40, N=47) = 50.46, p = .12, CFI =.96, and RMSEA = .075.

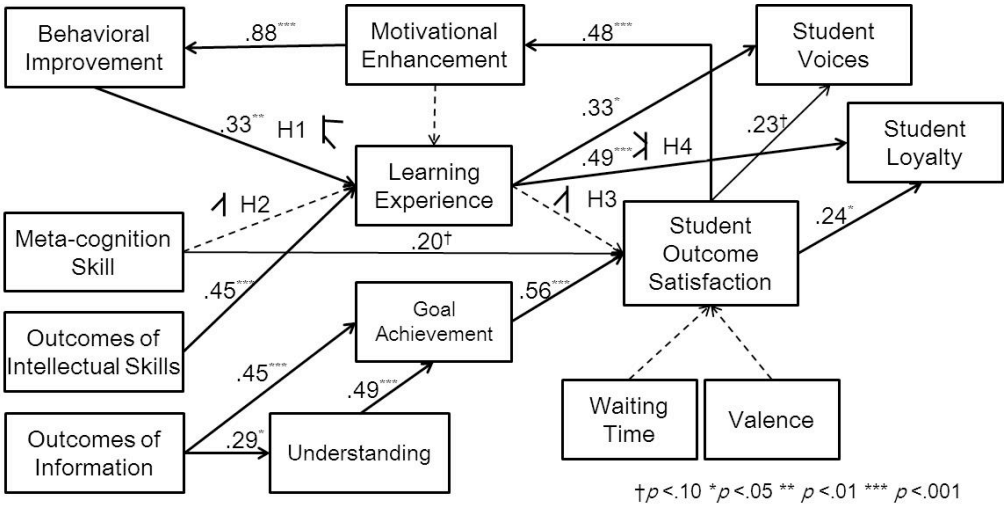

Figure 6: Results of SEM (The broken lines have neither the significant relationships nor the nonsignificant trends.)

Discussion

The main purpose of this study was to examine whether there were the significant relationships among motivational enhancement, behavioral improvement, LX, SOS, and NPS. We tested they hypothesis from H1 to H4.

H1): Motivational enhancement indirectly affects LX, and behavior improvement directly affected LX;

H2): Metacognition skills did not have the significant relationship to LX;

H3): LX did not have the significant relationship to LX;

H4): LX had the significant relationships not only to the student voices but to the student loyalty.

First of all, although motivational enhancement did not have the direct relationship to the LX, it indirectly affected the LX mediated by the behavioral improvement. This pass can be explained by Keller's ARCS model (Figure 3), which indicates the relational pass from goal achievement, SOS, motivation, and behavior. Thus, the result was reasonable.

In addition, meta-cognition skills did not have any correlation to other variables in the table 3. One problem of the analysis was that the meta-cognition skill was the overall meta-cognition

skills' score, although meta-cognition skills have three sub-categories, meta-cognition planning, meta-cognition control, and meta-cognition monitoring (Livingston, 1997). Each strategy has the different manner so if it is divided to three skills, each meta-cognition skill still has a potential to have the significant relationships to LX.
LX did not have the significant relationship to SOS. In fact, this result was consistent with the findings of Stephen (2013) that it could not find the significant relations between motivation and academic satisfaction. Possible situations to this result might be considered. First, some students' LX was high, but goal achievement and SOS were low. Second, students' LX was low, but the goal achievement and SOS were high.
Finally, support was found for the hypothesis five, which was the novel finding. Parrish (2011) says that LX can be obtained by increasing individual intention of learning engagement. Reichheld (2006) insists that NPS is individual intention of service sustainability.
The main findings of the study showed that the significant relational pass existed from motivational enhancement, to behavioral improvement, to LX and to NPS. Another key finding was that LX had the more significant effect on NPS than SOS had. The present results support Keller's ARCS model (1983), Parish's LX (2008), extend Brady, Cronin's perceived service quality model (2001), and JCSI model (2009).

Limitation

It has to be noted that the results should be considered in a cautious way as the study was applied in specific settings. The findings of this research may only be applicable in similar contexts. In addition, although we tried to control several educational setting variables, we realized that other variables might exist, such as social and economic environment, educational systems, and school environment, which might have influenced students' perceived outcome quality and outcome satisfaction.

Conclusion

In conclusion, this study confirms that there were meaningful relationships among learning attitudes, LX, and NPS in higher education. Therefore, LX could be an important factor of the conceptual model of POQ to measure more accurate course evaluations.

Acknowledgement

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Contact email: kawamoto.h.ac@m.titech.ac.jp

Integrating Mathematics in Interdisciplinary Study (IDS)

Lena Hui Lin Teo, Nanyang Girls' High School, Singapore
Christina Mei Chu Lye, Nanyang Girls' High School, Singapore
Choon Juen Sam, Nanyang Girls' High School, Singapore

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Abstract
This paper describes the rationale of designing an interdisciplinary curriculum in Nanyang Girls' High School, Singapore. It focuses on how the Mathematics teachers at the Secondary One level use the Mathematics content of the existing Sec One curriculum and re-engineer it in such a way that different subjects could be linked together through common macro-concepts, thus allowing students to make interdisciplinary connections that stretched their thinking and helped them to understand how combining different subjects together could help them to better understand real world problems that are relevant to their lives.

Keywords: Interdisciplinary, Sustainability, Mathematics, Connections

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Introduction

Faced with the complexities of the 21st century world, Nanyang Girls' High School (NYGH) as a premier education institution in Singapore realised that it must continue to review and update its curriculum in order to ensure relevance and future readiness. Education in NYGH not only shifted towards developing 21st century competencies such as innovation and creativity but there is also an emphasis on the strong NYGH values of diligence, prudence, respectability and simplicity that has stood the test of time for the last 100 years of the school's history. Learning and Thinking takes centre-stage with flexibility and choice being the driving principle for the development of the full potential of our students.

The curriculum team adopted the concept-based curriculum to provide connection between subjects and connection beyond the classrooms to the real world. In January 2016, the concept-based curriculum was introduced to all classes in Secondary One.

The Secondary One Concept-Based Curriculum

A concept-driven curriculum is not new to the school. In 2004 NYGH was one of the first batch of Integrated Programme Schools offering a concept-driven curriculum that focused on mainly content and disciplinary concepts. In the last twelve years, NYGH has tweaked its curriculum to ensure its relevance, including differentiated instruction (2009) and adopting 'agents of change' as an important lag student outcome (2012) to support the school's emphasis in Community Education. The school also adopted the Social Constructivist educational theory which espouses that knowledge is constructed through interaction with others, it emphasises the importance of student's ownership of learning as well as the environment and significant adults in shaping that learning.

Given these key milestones, the new Secondary One curriculum was designed to provide students with a Nanyang experience that is authentic as it engages all the senses and allows the students to create a meaningful, useful and shared outcome. It is personalised, allowing students to exercise choice that would fit their interest and ability. They will be learning knowledge and developing skills and attributes that are relevant for the 21st century world they live in.

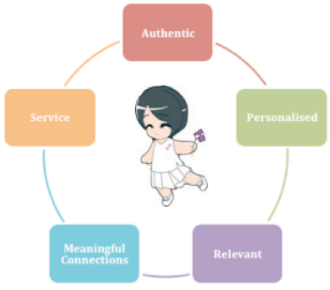

Figure 1: Features of the Nanyang Experience

Students were introduced to Disciplinary Studies such as Mathematics, Geography, History, Biology, Physics, Chemistry and Languages through the use of macro-

concepts or big ideas that cut across the disciplines and micro-concepts that are core to each discipline. Students also experience Interdisciplinary Studies (IDS) that allowed for connections through the use of macro-concepts for a more authentic and real world understanding and application of their learning.

Disciplinary Studies

Disciplinary Studies are designed to provide the rigour and depth. Five macro-concepts or big ideas are featured in the Secondary One Disciplinary Studies. These are evidence, change, communication, model and system. These macro-concepts allow students to go deep into their discipline and through these same concepts, begin to be aware of the connections across disciplines. To enable teachers from each discipline to visualise how the macro-concepts are connected across disciplines, a mapping of these macro-concepts is done. At Secondary One, much of the students' ability to see connection depends on their teacher's ability to facilitate the development of this understanding. New Unit plans were crafted using either the concept-based approach or the UbD approach. These Unit plans detailed how macro- and micro-concepts were unpacked within each discipline and given a specific knowledge and skills focus.

Interdisciplinary Studies

The Interdisciplinary Studies (IDS) has been designed to provide breadth and application. The IDS modules are designed to enable students to begin to deliberate and solve real world problems using the knowledge, skills and thinking taught in various disciplines/subjects from languages and the humanities to mathematics, science, art and music. This is part of the NYGH's total curriculum and instructional experience which is rigorous and enriched. At the same time, it provides students with an experience that is authentic, personalised and relevant. It also enables students to make meaningful connections, think and create for the good of the community.

IDS is also designed using the marco-concept of 'sustainability' and supported by 'model' and 'system'. At Secondary One, students explore the idea of sustainable living focusing on two basic human needs of food and shelter. Titled 'Garden to Table' and 'The Built Environment', these IDS modules moved beyond disciplines and embrace authenticity, allow students to empathise and establish connections with the public, the world of work and the environment or community. It also requires them to think innovatively and creatively using Design Thinking as a scaffold and process guide.

A scenario is given to help students contextualise how they should think about their IDS and what they need to do. The scenario is set in the future in the year 2036. The details of the scenario are shown below.

> **Scenario**
> The year is 2036, Nanyang Girls' High School is the first school to be awarded the Urban Redevelopment Authority's sustainable living award.
>
> As the winner of this award, the school has to organise an exposition to

communicate its winning ideas to the general public. Your group has been selected to present its winning project at the exposition.

The two IDS modules are exclusive but yet interconnected. See the details of the IDS modules in the table below.

Sustainability				
IDS modules	**Title**	**Interdisciplinary Connections**	**Macro-concepts**	**Enduring Questions**
Module 1	Garden to Table	• Food Studies • Geography of food Science of horticulture and population growth, Nutrients, Fertilisers • History of agriculture Maths – graphs and statistics • EL & CL – Communication and culture • Maker education	System	How can we improve food security for the future?
Module 2	The Built Environment	• Architecture • History of architecture Mathematics - geometry • Science of architecture Geography – settlements and urbanisation Aesthetics – acoustic and building materials • EL & CL – Communication • Maker education	Model	How can humans and nature live in harmony?

Table 1: Interdisciplinary Studies Modules in Secondary One 2016

Students will work on these IDS in groups made up of no more than 5 students depending on the total within the class.

An online learning community (OLC) was created as a one-stop station for critical and supplementary learning resources that will help students cope and extend their learning across multiple disciplines. This community serves as a blended learning environment supporting students' learning in both online and physical environments, pooling together collective knowledge and facilitate learning and communication among the Secondary One students.

Nurturing Critical Thinking

The new concept-based curriculum also seeks to nurture Critical Thinking as an important competency that our students must develop to understand and manage the 21st century. Teachers introduced the following strategies to encourage and nurture critical thinking.

Elements of Thought	Intellectual Standards	Habits of Mind
Purpose What am I trying to accomplish? What is my central aim? My purpose? **Information** What information am I using in coming to this conclusion? What experience have I had to support this claim? What information do I need to settle the question? **Inferences / Conclusions** How did I reach this conclusion? Is there another way to interpret the information? **Concepts** What is the main idea here? How could I explain this idea? **Assumptions** What am I taking for granted? What assumption(s) has led me to this conclusion? **Implications /Consequences** If someone accepted my position, what would be the implication(s)? What am I implying? **Points of View** From what point of view am I looking at this issue? Is there another point of view that I should consider? **Questions**	**Clarity** Could you elaborate further? Could you give me an example? **Accuracy** How could we verify or test this? How could we find out if this is true? **Precision** Could you give me more details? Could you be more specific? **Relevance** How does that help us with this issue? How does that relate to the problem? **Depth** What are some of the complexities of this question? What factors make this a difficult problem? **Breadth** Do we need to consider another point of view? Do we need to look at this from another perspective? **Logic** Does what you say follow from the evidence? Does this all make sense together? **Significance** Is this the most important problem to consider? Is this the central idea to focus on?	Persisting Thinking and Communicating with Clarity and Precision Managing Impulsivity Gathering Data Through All Senses Listening with Empathy and Understanding Creating, Imagining and Innovating Thinking Flexibly Responding with Wonderment and Awe Thinking About Thinking (Metacognition) Taking Responsible Risks Striving for Accuracy and Precision Finding Humour Questioning and Posing Problems Thinking Independently Applying Past Knowledge to New Situations Remaining Open to Continuous Learning

Elements of Thought	Intellectual Standards	Habits of Mind
What question(s) am I raising? What question(s) am I addressing?	**Fairness** Am I sympathetically representing the viewpoints of others? Do I have a vested interest in this issue?	

Table 2: Critical Thinking Table

Mathematics Literacy and Interdisciplinary Connections

As a discipline, mathematics is an expression of the human mind that reflects the basic elements of logic and intuition, analysis and construction, generality and individuality. In NYGH, the mission of the Mathematics Department is to nurture and enable students to:

- be a critical thinker and innovative problem solver who communicates her reasoning and collaborates with others;
- connect ideas within mathematics and between mathematics and other disciplines through applications of mathematics;
- and foster interest in mathematics, and appreciate the beauty of mathematics.

A concept-based curriculum thus means developing deep mathematical conceptual understanding in the students. This requires students to understand key ideas (by being helped to draw inferences about those ideas) and that they grasp the heuristic value of those ideas. Students are thus better able to use key mathematical ideas strategically to solve problems, especially non-routine contextual problems

In other words, students demonstrate understanding of

- which mathematical ideas are key, and why they are important;
- which ideas are useful in a particular context for problem solving;
- why and how key ideas aid in problem solving;
- how an idea or procedure is mathematically defensible;
- how to flexibly adapt and transfer previous experiences to new problems.

Integrating Mathematics in IDS

As mentioned earlier, the IDS is designed using the macro-concept of 'sustainability' and students explore the idea of sustainable living focusing on two basic human needs of food and shelter.

Months before the implementation of the IDS, teachers teaching the Secondary One level met on a regular basis to share with one another their schemes of work and discuss areas of collaboration. The core team comprising teacher representative from each discipline planning the IDS set up a connection matrix for each of the two modules. All teachers teaching that level could then contribute their ideas based on specific domains and concepts in each of these modules. This allowed teachers in each discipline to have knowledge of what the other disciplines were covering. They

could then continue sharing ideas and brainstorming on possible connections with another discipline without having to meet physically. In subsequent meetings, teachers met up in smaller groups to plan lessons related to these connections.

In the planning of the mathematics programme to support the IDS and the macro-concept 'sustainability', the team of mathematics teachers referred to the connection matrix and designed the curriculum to help students see the connections and relevance of mathematics with the other disciplines. This would then help the students see that mathematics is alive and everywhere.

The mathematics teachers planned the programme in order to promote the development of the mathematical skills within the context of teaching about global issues, sustainability and its connections to the other disciplines.
It is important that the students can see the link between the sustainability issues they had uncovered through the two IDS modules and the mathematical skills they were learning in the classroom.

Besides imparting mathematical skills, the programme hopes to address the environmental, economic and social dimensions. In the brainstorming of their various winning ideas, students make sustainable living choices which will have future environmental, economic and social impacts.

Garden to Table (Food)

Students were shown that the increase in world population followed an exponential growth rate due to the advancement in agriculture. This was an issue that was also being discussed in history when students explored the topic of agricultural revolution in early human history. The growth rate in the last century however did not follow a similar pattern, with the annual world population growth rate peaking in 1962 and coming down to almost half since then. This introduction of the history of the world population gives students a better understanding of the reasons behind its increase and also allows the students to see the connection between mathematics and history.

The statistical information on the world population and growth rates was represented graphically and students were able to use their mathematical skill of interpreting graphical information in an authentic situation. They were also better able to identify the misrepresentations that some of these graphs actually represented. They were able to transfer the knowledge of what they had learnt in Statistics to the current context.

Students were asked to find the annual percentage growth rates in Singapore across the different decades from 1970. This allowed them to understand the decrease in the growth rate despite the increase in population. The lesson also raised their awareness of the difference in growth rates between developed and developing countries.

Students were introduced to the concept of interpolation and extrapolation in graphs in order to estimate the values between and beyond the given data. This allowed them to understand how the prediction of population data may have been estimated.

Students were introduced to the various ways of measuring the growth of a plant. This enables the students to measure and record the growth of the plants that they had

decided to grow as part of the IDS. Many of the groups have included community gardens and vertical gardens into the new school building as one of the ways of promoting sustainable living. A learning journey to the community gardens in Singapore also allowed them to understand how the community was currently promoting sustainable living and also understand the difficulties and challenges faced in doing so.

Teachers also made references to My Healthy Plate, a visual guide designed by the Health Promotion Board of Singapore to enable Singaporeans to create balanced and healthy meals. This had been introduced to the students in Food Studies previously. In using this, the concept of proportion was highlighted when students looked at the proportion of nutrients they had consumed in a typical day. This reinforced the idea of having a healthy and balanced diet.

Apart from just teaching students the mathematical skills, teachers also touched on the concepts of food supply and food security, issues that were also discussed in geography.

The concern was that as the rate of growth of world food production had slowed down, the world food production may not be able to keep up with the expected increase in population. This was linked to the Malthusian Theory that their Geography teachers had shared with them. A graphical representation of this was shared so that they were better able to understand this theory better.

The uneven distribution of food supplies, across developed and developing countries, has also led to other social issues – hunger and malnutrition vs obesity and food wastage. Students were asked to complete a reflection of how they could contribute towards managing this dilemma.

With all these information provided to them, the students moved from understanding world issues to thinking of solutions that will contribute towards a positive change in school and in the community. Being aware of the effort put in into growing and cultivating the food that they have on their plates, which foods are healthy and the importance of food security will ensure that they make healthy and sustainable decisions for themselves and the world.

Built Environment (Shelter)

Real-world examples of symmetry in architecture were shown to the students. This enabled them to identify the symmetry in their school building and also build in these ideas and designs into their winning project.

In building their model, students had to take into consideration the scale used. A learning journey to the Urban Redevelopment Authority (URA) in Singapore gave them a better understanding of Singapore's effort in promoting sustainable living. They were also exposed to the scale used in models displayed at URA and models of the school building displayed in school. Some groups referred to these scales when building their own model. The students had learnt how to build models using recycled materials in their Art lessons.

In Mensuration, students studied the different Geometric shapes and concepts related to their area and volume. They applied these concepts in the alternative assessment when they had to calculate the area of different materials used in the construction of their model. A further extension in this assessment was to use the scale in their model to calculate the actual area of the school building. Students were also asked to comment on how they had ensured that their measurements and solutions were reasonable and realistic. They also had to specify all assumptions they had made in this task.

Conclusions

Through the use of the IDS, the students are better able to use their mathematical concepts strategically to solve the problem posed to them. This developed their mathematical skills within the context of teaching about global issues, sustainability and its connections to the other disciplines. It allowed students to make interdisciplinary connections that stretched their thinking and helped them to realise how they could better understand real world problems and find creative solutions by combining the key ideas and understanding gleaned from different disciplines. This makes learning of any discipline truly meaningful and thus Mathematics is no longer that abstract after all.

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Contact email: ho_choon_juen@nygh.edu.sg

A Survey of Scientific Competency of Grade 10th Students in Thailand

Piriyaporn Pilachai, Mahasarakham University, Thailand
Kanyarat Cojorn, Mahasarakham University, Thailand

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Abstract
The purpose of this study was to survey the scientific competency of grade 10th students. The sample was 141 students of academic year 2016 from Sarakhampittayakhom school in Thailand that selected by purposive sampling. The instrument was the 7 items from 2 situations of scientific competency test that measured in 3 sub-competencies including 1) explain phenomena scientifically, 2) evaluate and design scientific enquiry and 3) interpret data and evidence scientifically. The data was analyzed by using mean, percentage and standard deviation. The results showed that the mean score of scientific competency was 4.52 of 14. Each sub-competencies of scientific competency were explain phenomena scientifically, evaluate and design scientific enquiry and interpret data and evidence scientifically were 1.61 of 4, 1.40 of 2 and 1.50 of 8 respectively. In addition the results indicated that the scientific competency of students was low level and each sub-competencies of the scientific competency were medium, high and low level respectively.

Keywords: scientific competency

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Introduction

The results of education in Thailand indicate that it can not prepare the students to be the ability people in science and technology–based world (IPST. 2011: 29). It always sees from the news that people bank on a strange animal or tree. It indicates that more people did not use science in life. They are unreasonable thinking. They do not analyze the information to finding the answer systematically and do not investigate the information before they confide in. However, it was obviously seen from the international assessment of Programme for International Student Assessment (PISA). It was scientific literacy assessment that the scientific competency was a main. The results of scientific literacy in PISA of grade 9th students in Thailand in 2000, 2003, 2006, 2009, 2012 and 2015 were average scores of 421, 423, 429, 425, 444 and 421 respectively. It showed that the average scores of scientific literacy were less than the OECD average score from 2000 to 2015. The OECD average score was 500. (IPST. 2016: 4-6). It indicated that Thai's student had low level of scientific competency as compared with the international students.

In currently world, the scientific competency is important for lifelong learning. Forasmuchas, people get a lot of information, news and issues about science and technology. They must have the information, media, and technology skills. They can systematically solve the problem. They always ascribe or conclude from the information and separate between opinion and information. They must determine by verified data or evidence. If people do not have the scientific competency, they will decide amiss or not the best choice in daily life. It does not allow them to live in currently world happily. Consequently, the scientific competency allows people to be performance to know and understand the world, and use science to solve the problem in daily life (IPST. 2009: 7). The scientific competency consists of 3 sub-competencies including 1) explain phenomena scientifically competency which recognize, offer and evaluate explanations for a range of natural and technological phenomena. It is emphasis because the students must understand the phenomena or the situation. They can link science information to explanation and reasoning (Bayer and Davis. 2008: 382). Additionally, they can apply science knowledge appropriately in everyday life and the application must relate to the social environment and the culture (Suriyawadee. 2015: 1322). 2) Evaluate and design scientific enquiry competency which describe and appraise scientific investigations and propose ways of addressing questions scientifically. It is very important because the students usually encounter the phenomena or the situation. When they encounter the problem, they have to find the solution by using scientific process for solving the problem. Consequently, they must evaluate and design appropriately the solution in daily life. 3) Interpret data and evidence scientifically competency which analyze and evaluate data, claims and arguments in a variety of representations and draw appropriate scientific conclusions. Nowadays, the information is many type such a graph, a table, a diagram, and etc. The students must point out the major information, analyze, translate, and conclude correctly. Furthermore, they can propagate the data appropriately (OECD. 2012: 4). As a result, the scientific competency is important to preparing student to be ability for the future. It emphasizes knowledge and skills that must use in real life.

As mentioned, the scientific competency is very important to the students. It helps for decision making in daily life. It allows them to live in currently world gladly.

Consequently, the researchers must survey the scientific competency of grade 10th students in Sarakhampittayakhom school, Muang, Mahasarakham, Thailand. The researchers hope that the result of this study will index whether the students can be the quality citizen in the future. In addition, the researchers expect that the results will be useful to create the learning activities that encourage the scientific competency.

Research Purpose

The purpose of this study was to survey the scientific competency of grade 10th students.

Sample

The sample was 141 grade 10th students from 3 classrooms which have same levels of the learning achievement of academic year 2016 from Sarakhampittayakhom school in Thailand.

Research Instruments

The instrument in this research was the scientific competency created by Institute for the Promotion of Teaching Science and Technology (IPST) in Thailand. It was the 7 items from 2 situations of scientific competency test. The items were divided 2 types include 1) complex-multiple choices and 2) open-ended questions. It measured in 3 sub-competencies including 1) explain phenomena scientifically that the full score was 4, 2) evaluate and design scientific enquiry that the full score was 2 and 3) interpret data and evidence scientifically that the full score was 8. The test was scored by using the rubrics score which created of IPST. The results were interpreted by using the interpretation of mean which was divided to 3 levels including high, medium, and low respectively (Boonchom Srisa-ard. 1990). The criteria of interpretation of score showed in Table 1.

Levels	Mean core			
	Scientific competency (14)	Sub-competencies		
		Explain phenomena scientifically (4)	Evaluate and design scientific enquiry (2)	Interpret data and evidence scientifically (8)
High	0.00 - 4.66	0.00 – 0.66	0.00 – 1.33	0.00 – 2.66
Medium	4.67 - 9.33	0.67 – 1.33	1.34 – 2.67	2.67 – 5.33
Low	9.34 - 14.00	1.34 – 4.00	2.68 – 2.00	5.34 – 8.00

Table 1 The criteria of interpretation of mean score

As mentioned above, it sees that the scores of each sub-competency are not equal. The researchers measured mostly the sub-competency of interpret data and evidence scientifically. The second was the sub-competency of explain phenomena scientifically. The minimal measurement was the sub-competency of evaluate and design scientific enquiry. It caused from the indicator in the national basic education curriculum for high school. The most important indicator for high school required the students to analyze data, interpret meanings of data and evaluate conformity of the conclusions or main substance for verification with the hypotheses. It found that this

indicator conformed with the sub-competency of interpret data and evidence scientifically. Moreover, the indicator still required the students capability in applying the results from exploration and verification, regarding the methodology and bodies of knowledge, applying results to problem-solving in new situations and in real life which related to the sub-competency of explain phenomena scientifically. In addition, the requirement of the curriculum standard need the students to pose questions and plan for observation and propose methods for exploration and verification, collect data systematically and accurately record results of exploration and verification which related to the sub-competency of evaluate and design scientific enquiry.

Procedure

In this research, the data of the scientific competency of grade 10th students was collected by using the scientific competency test. The process of collecting data as following:

1. The researchers selected the sample from 3 classrooms of grade 10th student in academic year 2016 from Sarakhampittayakhom school by using purposive sampling.
2. The researchers asked the students to do the test for 1 hour.
3. The data was collected and analyzed by using mean, percentage and standard deviation

Results

According to the data of the scientific competency that consists of 3 sub-competencies including 1) explain phenomena scientifically, 2) evaluate and design scientific enquiry and 3) interpret data and evidence scientifically. It was collected by the scientific competency test from grade 10th students of academic year 2016 from Sarakhampittayakhom school in Thailand. The data were presented in Table 2.

	Full score	$\bar{X}$	S.D.	Level
Scientific competency	14	4.52	1.96	Low
Sub-competencies				
- Explain phenomena scientifically	4	1.61	0.96	Medium
- Evaluate and design scientific enquiry	2	1.40	0.70	High
- Interpret data and evidence scientifically	8	1.50	1.50	Low

Table 2 Mean score and level of the scientific competency

The students' mean score of the scientific competency was 4.52. It indicated that the students' scientific competency was low level. In addition, the mean score of the sub-competency of explain phenomena scientifically was 1.61. The mean score indicated that it was medium level. Moreover, the mean score of the sub-competency of evaluate and design scientific enquiry was 1.40. The mean score indicated that it was high level. Furthermore, the mean score of the sub-competency of interpret data and evidence scientifically was 1.50. The mean score indicated that it was low level.

Conclusion and discussion

Form the results, the mean score of the scientific competency showed that the students' score was 4.52 of 14. It indicated that the scientific competency of students was low level. In consideration of the learning activity, the inquiry based learning (5E) was the standard learning activity that Institute for the Promotion of Teaching Science and Technology (IPST) promoted for every science classroom in Thailand. Exactly, the inquiry based learning (5E) can support the scientific competency because the students must create the problem from the situation. In order to answer the questions, students work individually or in small groups to explore, observe, and discover the answers. They have to do by themselves. Consequently, the skills that support the scientific competency are practiced. In fact, the Thai context does not support the 5Es learning activities such as the period of learning activity. It is not enough to create the appropriate learning activity. It is only sufficient for allowing the students to do the tasks hurriedly but not enough for paying attention to the activity. As a result, the skills that support the scientific competency are rarely practiced. Moreover, the instructional media that the teacher prepares are not enough, various, and appropriate. Thus, the students do not practice by a wide variety of tasks. From the above reasons, it affects the students' scientific competency was low level. The result was similar to the finding of Institute for the Promotion of Teaching Science and Technology (2016: 16) studied the results of the scientific competency in Thailand. The results showed that the students' mean score was under the office of the basic education commission (432). It indicated that the students were level 2 of the scientific competency. This level was basic level that the students begin to know and take advantage of life's knowledge.

Considering in the sub-competency of explain phenomena scientifically, the mean score was 1.61 of 4. It indicated that the sub-competency of explain phenomena scientifically was medium level. In consideration of the learning activity, the inquiry based learning (5E) was teaching that the students constructed the knowledge by themself. It consisted of 5 steps including 1) engagement, 2) exploration, 3) explanation, 4) elaboration, and 5) evaluation. The explanation step supports the sub-competency of the explain phenomena scientifically. This step is the presentation of the data that is collected, analyzed and translated for explain the problem situation. Hence, they practice to connect the information for the explanation. Furthermore, the presentation allows students to create many format of the presentation such as a model, a picture, a graph, and other. Focus of the learning activity, the teacher can not provide a variety of learning resources for students. The information does not have many formats. It is often texts and picture. Sometimes it is graphs, and hardly ever models. Therefore, the students always conclude and present the information that they collected and the teacher prepared. Consequently, they do not practice to present by using all of formats. Moreover, the students seldom analyze and translate the data from graphs and models. They can not improve these skills fully. In addition, the step that also supported the sub-competency of explain phenomena scientifically is the elaboration. This step is application of the explored knowledge. It is brought to explain the new situation or the phenomena. Therefore, this step allows students to connect the knowledge as well (IPST. 2003). In the classroom, the teacher arranges a new situation that rarely links with new concepts. The teacher does not guide the students to link the new knowledge and the old knowledge or other issues together. Consequently, the students rarely connect the information from many topics. They

normally bring information to explain the situation directly without connection. They can not improve this skill completely. All of mentioned above cause the level of the sub-competency of the explain phenomena scientifically was medium. Similary, Jutamas (2014: 5-6) studied the effects of learning activities in the Genetics using 5 Es and Six Thinking Hats to Enhance Explain Phenomena Scientifically Competency. The results showed that competency in higher posttest criteria 75/75 statistically significant at the .05 level. As a results, it caused this sub-competency was developed.

Considering in the sub-competency of evaluate and design scientific enquiry, the mean score of was 1.40 of 2. It indicated that the sub-competency of explain phenomena scientifically was high level. In consideration of the inquiry based learning (5E) and focus on the steps of engagement, this step is the importing into lessons by using interesting situations. It brings the issue of study (IPST. 2003). The students always practice to set the problem and hypothesis for finding the answer. Thus, this step supports the identification of the question in the study. Moreover, the step that also supports this sub-competency is the exploration. This step is a planning for investigation and collecting the information (IPST. 2003). The students always train to design the ways to find the answer and collect the data to answer the question. Therefore, It promotes this sub-competency as well. In the same way, Jutatip (2014: 6-7) studied the effect of learning activities using 5 Es learning cycle integrated with socio-scientific issues to enhance competency in indentifying scientific issues and achievement on enviromental pollutions for mathayomsuksa 3 students. The results showed that the competency and the achievement were higher than posttest criteria 75/75 statistically significant at the .05 level. Consequently, 5 Es learning cycle caused this sub-competency was developed as well. Furthermore, the test of sub-competency of evaluate and design scientific enquiry measured only distinguish questions that was possible to investigate scientifically. It allowed the score to be high. Consequently, they also caused level of the sub-competency of evaluate and design scientific enquiry was high.

Considering in the sub-competency of interpret data and evidence scientifically, the mean score of was 1.50 of 8. It indicated that the sub-competency of interpret data and evidence scientifically was low level. In consideration of the explanation step of the inquiry based learning (5E), this step is analysis, interpret, and conclude the data for answer the problem (IPST. 2003). Therefore, the students always train these skills to be skillful. However, in currently science classroom in Thailand, the students often copy the data from information to answer questions. They do not analysis and interpret the data before answer. In addition, some periods of learning activity are limited to one hour. Thus, the time of learning is not enough. As a result, at this step, the student must hurry to summarize the information. The analysis and interpretation of the data were not practiced. Consequently, the sub-competency of interpret data and evidence scientifically of the students were not improved. It caused this sub-competency was low level.

Recommendation

This research describes about the level of the scientific competency of only grade 10th students in Sarakhampittayakhom school, Thailand.

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Contact email: piriyapornpilachai@gmail.com

Women's Role in the Series Desperate Housewives: A Feminist Perspective

Cholawat Prawalpatamakul, Khon Kaen University, Thailand
Suban Keowkanya, Khon Kaen University, Thailand

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Abstract

Desperate Housewives, created by Marc Cherry and aired on the ABC channel for eight seasons, is considered a representation of gender, specifically femininity, on the television (Bignell, 2008). Its plot focuses on the lives of four women (Bree Van De Kamp, Lynette Scavo, Gabriel Solis and Susan Delfino) who represent the internal struggles of the average woman, such as disempowerment, restrictions, and the confusing relationships of modern women in society (Coward, 2006; Sayeau, 2006; Morgan, 2007).

With the emergence of the feminist movement, it is skeptical on how the series portray the four female protagonists when viewed through the lens of feminist perspective. Therefore, the purpose of this study is to critically analyze the women's roles in the series by using feminist theory as a lens. The eighth season of the series was selected since this season is the latest and shows the conclusion of all the characters.

The results of the analysis showed all aspects of women's roles which reflected feminist theory in many ways. The four female protagonists portray the roles of housewife, mother, and daughter. The oppression, the gender performance, the sexual pleasure, the female friendship, and the contradiction are found and presented which can reflect the feminist theory clearly.

Keywords: women, role, feminism, Desperate Housewives

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Introduction

Desperate Housewives was broadcasted on ABC Channel for eight seasons. This series focused on the lives of four housewives - Bree Van De Kamp, Lynette Scavo, Gabrielle Solis, and Susan Delfino. Although the series focused mostly on women, the four female protagonists still had faced disempowerment, restriction in their actions, oppression, and the general difficulties of their roles (Bignell, 2008 & Richardson, 2006). In addition, Coward (2006), Sayeau (2006), Morgan (2007), and Salomaa (2010) claimed that the four housewives in this series represented the internal struggle of housewives. In order to understand these women, gender and feminism were taken into an account.

Gender is the identity that society creates for men and women (Eitzen & Maxine, 2000). People in society have been assumed to be different not only in body, shape, and size, but also personality, intelligence, ability, and all other aspect of human behavior (Schaffer, 1981). Lindsey (1994) claimed that gender comes with expectations from society such as attitudes, behaviors, rights, and responsibilities. With these assumptions, it becomes the condition to create the roles that society gives to people according to their gender, a phenomenon known as 'gender roles' (Zanden, 1996). Men and women have been assigned roles based on their physical and reproductive differences. They unknowingly and uncritically accept the roles and the behaviors in their lives. They use these assumptions to shape their lives and pass it to their children which is called 'gender-role socialization' or the process of learning the gender roles from their parents, school system and peer group (Schaffer, 1981 & Peirce, 1995).

Being daughter, wife, and mother seems to be obvious roles for women in the society (Begum, 1992). Children are raised differently based on their gender. Daughters are expected to become a wife and a mother (Bem, 1976 cited in Schaffer, 1981). Therefore, they are raised in order to confirm and reinforce what their parents expect them to be (Peirce, 1995). Betty Friedan, author of *The Feminize Mystique* (1979), claimed that the ideal housewife is constructed under the belief of patriarchy. The traditional housewife, then, should be in the private sphere or at home doing house chores, taking care of children, preparing meals and waiting for her husband to come home (Friedan, 1979). Another role of women is mother. Being mother is the most important aspect of women's lives (Kirk and Okazawa-Ray, 2003). Friedan (1979) stated that there are two types of mother, the sacrificing one and the silly one. The sacrificing mother will raise her kids with everything they can get and cause her children to be under the power of emotion and dependent on their mother. The silly mother is the one who goes shopping and to the spa to make herself beautiful and spends her time outside the house.

With fixed roles and assumptions for people in society, questions appear, like who gets what, when, and how are the way in which they usually answered to benefit men. According to the belief that men create these stereotypes and beliefs in the patriarchy, they use their power to put their will on women (Beauvoir, Parshlet, and Crosland, 2000). The belief of patriarchy is the system that is controlled and dominated by men in the society (Johnson, 2004). Men employ their power to categorize women they deem inferior to them. The belief of patriarchy is usually seen in the family unit (Wood, 2004). Rich (1986 cited in Kirk and Okasawa-Ray, 2003) also asserted that

the family is the site of inequality, where women are oppressed according to their positions as wives and mothers. Moreover, the gender-role socialization in the family exercises the patriarchal idea and perpetuates the inferiority of women. Preventing women from accessing privilege, prestige and power under the patriarchy has been a common phenomenon in many parts of the world (Bryjak & Soroka, 2001), until the feminist movement occurred in the nineteenth century.

There are three important movements that call for the equality of women in society. The first wave of the feminist movement requested legal rights such as suffrage and property rights. The second wave fought for the equality of affirmative action, pay equity, charges against rape and domestic violence, the denunciation of pornography and sexism in media and so on. The third wave of the feminist movement, which is considered as the most diverse and individual feminist wave arose in 1990s. This wave focused on the individual identities, the abolishing gender role expectation, defending sex works, and sex-positivity (Fisher, 2001; Sanders, 2001; Thornham, 2001; and Rampton, 2005).

These day, women have more freedom. Yet, the belief of patriarchy hides itself in various forms in the society such as movies, television shows, books, magazines, advertisements and the internet. In the article by Coward (2009), she claimed that the primetime soap operas focusing on male domination get attention among woman viewers by showing that the power of men can be challenged. More than 30 years that the feminist critics critiques the gender representation. However, the television drama still focuses on many of these feminist representations, as we can see from the series *Desperate Housewives*.

Although feminist movements occurred for women to be equal to men, it is skeptical whether the four female protagonists who portrayed the traditional housewife struggled to make their choices or not, and how the society reacted to their choices. Therefore, it is interesting to analyze four female protagonists using feminist theory as a theoretical framework to look past the smiling faces of these women with two research questions – what are the roles of four female protagonists and what we can understand of their roles based on feminist theory?

I critically and thoroughly watched the eighth season of Desperate Housewives. While I was watching the twenty-four episodes, I noted the events and roles of the four main female protagonists are noted. I then grouped the events and roles a theme. Then, I read all my notes, selected the scenes that represented the theme explicitly to analyze through the feminist lens. The scenes were analyzed by searching for women's roles and the events that occurred surrounding the four female protagonists. Moreover, the society, environments, and backgrounds around these characters were analyzed to find the reasons and the causes of their actions and the reaction of the society towards those actions.

After watching the series and analyzing it, I can answer my first research question on identifying the roles of women exhibited by the main characters. The four female protagonists portray all aspects of women's roles, including wives, mothers and daughter.

Bree is the Stepford housewife who always attempts to make everything in her family perfect. She had a relationship with Chuck Vance, a detective, until she broke up with him because she was not ready to marry. Danielle and Andrew come back to visit their mother, Bree again after a long time. Danielle has just divorced her husband, so she takes her son to stay with her mom for a while, whereas Andrew, Bree's gay son, comes to visit Bree and introduces her to his new 'girlfriend' whom he wants to marry because of her money. Bree comes to manage this relationship after finally being able to accept her gay son. She comes to understand that it is what they are born to be. Moreover, the series also presents Bree's role as a daughter. When she has to face a powerful man, she thinks back to what her mother taught her about how to wear 'a mask', a facial expression in which we can hide our real feelings. At the end of season, Bree gets married to Trip, her lawyer, who comes to help her be clearing of the accusation that she is the criminal of the Alejandro case. She moves from the lane and attends the conservative women's club. With her husband's support, she is selected to the Kentucky state legislature. Hence, Bree Van De Kamp portrays all the women's roles in this season.

Lynette Scavo is a fulltime mother with five children, Preston, Porter, Parker, Penny, and Paige. In this season, she has a problem with her husband, Tom, so they decide to separate for a while. Tom is the first one to move on and begins having a relationship with a woman named Jane. So, Lynette has to find the way to bring her husband back. At the end, they understand each other and move out of the lane to New York. Lynette enjoys her moment of being a CEO of the export company. Thus, Lynette depicts the roles of mother and wife.

Gabrielle Solis is an ex-model. She is married to Carlos and has two daughters with him. In this season, her stepfather, Alejandro comes back to threaten her again and Carlos comes to rescue her and accidentally kills him. The three female protagonists help in covering up this crime, which is the main plot in the season 8. Carlos feels a lot of tension and becomes an alcoholic. Gabrielle then has to manage everything for Carlos and makes him to go to rehab. She goes to find a job and becomes a personal shopping assistant to help cover house expenses after Carlos quits his job to become a counselor. At the end, she starts a shopping website and has her own TV show. Therefore, Gabrielle represents the roles of wife, mother, and daughter.

The last person is Susan Meyer, who is children's cartoonist. She has one daughter with her ex-husband named Julie. She gets married to Mike Delfino. They do not have any problems in their relationship. One day, Julie comes back home after moving away to pursue her doctoral degree with news that she is pregnant. Susan is so happy and wants to keep the baby but Julie decides to give the baby to another family because she is not ready. Mike has a problem with a loan shark and is shot and killed in one morning. Susan becomes a single mother and decides to move out of the lane to stay with Julie and help take care of her baby. So, Susan shows the roles of mother and wife.

To answer the second research question, using the lens of feminist perspective to analyze the season eight of Desperate Housewives, I found that the series does reflect the feminist theory. I grouped the feminist reflections into five themes, which are the women's oppression, the gender performance, the sexual pleasure, the female friendship, and the contradiction.

The first theme is the women's oppression. The women's oppression is the consequence of the patriarchal belief that men are superior to women. In regard to the superior status of men, women are oppressed by men's expression of power through sexual behavior (Wood, 2004). The series presents the oppression in many aspects, such as oppression through violence. For example, Gabrielle presents the role of stepdaughter who has a problem with her stepfather, Alejandro. *'Those short skirts you wore, those halter tops. You were a little slut.'* (Season 7 Episode 23 at 36.50), Alejandro judges Gabrielle by her appearance. Beauvoir et al. (2000) claimed that to be a woman is a social construction. It is through other expectations and assumptions from men, the 'male gaze' that a woman becomes feminine. This statement reflects the scene of Gabrielle who is judged based on her appearance by Alejandro. Alejandro assumes from his point of view and his belief under the patriarchy that Gabrielle who likes to dress sexily is a slut. Beauvoir et al. (2000) also claimed that the purpose of women is for fulfilling men's need and as such are treated as inferior. Alejandro treats Gabrielle as the fulfillment of his sexual desire. *'I remember those nights in your room, baby'* (Season 7 Episode 23 at 36.50), he said. This is in line with the statement of Jackson and Scott (1996) that men's desire is uncontrollable and women are the ones who satisfy it. It is the patriarchy that defines women as property controlled by men (Bryjak & Soroka, 2001). Alejandro objectifies Gabrielle for satisfying his sexual desire. I would like to emphasize again that these oppressions come from patriarchal belief that define women to be inferior.

The second theme is the gender performance. Gender performance in this study is described by the way people in society act according to their roles in order to benefit themselves. According to Goffman (1959) and Butler (1990), gender is flexible. They consider gender roles as a form of performance. In other words, it is like the actor, man or woman, acts his or her suitable and appropriate role in society. The performance of gender role is displayed through the example of Lynette Scavo. After the issues in their marriage, Lynette and Tom decided to live separately for a while. However, she does not want to hurt their children's feelings. Thus, Tom has to wake up, come to the kitchen and sit at the table every morning to show the kids that there is nothing happening between their mother and father by making breakfast for their kids, drinking coffee and reading the news. This actions and behaviors can mirror Goffman (1959) and Butler's (1990) statements about gender performance. Tom and Lynette are acting the role of father and mother in front of their kids, or the audience.

Additionally, the 'gender-role socialization' (Schaffer, 1981 & Peirce, 1995), or the process of passing down the belief of roles from their parents to their kids, also has been found in the character of Bree when she is interrogated by the police. She thinks back to the time when she is in the kitchen with her mother and is taught how to put on 'a mask', a facial expression that hides our real feelings. She learns how to be a woman from her mother, eliciting the famous statement of Beauvoir that '*One is not born, but rather becomes, a woman'*. To be a woman is not formed based on her biology, but it is society that constructs a woman and labels her with the word 'feminine' which comes with the responsibilities of the private sphere – do house works cook meals, and prepare everything to be a perfect housewife.

Sexual pleasure is also presented in this series. Sexuality is one of the most complex and debatable issues in the feminist thought since there are two sides of feminist

thought, supporting and opposing. In the past, women were taught to believe that sexual acts are disgusting (Rubin, 2007). There are two sides of sexuality, a bad side and a good side. For the good aspect, the series emphasizes that sexuality today is normal and I have found it in the conversation of the women and the scene of Gabrielle from Season 8 Episode 2. When Gabrielle has a problem with her sex life, she asks her friend for advice Women can obtain pleasure from sexual behavior as long as it is done in the marriage. For the bad side, it is presented through Bree Van De Kamp. Bree, who loses connection with friends, becomes a promiscuous woman. She enjoys her sexual pleasure from a one-night-stand relationship. Moreover, having sexual activities with married men is against the sex valued system cited in Rubin (2007). As a result, Bree is stigmatized by the society and called 'a town whore'. It is interesting that the married man in this situation do not receive blame from society even though it takes two to tango.

The female friendship is one of the most important parts of female life because as Sy (2008) claimed, female friendship helps women to face the consequences of patriarchy. The friendship also supports, comforts, and heals each other. A friend is the one who comes when you have some problems as it is shown through Susan Delfino. In Season 8 Episode 17, her husband is shot by a loan shark. Susan feels much grief after losing her husband, but there are friends who are there to comfort and help her to pass this sorrow and do their best to help her.

The last theme is the contradiction. The contradiction in this research means the one who portrays the traditional gender role with the thought of feminism. The four female protagonists depict the traditional feminine gender identities which are mother, wife, and daughter. However, the series represents these women as having the feminist thought already in them. On the surface, these women are not feminists. They don't argue with their husband about women's rights. Even though they are smart. They are strategic. They seem to conform to paternalistic values. Yet, they strategically do certain thing to get what they want without making their husband upset. In other words, they do not necessarily show that men and women are enemies, like many feminists are accused of.

Conclusion

The four female protagonists of *Desperate Housewives* were analyzed through a feminist lens to understand the depiction of issues women face today. The result shows that this series displays women's roles among the four female protagonists in all aspects. Feminist theory mirrors this series in many ways such as the women's oppression, the gender performance, the sexual pleasure, the female friendship, and the contradiction. The women in this series display traditional roles and follow the norm of how to be a woman, by being beautiful and sexy. These women are smart, intelligent. They are fighters. They don't give up and ready to fight the issues in their lives. They have demonstrated their agency in the way that they do not allow themselves to drift in the mainstream patriarchal society. Instead, they seem to be aware of their power and are capable of exercising their lives without being totally under the patriarchal society. Desperate Housewives, for me, is not exactly desperate.

When I have collected and analyzed this series, I found a lot of points that still need to be analyzed. For example, one interesting character that needs to be analyzed is Renee

Perry, an old high school of Lynette Scavo. As a divorced woman who carries feminist thought with her, she depicts the modern woman. Since the scope of my study was to study only the four female protagonists, I would like to suggest an analysis of the character of Renee. Moreover, the series also presents homosexuality such as the couple of Lee and Bob who comes to the lane in Season 4 and Andrew who is the gay son of Bree Van De Kamp. I think it would be interesting to analyze these characters since homosexuality today is a growing school of thought. An analysis of these characters would reveal aspects of gay life and how society reacts to this kind of issue. For the linguistic field, the language of women in this series is one of the many interesting things about it. The women's language in this series is full of sarcastic and pragmatic remarks. It would be exciting to analyze the language they use since it can be interpreted in many ways.

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Contact email: cholawatprawal@gmail.com

The Study of Grade 10 Students' Conceptual Understanding of Chemical Reactions and Biomolecules

Thidarat Khamphang, Mahasarakham University, Thailand
Sujint Anguravirutt, Mahasarakham University, Thailand
Kanyarat Cojorn, Mahasarakham University, Thailand

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Abstract
The purpose of this research was to study grade 10 students' conceptual understanding of chemical reactions and biomolecules. The target group was 33 10^{th}-grade students of classroom 14, Phadungnaree School, Thailand, in the first semester of the academic year 2016. The instruments for the conceptual understanding measurement were multiple choice test with rationale explanation and semi-structured interview. The findings on the students' conceptual understanding were analyzed and categorized using the criteria of Westbrook and Marek, which divide the conceptual understanding into five levels, namely 1) complete understanding (CU), 2) partial understanding (PU), 3) partial understanding with specific alternative conception (PS), 4) alternative conception (AC) and 5) no understanding (NU).
The results showed that most of the students' conceptual understanding of chemical reactions and biomolecules was at the AC level. The chemical reactions concept consisted of process of chemical reaction, chemical equation, type of chemical reaction, rate of reaction and factors that affect rate of reaction with AC percentages of 66.67, 51.51, 54.55, 48.48 and 57.58, respectively. The biomolecules concept consisted of structure and composition of fat and oil, properties of fat and oil, types of carbohydrates, properties of carbohydrates, structure and composition of protein, properties of proteins and types of nucleic acids with AC percentages of 66.67, 72.73, 60.61, 66.67, 69.70, 51.52 and 63.64, respectively.

Keywords: Chemistry education, concept misunderstanding

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Introduction

Science has been accepted to have an extreme influence on people and societies around the world. For this reason the main aim of national educational policy of many countries, including Thailand, is to promote science conceptual understanding as well as to conduct many researches for developing science curriculum that best fits all students. It is arguable that the science curriculum still lacks connection between science concepts and daily life that is interesting for student and easy to understand. Therefore, the real life or familiar situation could promote students' learning in science (Yasushi, 2009)

Conceptual understanding is the ability to interpret, translate, explain all information about a particular topic from observation and experience and process it to create an idea about the topic. Over the past decade many researchers have been interested in students' conceptual understanding of chemical phenomena either prior to or following instruction, especially chemical reactions and biomolecules, which are basic concepts in chemistry (Peterson, Treagust, & Garnett, 1989). Life processes occur via chemical reactions of biomolecules, and thus understanding biomolecules and chemical reactions is vital. Moreover, chemical reactions are used for synthesizing, decomposing, or transforming compounds. However, the interview with chemistry teachers revealed that students' learning of chemical reactions was indeed problematic (Tan & Treagust, 1999). It seems that many students are still confused about these topics. When students have misconception about the chemical reaction or biomolecules, they will not be able to apply right concepts to describe events in life. In addition, topics in chemistry are related to each other. Prior learning concept is the basis of the concept of the next study (Waraporn Tirisiri, 1989). If students did not understand previous chemistry concepts, it would be difficult for them to understand new chemistry concepts effectively. Therefore, teachers must know how their students perceive the concepts of chemical reactions and biomolecules prior to designing appropriate learning activities to make the students understand the concepts correctly.

We attempt to survey the conceptual understanding of grade 10 students in Phadungnaree School, Mahasarakham Province, Thailand. The information will be useful and can be applied in the learning activities for improving students' conceptual understanding.

Research Purposes

The purpose of this research was to study grade 10 students' conceptual understanding of chemical reactions and biomolecules.

Participants

The participants of this study consisted of 33 10^{th}-grade students of classroom 14 in Phadungnaree School, Thailand, in the first semester of the academic year 2016.

Research Instruments

The instruments for the conceptual understanding measurement were multiple choice test with rationale explanation and semi-structured interview. The multiple choice test with rationale explanation contained five questions on chemical reactions and seven questions on biomolecules. The findings on the students' conceptual understanding were analyzed and categorized using the criteria of Westbrook and Marek (1992), which classify students' conceptual understanding into five levels as follows:

1. Complete Understanding(CU): Responses that include all components of the validated response
2. Partial Understanding (PU): responses that include at least one of the components of validated response, but not all the components
3. Partial Understanding with Specific Alternative Conception (PS): responses that show understanding of the concept, but also make a statement, which demonstrates a misunderstanding
4. Alternative Conception (AC): responses that include illogical or incorrect information
5. No Understanding (NU): responses that repeat the question or contain irrelevant information or an unclear response or leave the response blank

Procedures

This research studied the students' conceptual understanding of two topics in chemistry, namely, chemical reactions and biomolecules. The chemical reactions concept consisted of process of chemical reaction, chemical equation, type of chemical reaction, rate of reaction and factors that affect rate of reaction. The biomolecules concept consisted of structure and composition of fat and oil, properties of fat and oil, types of carbohydrates, properties of carbohydrates, structure and composition of proteins, properties of proteins and type of nucleic acids. Steps in the process of conceptual understanding measurement were as the following:

1. The researchers studied basic data about conceptual understanding.
2. The methods for conceptual understanding measurement were created by the following procedures:
   2.1. The researchers studied the literature review on levels of conceptual understanding, conceptual understanding measurement, and semi-structured interview.
   2.2. The researchers created the methods for conceptual understanding measurement comprising multiple choice questions with rationale explanation and semi-structured interview.
   2.3. The multiple choice questions were investigated by three experts to determine the congruence of the questions and the objectives.
   2.4. The researchers analyzed the congruence results, which showed an Index of Item Object Congruence (IOC) between 0.60 – 1.00.
3. The students' conceptual understanding data were collected using the multiple choice questions with rationale explanation.
4. The data were analyzed and categorized using the criteria of Westbrook and Marek (1992).

5. The researchers interviewed the students using the semi-structured interview. The data from the interviewing were analyzed using content analysis.

Results

Table 1 shows the levels of the 33 students' understanding of the five concepts of chemical reactions. The results indicated that the conceptual understanding of most students was at the AC level. The percentages of the AC level on the process of chemical reaction, chemical equation, type of chemical reaction, rate of reaction and factors that affect rate of reaction, were 66.67, 51.51, 54.55, 48.48 and 57.58, respectively.

Concept	levels of conceptual understanding (number of participants)									
	CU	%	PU	%	PS	%	AC	%	NU	%
Process of chemical reaction	0	0.00	2	6.06	7	21.21	22	66.67	2	6.06
Chemical equation	0	0.00	4	12.12	10	30.30	17	51.51	2	6.06
Type of chemical reaction	0	0.00	1	3.03	6	18.18	18	54.55	2	6.06
Rate of reaction	1	3.03	2	6.06	11	33.33	16	48.48	3	9.09
Factors that affect rate of reaction	0	0.00	1	3.03	9	27.27	19	57.58	4	12.12

Table 1: The levels of students' conceptual understanding of chemical reactions**.**

Note: CU = complete understanding, PU = partial understanding, PS = partial understanding with specific alternative conception, AC = alternative conception and NU = no understanding.

In each concept of the chemical reactions, the students showed misconception understanding as follows:

1. In the process of chemical reaction concept, the students explained that "kinetic energy must be higher than activation energy in order to make a reaction". But in fact, kinetic energy might be higher than or equal to activation energy for making reaction.

> "*For making reaction, kinetic energy must be higher than activation energy*."
>
> *(Interview student A, August 1, 2016)*
>
> "*kinetic energy must be higher than activation energy for making a reaction*."
>
> *(Interview student D, August 1, 2016)*

2. In the chemical equation concept, the students explained that "there are three types of phase of the reactants and products, consisting of solid (s), liquid (l), or gas (g)". But in fact, there are four types, consisting of aqueous (aq), solid (s), liquid (l), or gas (g).

> "*There are three types of phase of the reactants and products, namely, solid (s), liquid (l) and gas (g)*."
>
> *(Interview student B, August 1, 2016)*
>
> "*The phases in the reaction are: solid (s), liquid (l), gas (g).*"
>
> *(Interview student F, August 1, 2016)*

3. In the type of chemical reaction concept, the students explained that "the decomposition reaction is the breakdown of one substrate into two products". But in fact, the decomposition reaction is the breakdown of one substrate into two or more products.

> "*Decomposition reaction, one substrate will be broken down to two products.*"
>
> *(Interview student C, August 1, 2016)*
>
> "*One substrate will be broken down to two products, this reaction is called decomposition reaction*."
>
> *(Interview student G, August 1, 2016)*

4. In the rate of reaction concept, the students explained that "calculation of rate of reaction, is achieved by taking time, divided by amount of substance". But in fact, the calculation is achieved by taking the amount of substance, divided by time.

> "*When we calculated the rate of reaction, we took time, divided by volume or amount of substance*"
>
> *(Interview student D, August 1, 2016)*
>
> "*I calculated the rate by determining the volume of a gas at various times. I took time, divided by volume of gas*"
>
> *(Interview student H, August 1, 2016)*

5. In the factors that affect rate of reaction concept, the students explained that "surface area and temperature don't affect rate of reaction". But in fact, the factors that affect rate of reaction consist of concentration, surface area, temperature and catalyst.

> "*When temperature or surface area changed, the reaction will not change.*"
>
> *(Interview student E, August 1, 2016)*
>
> "*The temperature of a reaction doesn't affect reaction rate*."
>
> *(Interview student B, August 1, 2016)*

Table 2 shows the levels of the 33 students' understanding of the seven concepts of biomolecules. The results indicated that the conceptual understanding of most students was at the AC level. The percentages of the AC level on the structure and composition of fat and oil, properties of fat and oil, types of carbohydrates, properties of carbohydrates, structure and composition of protein, and properties of protein and type of nucleic acid were 66.67, 72.73, 60.61, 66.67, 69.70, 51.52 and 63.64, respectively.

Concept	levels of conceptual understanding (number of participants)									
	CU	%	PU	%	PS	%	AC	%	NU	%
Structure and composition of fat and oil	0	0.00	0	0.00	10	30.30	16	66.67	7	21.21
Properties of fat and oil	0	0.00	1	3.03	6	18.18	24	72.73	2	6.06
Types of carbohydrates	0	0.00	2	6.06	10	30.30	16	60.61	5	15.15
Properties of carbohydrates	0	0.00	2	6.06	7	21.21	20	66.67	4	12.12
Structure and composition of proteins	0	0.00	0	0.00	8	24.24	23	69.70	2	6.06

Properties of proteins	0	0.00	2	6.06	11	33.33	17	51.52	3	9.09
Type of nucleic acids	0	0.00	0	0.00	8	24.24	21	63.64	4	12.12

Table 2: The levels of students' conceptual understanding of biomolecules
Note: CU = complete understanding, PU = partial understanding, PS = partial understanding with specific alternative conception, AC = alternative conception and NU = no understanding

In each concept of the biomolecules, the students showed misconception understanding as follows:

1. In the structure and composition of fat and oil concept, the students explained that "structure of fat consists of three molecules of glycerol and three molecules of fatty acid". But in fact, the structure of fat consists of one molecules of glycerol and three molecules of fatty acid.

"*The structure of lipid consists of three molecules of fatty acid and three molecules of glycerol*"

(Interview student F, August 3, 2016)

"*Fats are esters of three molecules of glycerol with three molecules of fatty acid.*"

(Interview student I, August 3, 2016)

2. In the properties of fat and oil concept, the students explained that "the single bond reaction of fatty acids causes rancidity". But in fact, the double bond reaction of fatty acids causes rancidity.

"*The single bond reaction of fatty acids causes rancidity.*"

(Interview student G, August 3, 2016)

"*Single bond can affect oil to become rancid*."

(Interview student J, August 3, 2016)

3. In the types of carbohydrates concepts, the students explained that "disaccharides are produced by two molecules of monosaccharide with a peptide bond". But in fact, the bond is a glycosidic bond.

"*A peptide bond is a bond linking two monosaccharides to form a disaccharide*."

(Interview student A, August 3, 2016)

"*Disaccharide is formed when two monosaccharides are joined by a peptide bond*."

(Interview student H, August 3, 2016)

4. In the properties of carbohydrates concept, the students explained that "starch can be tested with Benedict's test". But in fact, Benedict's test is used to test for monosaccharides and disaccharides but not for sucrose and chemical test for starch is to add iodine solution.

"*Benedict's reagent is a chemical reagent commonly used to detect starch*."

(Interview student E, August 3, 2016)

"*The Benedict*'s *test is used to* test *starch*."

(Interview student K, August 3, 2016)

5. In the structure and composition of proteins concept, the students explained that "proteins are made up of small units called nucleic acids that are attached to one another by peptide bonds". But in fact, the smaller units are called amino acids.

"*Proteins are large biomolecules, consist of long chains of*

nucleic acids."

(Interview student H, August 3, 2016)

"*Proteins are made from smaller molecules called nucleic acids*"

(Interview student B, August 3, 2016)

6. In the properties of proteins, the students explained that "protein denaturation is a physical change and the properties of proteins do not change". But in fact, denaturation is the alteration of a protein shape through some form of external stress (for example, by applying heat, acid or alkali) and whose properties such as viscosity, absorption of ultraviolet light will change abruptly.

"*Denaturation is a process in which proteins lose their shape, but their properties remain the same.*"

(Interview student A, August 3, 2016)

"*Denaturation, proteins lose structure but properties remain the same.*"

(Interview student L, August 3, 2016)

7. In the type of nucleic acids concept, the students explained that "small units of DNA and RNA are called amino acids". But in fact, the small units are called nucleotides.

"*RNA is amino acids polymer*."

(Interview student D, August 3, 2016)

"*DNA, RNA are made up of chains of amino acids*."

(Interview student M, August 3, 2016)

Conclusions and Discussions

The results indicated that most of the students' conceptual understanding of chemical reactions and biomolecules was at the AC level. The AC percentages of chemical process of chemical reaction, chemical equation, type of chemical reaction, rate of reaction and factors that affect rate of reaction were 66.67, 51.51, 54.55, 48.48 and 57.58, respectively, while the AC percentages of structure and composition of fat and oil, properties of fat and oil, types of carbohydrates, properties of carbohydrates, structure and composition of proteins, properties of proteins and type of nucleic acids were 66.67, 72.73, 60.61, 66.67, 69.70, 51.52 and 63.64, respectively.

According to the study of the students' conceptual understanding related to chemical reactions and biomolecules, it was found that most students misunderstood the five following concepts: process of chemical reaction, factors that affect rate of reaction, properties of fat and oil, structure and composition of proteins and type of nucleic acids, as considered from the numbers of the students whose levels of understanding were at the AC and NU levels. When considering the multiple choice test with rationale explanation and data from the interviewing concerning the five concepts above, it was found that the questions were related to structures or processes at the molecular level in which the students had to use their imagination and build the mental models by themselves for making their understanding. If in the learning activity, the teacher could not provide the media or real model in the classroom, the students would lack a chance to learn by doing, which worsening their chance for conceptual understanding. Moreover, in the past, teachers often taught chemical reactions and biomolecules by merely explanation or having some illustrations, and as a result, the teachers could not explain the steps or process of chemical reactions at the molecular level clearly, and the students hardly imagined and then misunderstood

the concepts. In the learning process that encourages students to analyze information and to have concrete visualization by themselves, the teacher may use simulator or video that can help the students apply their experience. Consequently, the students will get more in-depth understanding than just reading textbooks and listening to teachers in the class, leading to improving the students' conceptual understanding to the CU level (Nadh Ditcharoen, 2014). This statement was supported by Viladislav (2009) which explained that using three-dimension images or video media could help learners see the empirical images, enabling the learners to have better understanding of the processes or complex structures. Tsoi (2008) studied the conceptual understanding of students who participated in the learning activities focusing on the use of video media and three-dimension images. The results of Tsoi's study showed that using video media or three-dimension images could enhance the higher learners' conceptual understanding.

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Contact email: thidarat.edu@gmail.com

Natural Materials in "Recycle Quilt Mixmedia" Fashion: Reinforcement of Students' Creativity and Mental Revolution

Gresia Yulistin Susanto, Indonesia University of Education, Indonesia

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Abstract
The aim of this article is to report the results of sewing extracurricular activities in SMK PGRI 4 Blitar, related to the participation in a Fashion Festival competition of using recycle materials in commemoration of Earth Day in Blitar, East Java Province, held by the local government. Basically, this activity was intended to reinforce students' creativity and support mental revolution which mean to make the students were proud and confident of their work through the aesthetic experience. The aesthetic experience has been done by each student while creating natural materials in quilt recycle mix media fashion. This study used a descriptive qualitative approach with an experimental research method. The results of this research emphasized the role of an Art and Culture teachers in supporting the mental revolution program. The teacher had a substantial contribution to the potential development of students, especially in terms of creativity and confidence that have been created through the aesthetic experience. By doing this activity, the students would be intended to have an innovation in designing since it could sharpen their mental and creativity. They could follow current development by utilizing waste environment into a high market value. The materials reviewed in this article were students' work on fashion sketch designing, creativity process, and finishing product of the recycle fashion.

Keywords: recycle quilt mix media, natural materials, fashion creation, creativity, aesthetic experience, art and culture teachers , the mental revolution

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Introduction

During this, the policy of national education tends to promote science education and technology education art and culture so that it looks like the marginalized. The impact of such a policy are the moral crisis arises, cultural education and politicization easily arise violence. (Jazuli, 2008)

The writing of this article discusses more in terms of education related to the improvement of student's creativity in the creation of clothing recycle quilt mix media natural ingredients, that's where researchers have already done research activities in terms of the SMK PGRI 4 Blitar in East Java province. This activity is actually carried out one of the reason is due to coincide with a special Fashion Festival race material recycle in order to commemorate Earth Day in the town of Blitar East Java province held by the local government. These activities have been carried out by researchers at the moment investigators still became a teacher of art and culture in SMK PGRI 4 Blitar Town two years ago.

Basically this aside in order to prepare the race Fashion Festival is also intended to improve the creativity of students and support the mental revolution that does not appear moral crisis is prolonged, which in the sense that students have confidence in the work that has been created through the process creativity in such a way in the aesthetic experience that has been experienced by each student while doing recycle clothes quilt mix media creation of natural materials.

Creative can be said to be environmentally sensitive, flexible, curious high, open, free assessment, selective, unique, and tolerance for ambiguity. Conceptually creativity can be defined by at least three categories according to the way of thinking, thought processes, and products derived from (Institution, 2011: p. 3). Within his own creativity takes imagination, ideas and new ideas. As a statement about art education that frees the imagination as follows:

> Arts education gives freedom to the imagination so that it can arouse the same brain regions to produce ideas and unique idea so innovative thinking to develop optimally (Kamaril, 2006: 17).

Besides the development of the creativity, the above reference to art education dimension of mental (moral) can actually help the emotional intelligence and intellectual, appreciate the cultural plurality and the universe, cultivate imagination, motivation, and harmonization students in negotiating or respond to any socio-cultural phenomenon. (Iryanti and Jazuli, 2001)

The material reviewed in this article focuses on how students that started a fashion design sketches, the process of creativity, to the finishing product recycle clothing. In this regard, the role and contribution of a Master of Arts Culture very big influence on the development of his students to the aesthetic experience of students while creating a work of art. Works of art in preparatory activities the race this time in the form of clothing recycle quilt mix media natural ingredients for the race Fashion Festival recycle materials.

Basically being a Master of Arts Culture must also have a background in accordance with the teaching is majoring in art education. Due to my educational background in art, so in my opinion on the subjects of art and culture as well as extracurricular activities are still in touch with the aesthetic at the level of any school requires teachers who teach subjects or extracurricular activities that must be educational background in art as well so that the learning outcomes or delivery process teaching materials from the teacher to the students to be effective and efficient.

Research Methods

This research uses the descriptive qualitative approach with experimental research methods. The purpose of this research i.e. describes and experiment concerning information collected in connection with the study of art and culture in the classroom students creativity enhancement purpose in the creation of clothing recycle quilt mix media natural ingredients in SMK PGRI 4 Blitar in East Java province. The way used to obtain data and information in the writing of this report, namely by using direct observation in the school environment, the study of the literature, as well as do interviews principals, Educators and Educational Power of subjects of art and culture.

The Results Of The Discussion

1. Increased Creativity

Creative can be said to be environmentally sensitive, flexible, curious high, open, free assessment, selective, unique, and tolerance for ambiguity. Conceptually creativity can be defined by at least three categories according to the way of thinking, thought processes, and products derived from (Institution, 2011: p. 3). Within his own creativity takes imagination, ideas and new ideas. As a statement about art education that frees the imagination as follows:

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In a book entitled "Spectrum Creativity" by Institution (2011) about creativity, states that the basic word creative people interpret creativity as: (1) the ability to create (create); (2) new and original; and (3) has benefits. The word creativity itself is defined as an activity that brings results that are: (a) new (novel): an innovative, yet there before, fresh, interesting, strange, surprising; (B) useful (useful): make it easier, more practical, more comfortable, facilitate, encourage, develop, educate, solve problems, reduce barriers, overcome difficulties, to bring better results; and (c) is understandable (understandable): the same result can be understood and can be made at a later time ("en carta"). (Institution, 2011: p. 8)

It is necessary for students' attention to the competencies of creativity, not only for the students vocational or vocational school who are more focused on skill or skills, but creativity on the dignity of all children. Due to the existence of an element of creativity that grows and develops in children, starting from where the child will grow up perfectly.

2. Mental Revolution

Actually mental revolution was first introduced by scientists the world communist socialist Karl Marx. Mental revolution is a change in a short time about the way of thinking, learning, and responding to situations and conditions. The result is that there is a positive change, large, and fundamental from several aspects, among others, Cultural, Economic and Political Institutions. But in this study are more inclined to an aspect of culture that is implemented and inserted in a recycle fashion quilted creation activities mix media natural materials with the aim of which is to increase the creativity of students and students' mental revolution at the SMK PGRI 4 Blitar City precisely in the province of East Java. Mental revolution here in the sense that students have confidence in the work that has been created through the creative process in such a way in the aesthetic experience that has been experienced by each student while doing recycle clothes quilt mix media creation of natural materials.

Thus, in addition to students will hone their creativity, but in terms of mental will also honed his confidence in the discovery and creation of innovations in designs that follow the changing times and the use of waste in the environment is something that has value. Positive mental growth and development to the perfect human would produce a strong and must remain guided by the philosophy and culture of the archipelago.

3. Aesthetic Experience

As for the theory of art education that have been put forward by Soehardjo (2005) as follows:

> Art becomes a necessity for humans because life without art will feel dry. Creativity is the nature of human aesthetic that allows a living creatively. Through human aesthetic nature of art education will be developed as a whole, namely the maturity of impulses of art owned not only develop aesthetic development. Arts education not only helps the child to be able to live perfectly, but also plays an important role in guiding the development of children in general. (Soehardjo, 2005: p. 21)

Through art education as a vehicle or container that can be concentrated to develop a sense of artistic and aesthetic sensitivity in students. In this study, art education intentionally inserted into a series of extracurricular activities sew in SMK PGRI 4 Blitar City the beginning until the end of the process of creating fashion recycle fashion festival, considering the aesthetic experience for students is important in the formation of mental and character, while also considering the role of art which is actually very important in education.

The above is reinforced by the statement that has been put forward by Kamaril Cut (2006) in the Journal of Arts Education Kagunan about the role of art as follows:

> The important role of art in education is as a medium or vehicle for learning. At all levels of education, the arts can play a role not only establish learners sensitivity, aesthetic creativity, intuitive and critical to the environment, but

> also can develop their basic potential in learning to achieve optimal results. Through the aesthetic and artistic activities, learners can increase the motivation to learn and have the opportunity to solve problems in a fun way. (Cut Kamaril, 2006: p. 16)

4. The Creation Of Clothing Recycle Quilt Mix Media Natural Ingredients

In this new era of booming or it could be called a moderate rise of creative ideas and innovative about recycle, started many objects or products that have unique designs made from raw material recycle. Recycle a recycling process which makes the material is used or waste into new materials that can be reused. Recycle or recycle the part third in the hierarchy of the garbage that is 3R (Reuse, Reduce, and Recycle).

Starting from small things first, the positive impact is quite pronounced. Already familiar would often appear in the media, television and the Internet about products themed recycle. Even many festivals held fashion-themed recycle on Earth Day, in addition to the many exhibitions that offer products recycle funny, unique, and certainly attract consumers to buy. From little things about recycle only been able to make a creative endeavor and will automatically affect the economic development for the community and reduce unemployment.

In this study discusses the specialized recycle waste recycling quilt or patchwork fabric (textile), which will be transformed into a work of art that has aesthetic value and still contains elements and principles of art. The artwork will be created by students of SMK which is the final result or output product of this study namely clothing recycle fashion festival made from recycling quilt or recycling of waste patchwork with a blend of natural materials (mix media), which fashions created through an extracurricular activity tailoring and fashion has become the mascot of SMK PGRI 4 Blitar City in East Java province in the annual event, as well as to follow a race Fashion Festival special materials recycle in commemoration of Earth Day in Blitar City, East Java Province held by Local government.

> Quilting is an art to sewing three layers into one: a base layer, bearings, and the top layer of the three layers are then combined with a sewing stitch or with ties, buttons, or beads. Quilting started since the middle ages around the year 1099, growing and growing ever since. (Edwards, 2007: p. 4)

Basically the only people who can take advantage of opportunities and people who are creative and innovative was the one who could get to have brilliant ideas to recycle something into useful products and even high value. With the capital that does not cost too high and of course the perfect finishing process and would produce marketable recycle. Speaking about the market, in today's increasingly fierce competition in the market of the archipelago due to the impact of globalization. No wonder the man is now required to be creative, innovative and ultimately can achieve earning points to compete in the global market.

Conclusion

Basically, these research activities related to the preparation of a race Fashion Festival special materials recycle in commemoration of Earth Day in Blitar City, East Java Province held by the local government two years ago, the purpose of this activity in addition in order to prepare the race Fashion Festival is also intended to increase creativity of students and support the mental revolution which in the sense that students have confidence in the work that has been created through the creative process in such a way in the aesthetic experience that has been experienced by each student while doing the creation of clothing recycle quilt mix media natural ingredients. Thus, students will improve their mental creativity and innovations in the design of the changing times and the use of waste in the environment is something that has value.

Given the main purpose of art is aesthetic, train proper sense possessed by each individual, in which sense it begins with the beauty that is also taught in art education. Only in art lessons was all aspects of development, ranging from cognitive, affective and psychomotor aspects. In addition to the taste or aesthetic sensitivity, emotional sensitivity, intelligence cognitive aspects of human development in harmony with the values and the dimensions of human character establishment also trained in art education.

Those are the reasons why in every activity that gave rise to the element of aesthetic always associate the role of the teacher of art and culture, because it is inside an art teacher culture that does have a background majoring in art education and is in conformity with the subjects and activities that the teach, teachers of art and culture already have the name of the aesthetic experience and empirically, so it can have a direct impact effectively and efficiently for the addition of knowledge from teacher to student.

Master Arts very big influence on the development of his students to the aesthetic experience of students while creating a work of art. Works of art in preparatory activities the race this time in the form of clothing recycle quilt mix media natural ingredients for the race recycle material Fashion Festival organized by the Government of Blitar in celebration of Earth Day.

In research activities related to the preparation of a race Fashion Festival special materials recycle in commemoration of Earth Day in Blitar City, East Java Province held by the local government two years ago, a researcher who is also a teacher of art and culture in SMK PGRI 4 Blitar City, East Java Province to collaborate with teachers of other subjects as team unity successful and certainly the students who participated in extracurricular sew in school as team members and as well as objects or targets of investigation related to the main purpose of this research activity is increasing creativity and mental revolution of students in the creation of clothing recycle quilt mix media natural materials in SMK PGRI 4 Blitar City precisely in the province of East Java.

There should be a teacher is not easy, not only to teach but also educate students properly and soberness. Teaching and educating certainly very different from

artificial, everyone felt easily teach someone but not necessarily be able and capable of educating a person. The results of this research is the discovery well as the strengthening of the assertion that the role of Master of Art and Culture in supporting the program mental revolution in students is to have a substantial contribution to the growth potential that exists in each self-learners, especially in terms of creativity and confidence in results works that have been created through the aesthetic experience that is experienced by students.

Appendices

(Figure 1: Fashion Design Process)

(Figure 2: The Selection Process of The Patchwork/Quilt)

(Figure 3: The Process of Expression or The Making of Clothing Recycle Quilt)

(Figure 4: Product Finishing Clothing Recycle Quilt Mixmedia Natural Materials)

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Contact email: gresiayulistinsusanto@gmail.com

The Advantages and Disadvantages of E-Dictionaries to Enhance Vocabulary Learning of ESL Learners

Maslawati Mohamad, Universiti Kebangsaan Malaysia, Malaysia
Nuraidawany Rashid, Universiti Kebangsaan Malaysia, Malaysia
Wan Nur'ashiqin Wan Mohamad, Universiti Kebangsaan Malaysia, Malaysia

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Abstract
Among the common tool used by learners in a language classroom is the dictionary. Nowadays, dictionary has come in various types and among the widely used are the e-dictionaries. This case study aims to explore the advantages of e-dictionaries towards ESL learners together with the difficulties faced when using e-dictionaries. In this study, a total of ten undergraduate TESL students from one of a public research university in Malaysia volunteered to be the participants of this study. Focus group interviews, open-ended questionnaire and email were used as the study instrument. The findings revealed that although e-dictionaries provide some benefits to enhance vocabulary learning, there are also difficulties faced by ESL learners. It was found that the benefits are it enables them to learn about new vocabulary regardless of place and time, helps them to learn proper pronunciation of words, identifies the word origin efficiently, has visual impacts which contain interactive interaction, and gives clearer vocabulary instruction in comparison to printed dictionary. The main difficulties faced are limited internet access, incomplete definitions, lack of credibility on some bilingual e-dictionaries' developers, and lack of definitions and examples. In addition, the participants acknowledged e-dictionaries as one of the tools for helping them to learn their second language vocabulary in a non-conventional approach as oppose to printed dictionaries. This study would have direct implication on the teaching of language learning as students in this era use e-dictionaries in their learning process.

Keywords: reading in second language, benefits of e-dictionaries, difficulties of using e-dictionaries, English as a Second Language, vocabulary learning

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Introduction

In order to establish one of the Vision 2020 goals, the Ministry of Education (MOE) has developed a National Policy on ICT in education. This move is to encourage and assist the national agenda (Policy on ICT in Education Malaysia, 2010). Since ICT is the key element in determining the effectiveness of the education sector, Malaysia has introduced ICT as an educational legislation reforms in order to establish a ICT literate society.

Melor et al. (2011) indicated that students have been using ICT for general purposes rather than specifically for learning purposes. Thus, the integration of ICT in learning needs to be encouraged among students as it could bring ample learning opportunities for the students, including second language learning. Maslawati et al. (2014) noted that the integration of ICT in language learning has benefited students as they are not just learning per se but are able to relate their learning with real life situation.

According to Golonka et al. (2012), e-dictionaries help to aid students as an individual study tools considering that it is a self-contained programme applications. Since there are few studies conducted on e-dictionaries in Malaysia, there is need to discover the learners' perceptions in using e-dictionaries in English as a Second Language (ESL) classroom, especially in the tertiary education environment. The present study intends to investigate the perceptions of ESL students on the benefits and difficulties in using e-dictionaries toward their second language vocabulary learning. This study aims at exploring the views of ESL students in using e-dictionaries toward their second language vocabulary learning. Such insight is helpful for teachers and educators as it provides useful information for teaching and learning the target language via the use of e-dictionaries.

In Malaysia, some courses offered at tertiary institution use English as medium of instruction. As second language users, many of Malaysian students face difficulties in reading reference materials in English. They have difficulties in understanding certain technical terms used in the notes, reference materials and lectures. Hence, the use of e-dictionary is seen as one of the learning tools in helping them to enhance their understanding in their readings through learning new vocabulary. Therefore, this study attempted to answer the following research questions:

1. What are the advantages of e-dictionaries to enhance vocabulary learning towards ESL learners?

2. What are the disadvantages of e-dictionaries perceived by ESL learners?

The findings of this study are relevant for teachers as they may need to provide proper training to their students to use e-dictionaries more effectively.

Literature Review

Mobile Assisted Language Learning (MALL)

Other than the Computer Assisted Language Learning (CALL), Mobile Assisted Language Learning (MALL) is rapidly gaining users. Mobile devices such as hand phones, personal digital assistant (PDA) and tablet PC have been perceived as the ideal devices for individualized informal learning. Kukulska-Hulme (2009) made a comparison between MALL and CALL by pointing out that MALL enables a new approach of learning process. He further adds that MALL enables a new way of continuous learning as learning is not restricted within the four walls of a classroom but beyond.

Viberg and Gronlund (2012) identify three key terms related to MALL. First is about the technological concepts of learning where the concept of MALL is detached from the well-known learning theories, such as constructivism and collaborative learning. Second is about techno-centered concept which focuses on technology as the communication means between learner and content, and between teacher and students. Third, it looks into contrasting the contexts of formal and informal learning and how the integration of mobile technologies could aid language learning in various situations.

Empirical studies on e-dictionaries

E-dictionary is available online and dictionary apps are available on most hand-held devices and mobile phones. As stated by Lew (2010), e-dictionaries offer interactive ways of finding the meanings of word in comparison to printed dictionaries. In comparison to printed dictionaries, searching for word meanings is only a simple click of the mouse on the online interface and scrolling up and down the pages on the screen. Hence the meaning is found instantly. This is in contrast to the laborious efforts of flipping through the pages that hinder ESL/EFL learners to search for meaning, especially for words with multiple meanings and polysemous entries. However, the selection of dictionary is essential as some dictionaries provide definitions with too many unfamiliar words and sentence structure which leads to comprehension problem.

In language learning, dictionaries have significant role in assisting learners to learn the language therefore it is important for them to choose appropriate dictionary. In a study conducted by Lou and Li (2012) on learners' preference of using printed dictionary and e-dictionaries, they found that as the learners become more mature, they opt to use e-dictionaries. The use of printed dictionaries was more dominant when they were in school. However, the learners tend to not using dictionaries as their language proficiency develops. On the contrary, Amirian and Heshmatifar (2013) found out that electronic dictionaries are indeed a tool to promote EFL students' achievement in vocabulary learning. Its ease and fun to use feature is one of the main motivators for students to use e-dictionaries. The visual impacts foster interactive learning and aid in enriching students' vocabulary. The participants of their study consisted of 60 female pre-university students aged 17-19 years old. The participants' first language is Persian and their level of English proficiency is lower intermediate. Their findings also revealed that some users only perceived e-dictionaries as thesaurus of collective knowledge. It merely served as translators and the users still face difficulties to apply the words in their own sentence construction.

Dashtestani (2013) research was undertaken to compare both EFL teachers and students perspective on the use of e-dictionaries for learning English. Participants of the study were 81 EFL students and 66 EFL teachers who responded to questionnaire. EFL students and teachers had positive perception towards using e-dictionaries for language learning. The benefits highlighted are ease of use and access, audio-visual features, portability, time efficiency, provision of sufficient input for students and enhancement of student autonomy. The difficulties associated when using e-dictionaries are lack of training on how to use, unsuitable versions of English-Persian bilingual e-dictionary, low quality of audio properties, and student and teacher unfamiliarity with the different types of electronic dictionaries. The teachers reported that the usage of e-dictionaries in the classroom is a source of distraction on students that could disrupt teacher teaching and student learning.

However, Fageeh (2014) states that e-dictionaries help students recognize thus identify the meaning and origin of English words. Therefore, e-dictionaries have indeed helped students improve their vocabulary learning as well as the attitude and motivation towards learning the language.

Research Methodology

Research design

This study used a qualitative research approach as it attempts to explore the benefits and difficulties of using e-dictionaries among ESL learners. Case study is adopted since according to Merriam (1998), it provides researchers with an in-depth understanding of a situation and the meaning behind those involved. Besides, a case study enables the researcher to answer "how" and "why" the study is being conducted while taking into consideration about how a phenomenon is influenced by the context (Baxter & Jack 2008).

Setting

This study was conducted at a public research university in Selangor Darul Ehsan, Malaysia.

Sampling

Participants of this study were selected based on purposive sampling, in which according to Merriam (2009), purposive sampling enables the researcher to obtain detailed insights from the sample as well as in depth understanding about the research objectives. Ten undergraduate students taking Teaching English as Second Language (TESL) course from a local public research university in Malaysia volunteered to take part in this study. They aged between 22 and 23 years old and their level of English proficiency is high intermediate.

This research also complies with qualitative research ethics (Corti et al. 2000). First measure is only volunteers were taken as research participants. According to Merriam (2009), qualitative research should only employ volunteers as participants to comply with the research ethics. Before administering the open-ended questionnaire, the

researcher seeks approvals from the gatekeepers and participants to conduct the study. The researcher sought their consent and informed them the research objectives and procedure. Next, the confidentiality of the participants was assured by reporting them under a pseudonym.

Data collection and analysis

In order to triangulate and corroborate the data, three research instruments were utilized; namely open-ended questionnaire, focus group interview, and email responses. According to Creswell (2007), there are various forms of interview designs that can be developed to obtain rich and concrete data utilizing a qualitative investigational perspective. Interviews brought up thick descriptions of the studied subjects (Rubin & Rubin 1995) by allowing triangulation from other sources (Lincoln & Guba 1985). The participants in this study were divided into two groups. Each interview session lasted for 15-20 minutes. Moreover, focus group interview allow more responses from the participants as it encourages them to communicate among themselves such as asking questions and sharing their view points. Hence, this research tool is also useful in exploring participants' knowledge and experiences in-depth, especially on how and why they are behaving or perceiving in a certain way (Barbour 2008).

The distribution and collection of the open-ended questionnaire took place in the first semester of 2016/2017 session between September and November 2016. An open-ended questionnaire enabled the researcher to authenticate the participant interview responses (McColl et al. 2001).

Upon collecting data from open ended questionnaire and focus group interviews, the participants were invited to participate in an email response. The researcher collected the email address with the participants' consents. Email responses allow the researcher to have extended access with the participants compared to interview session (Coomber 1997). Kivits (2005) mentioned that the researcher has to adapt to the participants' communication style as each one of them has his or her own. Email responses allow the researcher to codify the questions and the participants can respond to it at their own convenience (Opdenakker 2006). The participants were given a week to complete the questions but majority of them completed it within two days.

Findings and Discussion

Benefits of using e-dictionaries

E-dictionaries are regarded as more convenient as they are more portable and flexible compared to printed dictionaries. The participants stated that they no longer need to carry the bulky printed dictionary and they could use it anywhere and anytime inside and outside of the classroom. They also mentioned that printed dictionaries require them to have perseverance in flipping through the pages to get to the targeted word definition. This statement is derived from the participants' interview responses (FGI), open- ended questionnaire (OEQ) and email responses (ER).

> "As for me e-dictionary is a gadget that has dictionaries where you can bring along or an app that you can get online or you search it online. It is more convenient to use than the usual dictionary" (Participant T5; FGI, OEQ, ER)

> "E-dictionary is more convenient because we don't have to bring anything except our phones and there are lot e-dictionaries online, you can just download it" (Participant A3; FGI, OEQ, ER)

In correlation with the findings of this study, the design of the dictionary itself plays an important role rather than the features. Besides, Lew (2010) supported that the use of e-dictionaries offer an interactive alternative in searching for word meanings of which printed dictionaries could not. Learners can bring it along to almost everywhere and anywhere as it is stored in their mobile phones and is proven to be more convenient to use, speeds up access to a particular word in search, and is available free of charge compared to the printed dictionaries. Users could easily type the targeted word in the type-ahead search and in a few seconds a list of definitions are given.

Participants T4 and T2 both mentioned that,

> "It is convenient whether it is on your phone or your computer. You can use it in class without flipping the pages and I think the obvious point is you don't have to carry the very heavy book around" (Participant T4; FGI, OEQ)

> "It is very difficult for us to bring the real dictionary and it is easier to just use our phone and actually it is great because we can search the words very quickly" (Participant T2; FGI, OEQ)

One participant highlighted that e-dictionary helps him or her to pronounce the word especially the difference in the American English (AmE) and the British English (BrE).

> "Okay, first of all it's free and then I've been using it since my foundation years where it helps me a lot in my looking for words constructing sentences and also in my, like I said in my phonetics classes. There's two way of pronouncing every words in UK and US" (Participant T1; FGI, OEQ)

The participants have been stating that e-dictionaries enable them to learn about new vocabulary regardless of place and time. Besides vocabulary, they also learn the difference between the British and American pronunciation, thus enable them to pronounce like the native speakers. This conclusion is derived from the responses from the Focused Group Interview, Open Ended Questionnaire, and E-mail.

> "I choose e-dictionaries since we are in the era where technology is dominant besides, it also guide us the correct pronunciation" (Participant A2; FGI)

> "I have learned a lot of new words using e-dictionaries, mostly on the online ones. It also helps us to pronounce the words like native speakers" (Participant A3; OEQ)

> "I learn new vocab with e-dictionaries because I take it everywhere with me. Now I can learn new words almost everywhere" (Participant A4; FGI, ER)

The ease of use and benefits gained are parallel to Amirian and Heshmatifar (2013) study where e-dictionaries are one of the tools in promoting vocabulary learning among

EFL learners. They further claimed that extensive vocabulary is an important component in becoming proficient users of the target language.

Besides enriching learners' vocabulary, it also has visual impacts which contain interactive interaction compared to printed dictionary. On the other hand, the findings from Fageeh (2014) correlated with this study. E-dictionaries give clearer vocabulary instruction in comparison to the printed dictionary. This helps the learners to identify the meaning and origin of targeted word efficiently. This is because e-dictionaries also offer hyper link which connect users to other relevant websites. The provision of etymological analysis at the end of the entries also facilitates learning. E-dictionaries are also available as apps for portable devices and smart mobile phones which are convenient to the users. He further added e-dictionaries are favourable to adult learners in comparison to young ones.

> "I use e-dictionary a lot in class, when travelling or when I'm in a hurry. It helps me to quickly find the meaning especially when you're in a hurry. It has helped me to learn English vocabulary and its meaning in a new way" (Participant T5; FGI)

The ease of use found in e-dictionaries includes the web search, thesaurus and translating tool (for bilingual e-dictionary). These help the learners to identify the meaning and origin of targeted language efficiently. The difficulties found when using e-dictionaries are due to the lack of access to use e-dictionaries, incomplete definitions, difficulty in choosing the appropriate e-dictionaries and distraction in classroom. However, e-dictionaries have indeed been aiding them in learning new vocabulary on-the-go.

Difficulties in using e-dictionaries

Majority of the participants voiced out their concern in accessing through e-dictionaries due to the limited internet access, however, three participants gave more detailed response pertaining to the issue.

> "In my opinion, online dictionaries are good but you need to have internet access. The college I'm staying now is bad with internet connection, sometimes has connection but most of the time it does not have connection at all" (Participant T1; FGI, OEQ, ER)

> "Wifi connection at my college is very bad; you need to wait until midnight or sometimes I cannot access it at all. I do have mobile data but it is not enough sometimes" (Participant T2; FGI, OEQ, ER)

Apart from that, participants stated that they often encounter incomplete definition of words and insufficient information when using e-dictionaries. The incomplete definition of words usually comes from bilingual e-dictionaries (English-Malay) as they are not many reliable options available for the use in the Malaysian contexts. Participant A1 used both monolingual and bilingual e-dictionaries. According to the participant, bilingual e-dictionaries (English-Malay) lack detailed explanation which often is confusing similar to monolingual e-dictionaries.

> "I think most of my friends have the same problem as me. Bilingual e-dictionaries (English-Malay) lack in detailed explanations, I think not only bilingual e-dictionaries but the monolingual too. I've encountered some but these e-dictionaries do contain some features as the hardcopy dictionaries" (Participant A1; FGI)

Participant T5 has been using monolingual e-dictionaries but the concerns rise with the bilingual e-dictionaries especially for the Malay-English version. Participant T5 suggested that e-dictionaries developers need to take this matter seriously by appointing credible individuals to develop the bilingual e-dictionaries.

> "As for me, bilingual e-dictionaries are lacking in suitable word definitions for sure. Maybe there are not using qualified person to make it, I don't know I'm just saying it. There's no problem with the monolingual ones because so far it is okay for me. For the bilingual ones, something needs to be done" (Participant T5; FGI)

This finding is in line with Dashtestani (2013) whereby they found out those EFL learners have lack of access to relevant e-dictionaries. The inadequate definitions available in bilingual (Persian-English) dictionaries have discouraged the educators from using e-dictionaries in language classes although learners favoured to use e-dictionaries.

Another setback is classroom distraction which has been a concern for one particular participant and this consistent with Dashtestani (2013) study. Learners admitted to not giving their full attention to the lesson as they were occupied with their gadgets (e-dictionaries). "Oh, maybe it is just me. I am easily distracted. When I go online to search for the meanings, I tend to visit other pages too. I feel guilty for not paying attention to the lecturer in front. That is why I would prefer to use BESTA" (Participant A2; OEQ)

Despite the setback mentioned, tertiary EFL learners prefer to use e-dictionaries in comparison to printed dictionaries during their language classes and independent learning.

Conclusion

E-dictionaries search for word meanings quicker compared to printed dictionaries and according to the participants it is almost as reliable as the printed dictionaries. Besides that, it does not require the user to flip through the pages as it exists in digital format and user just need to type in few keywords on the search bar and the results will appear seconds later. Other than that, learners can learn how to pronounce the words properly. E-dictionaries are also one of the platforms for users to check their spelling as well as the synonyms. By doing so, it guides the users to be more competent in the second language.

Four of the difficulties listed were in line with Dashtestani (2013) study. Although e-dictionaries have its potentials, it also brings a few limitations and this issue needs to be looked upon by the e-dictionaries developers. Some concerns in accessing through e-dictionaries are limited internet access, incomplete definitions and credibility, and

classroom distraction which lead to learners not able to give full attention in class when they were occupied with their gadgets.

E-dictionaries have been helping the participants to learn new words due to its flexibility and ease of use. Since e-dictionaries contain visual interaction therefore it promotes self- learning concept. Besides that, it also gives clearer vocabulary instruction. The ease of use found in e-dictionaries includes the web search, thesaurus and translating tool (for bilingual e-dictionary). E-dictionaries are easier to use, it allows them to search for meanings faster compared to printed dictionaries. Aside from that, it also helps them to learn about the proper pronunciation of words. E-dictionaries are one of the tools in promoting vocabulary learning among language learners (Amirian & Heshmatifar, 2013). Besides enriching learner's vocabulary, it also has visual impacts which contain interactive interaction compared to printed dictionary. In addition, Kitchakarn (2015) found out that learners have positive attitudes in using technology in their learning as younger generation nowadays is adaptable to the world of information technology.

E-dictionaries content developer should collaborate with the experts in the language. The experts in the language should be able to provide decent understanding of the words as well as providing reliable explanation regarding the words. Teachers or course facilitators could suggest some useful e-dictionaries to the learners. This will encourage the learners to use it since it is being suggested by their teachers or course facilitators. On top of that, teachers can also promote the use of e-dictionaries in classroom. E-dictionaries are one of the tools used widely by language learners to develop their vocabulary list. Learners can learn at their preferred setting thus making them becoming more competent language users. By having a wide range of vocabulary, it will help learners to boost up their four main language skills; speaking, reading, writing and listening.

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Contact email: maslawati@ukm.edu.my

Positive Teacher Attributes through the Eyes of the Learner: In Japan and a Wider Asian Context

Andrew Leichsenring, Tamagawa University, Japan

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Abstract
Positive teacher influences can contribute to learner knowledge, skill acquisition, and a positive learning environment (Jahangiri & Mucciolo, 2016). The current study provided a year-long cross-sectional analysis of 157 Japanese undergraduate students' perceptions of good teacher attributes using a mixed methods design. This study explored attributes selected by the learners and the contexts in which these individuals formed favorable perceptions as evidenced through their reflective written narratives. Additionally, the variables of learner gender and teacher gender were introduced and explored in the current research. The researcher found that, overall, learners' most commonly referred to high school male English teachers as the profile type of a good teacher in this study. Learners most notably perceived 'good' teachers to be friendly, knowledgeable, empathetic, and humorous. Also, respect for the teacher/student relationship dynamic and a teacher's sternness were important underlying themes elicited from learners' perceptions. The findings were compared with those of other contemporary Asian-based studies (Al-Mahrooqi, Denman, Al-Siyabi, & Al-Maamari, 2015; Çelik, Arıkan, & Caner, 2013; Liando, 2010; Nghia, 2015; Wichadee, 2010) relevant to this field.

Keywords: Asian learners, Japanese learners, learner perceptions, positive teacher attributes

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Introduction

The current study explored learner perceptions of Japanese learners on positive teacher attributes. A two-stage exploratory study was implemented and due to an absence of recent Japan-based studies on the identification of 'good' teacher characteristics, the scope of this study was expanded beyond a Japan-centric context to analyze the results in comparison with several non-Japanese Asian-based studies (Al-Mahrooqi, Denman, Al-Siyabi, & Al-Maamari, 2015; Çelik, Arıkan, & Caner, 2013; Liando, 2010; Nghia, 2015; Wichadee, 2010) to develop a foundation for research into the makings of a good teacher through the eyes of Asian learners. The current research explored personal qualities that learners identify with when exemplifying the profile of a good teacher for the benefit of teachers who are teaching in Japan or other Asian countries and who consider the perceptions of their students as being a valuable asset for their own professional teacher development.

Literature Review

Adams and Pierce (1994) argued that [even] many years of experience doesn't guarantee expert teaching because experience is only useful when the teacher continually engages in self-reflection and modifies classroom techniques to better serve the needs of students. As a professional tool, reflective practice can be used by teachers to understand themselves, their personal philosophies, and the dynamics of their classroom more deeply (Robbins, Ashbaker, Enriquez, & Morgan, 2003).

While aiming to be a perfect teacher is not a realistic goal, to be a good or a better teacher is attainable. Reflection upon one's teaching practice cannot be viewed in isolation from the daily interactions that the teacher engages in with students. Teachers can gain from what they feel constitutes effectiveness with their students and in their particular educational context (Coombe, 2013). Coppedge and Shreck (1988) acknowledged that teaching effectiveness is influenced by knowledge of subject matter and teaching methods or materials but what really matters to students are the teacher's human qualities.

Learners' perceptions of their teachers are valuable because of the thousands of hours that learners spend in direct contact with classroom teachers by the time they graduate from high school: an 'apprenticeship' of observation (Lortie, 1975). Student beliefs on good teaching are important because students see teachers on a daily basis and are able to comment on teaching in good (and adverse) teaching situations (Bullock, 2015). The exploration of positive teacher attributes in the form of personal qualities displayed by teachers and as observed and recognized by learners was the main focus of this research. Due to an absence of Japan-based studies about 'good' teachers and/or good teacher attributes over the past two decades (see Hadley & Hadley, 1996; Makarova & Ryan, 1997; Shimizu, 1995), the exploration of learner perceptions in the current research was extended to other Asian-based studies to broaden the scope of understanding of the personal qualities that learners identify in teachers as being favorable to their learning and personal development.

The current study's exploration of the making of a good teacher through the eyes of learners encompassed a broadened scope beyond that of most commonly selected positive teacher attributes to include other variables that can influence perceptions of

good teaching, such as culture, gender, subject area, and school level (Zhang & Watkins, 2007).

Methodology

This mixed methods-based study employed an interpretive paradigm. Wray (2007) noted that an interpretive paradigm allows the researcher to develop an understanding of meanings from learners' actions, their experiences and histories that they have had, and how they are understood in the context of these interactions. In the current research, the researcher explored the perceptions of learners' interactions with one good teacher that they had experienced in their life and the descriptive interpretations provided by the learners of those experiences with reference to the social and historical contexts in which they took place, i.e., the educational setting. The employment of a mixed methods-based approach in the current study aimed at strengthening the persuasive and rigorous collection and analysis (Creswell & Plano Clark, 2011) of both qualitative and quantitative data.

The current study consisted of a two-stage cross-sectional exploration of learner perceptions of good teachers using three instruments for data collection: two quantitative instruments, a student questionnaire (see Appendix A), a positive teacher attribute checklist (see Appendix B); and one qualitative instrument, a reflective blog activity (see Appendices C and D). These documents were written in both English and Japanese for the participants' comprehension. The researcher analyzed the data using descriptive statistics to illustrate the good teacher examples in relation to the variables of gender, education level taught, and subject taught, which were discussed by learners in this study.

Data were collected via non-random sampling to allow for all blog posts to be analyzed by the researcher with the aim of delving deeply into the details of experience related to the five highest rated attributes identified in aggregate from the participants. The five highest rated attributes provided the themes for analysis. The blogs were analyzed by the researcher for contextualized interpretations of the reasons behind the learners selecting the variables of: learner gender, teacher gender, education levels taught by teachers, subjects taught by teachers, and positive teacher attributes. Table 1 illustrates the characteristics of Stage One and Stage Two and the variables used in this study.

Table 1
Characteristics and variables in the stages of the current research

***Characteristics* & variables**	**Stage 1**	**Stage 2**
No .of Participants	*35*	*122*
No. of Males & Females	*13 males & 22 females*	*67 males & 55 females*
No. of teacher attributes on checklist	*24*	*25*
Learner gender	O	O
Teacher gender	X	O
Education level taught	O	O
Subject taught	O	O

Note: 'O' denotes variable included in study & 'X' denotes variable not included

Student Questionnaire & Teacher Attributes Checklist

Learner perceptions were initially identified by a questionnaire requiring participants to: identify the profile of their good teacher selection by including the education level, subject, and teacher's gender (added for Stage Two only); and complete a consent agreement to participate in this research, see Appendix A. As noted in Appendix A, the education level of 'Other' includes: Eikaiwa (a Japanese word meaning English conversation school); Juku (a Japanese word meaning cram school); Tutor (a private or school tutor); and 'etc.' (a coach or other educator). Neither participation nor nonparticipation in the research had any bearing on the grading of participants during enrolment in their English course. Participants were informed orally by the researcher that they could withdraw from the research at any stage. Also, participants were requested to select their top five teacher attributes that a good teacher exhibited from a list of attributes (24 attributes for Stage One & 25 attributes for Stage Two, with 'sternness' added) which included spaces for different attributes to be added by participants if they wanted to do so in the boxes titled *other*, see Appendix B. Many of the teacher attributes used for the checklist were adopted from several studies (Azer, 2005; Barnes & Lock, 2013; Bullock, 2015; Coombe, 2013) and those noted in italics in Appendix B were developed by the researcher. The checklist was translated into Japanese and authenticated by several Japanese first language (L1) users (non-participants) to minimize the possibility that participants would understand the attributes through multiple meanings. The researcher refers to the use of 'attribute' to reflect personal qualities that a 'good' teacher may exhibit.

Reflective Blog Activity

Upon their completion of the student questionnaire and the teacher attributes checklist, participants were requested by the researcher to write a blog reflection explaining why that teacher was good, including a description of their experiences with that teacher through their individual interpretations. Students could not see each other's blogs online. Each participant was given several weeks to complete the writing task, see Appendix C. The blogs were to be written in English because the participants were studying in an English course. A sample of a learner's blog reflection is displayed in Appendix D. During the process of completing the blog activity the researcher monitored the participants' blogs to ensure that the writing was comprehensible. One-on-one interactions took place sometimes between the researcher and participants to clarify written meanings. Upon completion of the blogs, participants were given an opportunity to engage in small class group discussions by summarizing any or all of the details of their blog writings, in spoken English primarily. These discussions provided the experience for the participants to communicate their perceptions with others and for the researcher have the opportunity to observe these interpretive experiences that learners shared with each other.

Participants

In Stage One there were 35 participants, i.e., 22 females and 13 males, second year undergraduate students derived from two class groups. In Stage Two there were 122 participants, i.e., 67 males and 55 females, who were a mix of first and second year undergraduates derived from seven class groups. The participants were identified by

the researcher, in a briefing session prior to data collection, as having comprehensive learning experiences in Japanese educational settings.

Research Questions

1. What are the learners' most commonly selected positive teacher attributes? (Stages 1&2)
2. What influence may variables such as learner gender, teacher gender, education level taught by a teacher, and subject taught by a teacher have on learners' perceptions of a good teacher? (Stage 2)
3. What themes could be found in learners' blog reflections? (Stages 1&2)
4. How do the learners' most commonly selected positive teacher attributes from this study compare with those found in other Asian-based studies? (Stages 1&2)

Results & Findings

Top Teacher Attributes

In Stage One, the five most common teacher attributes and the number of times that they were selected by the participants were: friendly (23); knowledgeable (18); empathetic (15); enthusiastic about teaching (15); and humorous (14), see Table 2. In Stage Two of the study, the top five attributes and the number of times participants selected them were: friendly (63); enthusiastic about teaching (61); empathetic (59); kind (43); and knowledgeable (40), see Table 2.

Table 2
Top five positive teacher attributes (Stages 1&2)

	Stage 1 (n=35)			**Stage 2 (n=122)**	
1.	Friendly	n=23	1.	Friendly	n=63
2.	Knowledgeable	n=18	2.	Enthusiastic about teaching	n=61
=3.	Empathetic	n=15	3.	Empathetic	n=59
=3.	Enthusiastic about teaching	n=15	4.	Kind	n=43
5.	Humorous	n=14	5.	Knowledgeable	n=40

Note: Stage 1: 24 attributes (Sternness not included) / Stage 2: 25 attributes (Sternness included)

Top Teacher Attributes by Learner Gender

An analysis by gender in Stage Two revealed general agreement in the top five teacher attributes across both genders, despite some variance in their rankings. As displayed in Table 3, the attributes 'compassionate' (17) among males and 'humorous' (12) among females were the only attributes which were not shared between the genders. Additionally, 'sternness', which was introduced as an attribute for Stage 2, was rated sixth for males and equal sixth for females. Top teacher attribute selections based on learner gender for Stage One could not be combined with Stage Two results because the attribute of 'Sternness' was absent from Stage One data collection and analysis. Also, results for the top teacher attributes for each learner gender for Stage One are not been included in this paper because of the small number of participants in Stage One in relation to learner gender, i.e., 13 males and 23 females.

Table 3
Top teacher attributes for each learner gender (Stage 2 only)

	Male (n=67)			**Female (n=55)**	
Rank	Attribute	Total	Rank	Attribute	Total
1,	Enthusiastic about teaching	23	1.	Empathetic	23
2.	Knowledgeable	19	2.	Enthusiastic about teaching	20
3.	Empathetic	18	3.	Friendly	19
=4.	Compassionate	17	4.	Knowledgeable	14
=4.	Friendly	17	5.	Humorous	12
6.	Sternness	16	=6.	Sternness	10

As displayed in Table 4, a breakdown of learner gender for Stage Two top five teacher attributes showed similarities among the total male and female populations respectively for the top three attributes: friendly (31/32); enthusiastic about teaching (33/28); and empathetic (27/32). However, differences existed for the third and fourth attributes when comparing the gender populations respectively: kind (27/16); and knowledgeable (28/12).

Table 4
Learner gender breakdown of top five attributes (Stage 2 only)

	Teacher Attribute (ranking)	**Total (n=122)**	**% of total pop.**	**Male (n=67)**	**Male % of total pop.**	**Female (n=55)**	**Female % of total pop.**
1.	Friendly	63	52%	31	49%	32	51%
2.	Enthusiastic about teaching	61	50%	33	54%	28	46%
3.	Empathetic	59	48%	27	46%	32	54%
4.	Kind	43	35%	27	63%	16	37%
5.	Knowledgeable	40	33%	28	70%	12	30%

Top Teacher Attributes by Education Levels Taught by Teachers

Learners' perceptions of good teachers taken from Stage Two included the variables of teacher gender and education level taught by teachers. In Figure 1, data indicates that high school teachers, specifically of the male gender, were most commonly chosen for learners' good teacher examples. The selections of good teachers at two education levels, i.e., elementary school and university were too few to offer any meaning in the current study. Based on Stage Two data, Table 3 provides an analysis of the three main education levels referred to by learners and the numbers of times that they were referred to: high school (63); junior high school (28); and other (17).

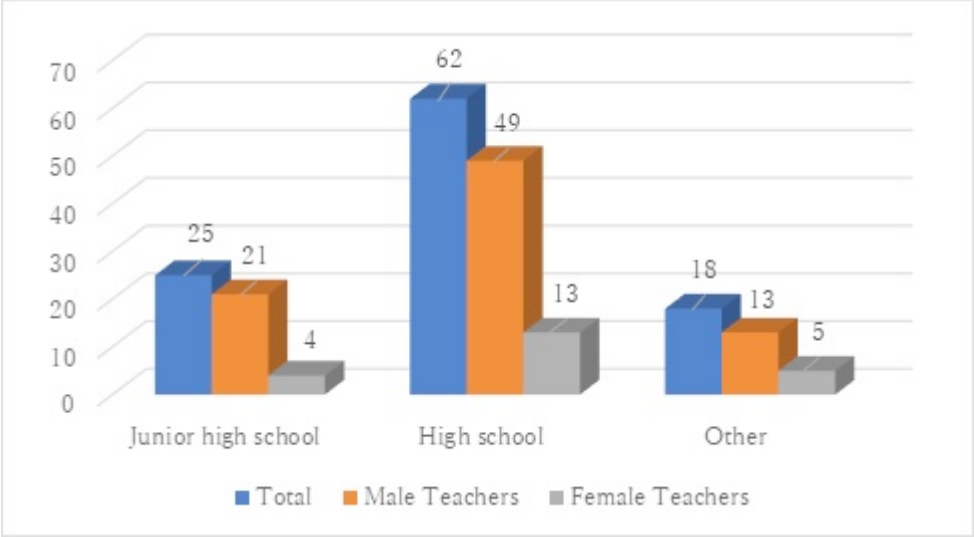

Figure 1: Teacher gender & education level taught (Stage 2 only)

The top five teacher attributes by education level taught by teachers for Stage Two, see Table 5, indicated that the majority of these attributes were present across the three most commonly selected education levels. Three attributes, i.e., humorous, compassionate, and knowledgeable, were the only exceptions with each of them appearing in only one education level respectively.

Table 5
Top five teacher attributes by education levels taught by teachers (Stage 2 only)

Other (n=18)		**Junior High School (n=25)**		**High School (n=62)**	
Attribute & Total		Attribute & Total		Attribute & Total	
Friendly	10	Enthusiastic about teaching	16	Friendly	36
Enthusiastic about teaching	9	Compassionate	9	Empathetic	35
Empathetic	8	Empathetic	9	Enthusiastic about teaching	28
Kind	7	Friendly	9	Knowledgeable	28
Humorous	7	Kind	9	Kind	24

Top Subjects taught by Teachers

The top subjects taught by teachers as selected by learners from Stages One and Two, in total, are displayed in Figure 2. Two of the top six subjects and the number of times they were referred to by learners in their selection of good teachers were: English (38); and Mathematics (37). Among the 157 participants there was one case of a student who was taught two subjects by one teacher, i.e., English and Mathematics, and two students who were each taught three subjects by their teacher, i.e., English, Japanese, and Mathematics.

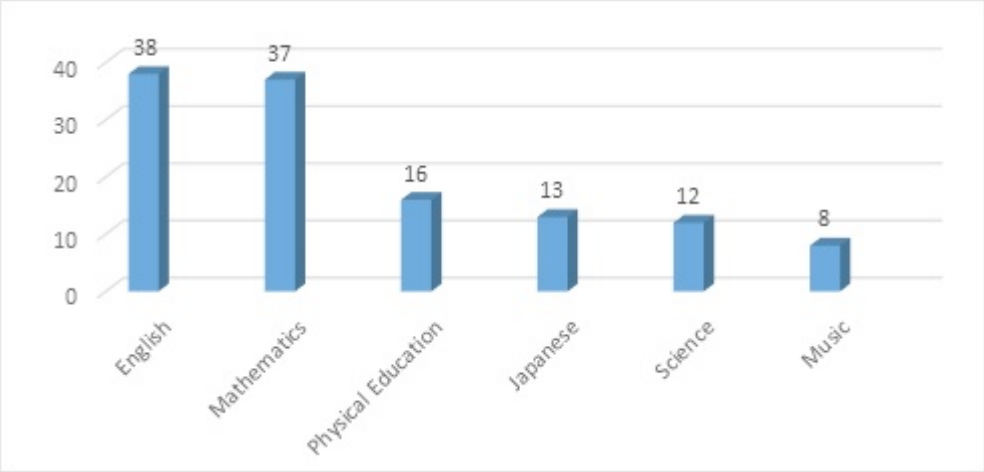

Figure 2: Top subjects taught by teachers (Stages 1&2)

Reflective Blog Accounts of the Top Five Attributes (from Stage Two)

Learners provided written reflections on their selections of one good teacher in their life. Non-random sampling of the blog postings resulted in the following extracts being selected by the researcher to represent learners' interpretations of their good teacher examples in the light of the top five positive teacher attributes found in Stage Two. The top five attributes in Stage Two and the number of learners who referred to them in the checklist and blogs were: friendly (63); enthusiastic about teaching (61); empathetic (59); kind (43); and knowledgeable (40).

Friendly

'Friendly' was often referred to by learners in relation to positive conversations that learners had with teachers:

> She taught me Math since when I entered high school. She is a friendly woman. Her class is very happy and everybody laugh because she talk about many topics *(Stage 2 Participant 14, Female/Female High school Mathematics teacher).*

> Also, he was friendly with students. They talk happily when he talks to them. So there were always students around the teacher *(Stage 2 Participant 44, Female/Male High school Science teacher).*

Enthusiastic about teaching

Learners depicted good teachers as being 'enthusiastic about teaching' when they demonstrated a passion for their job and a desire to support students' interest and effort in curricular and extracurricular activities:

> He is enthusiastic about teaching. His method of teaching is easy to understand. He uses many examples and related words to explain things we don't know *(Stage 2 Participant 92, Female/Other - Male Eikaiwa English teacher).*

> I didn't like Physical Education, so I gave up exercising. But my teacher was enthusiastic about teaching. Now, I like exercising very much *(Stage*

2 Participant 97, Female/Female Junior high school Physical Education teacher).

Empathetic

Learners referred to 'empathetic' in relation to their perceptions that a good teacher has an understanding of, and a desire to accommodate, a learner's point of view or circumstances:

> He is a very caring and empathetic teacher. Thinking always a student first. I was helped many times. For example, he kindly answered the question of the homework *(Stage 2 Participant 29, Male/Male High school English teacher).*

> She is an empathetic teacher. When I cried in hard school life, she listens to my worries *(Stage 2 Participant 41, Male/Female High school Social Studies teacher).*

Kind

Being 'kind' was referred to by learners in their good teacher examples and exemplified as acts that made students feel respectfully considered:

> He was very kind because he never was angry at us *(Stage 2 Participant 51, Female/Male High school Mathematics teacher).*

> I liked him because he was kind. He always smiled and said hello to us in our class *(Stage 2 Participant 21, Male/Male Elementary school Physical Education teacher).*

Knowledgeable

Learners perceived good teachers as being 'knowledgeable' when they were well-versed on a range of topics or subjects and could communicate their depth of understanding to a student's advantage for learning:

> The teacher is a knowledgeable person. When I study agriculture, he told me a lot of agricultural knowledge. I don't know much about agriculture. But I am glad to get new agricultural information *(Participant 81, Male/Male University Biology teacher).*

> He is very knowledgeable. He taught Japanese, Math, English, Science, & Social Studies *(Participant 63, Male/Other - Male Juku English, Japanese, & Mathematics teacher).*

Themes from Reflective Blog Accounts (from Stage One and Stage Two)

From analysis of learner's interpretations in Stage One, three themes emerged from the written reflections. These themes and the number of times that they were selected by learners from Stage One and Stage Two were: recognition: gratitude/respect (37); life-changing impact (24); and bonds & ties (10). An additional theme emerged in Stage One analysis and was introduced as a teacher attribute in Stage Two data collection, i.e., 'sternness'.

Recognition: Gratitude/Respect

Approximately 1-in-5 learners referred to their feeling of appreciation and respect for the good teacher that they selected:

> He thought of everyone's mental anguish until late at night. In addition, he was a head teacher of a grade for three years so he must have been quite tired. I cannot thank him enough. Thanks to him I could have an enjoyable daily school life *(Stage 1 Participant 3, Female/Male High school English teacher).*

> He had many inspiring words so I could have confidence when I heard them before a contest. I was able to grow up thanks to him. I want to become the person like him *(Stage 2 Participant 40, Male/Male High school Music club activity teacher).*

Life-Changing Impact

Approximately 1-in-6 learners talked about the influence that a good teacher had on changing their life for the better:

> When I got lost about my course for university he advised me how to decide the course of university and what I want to learn in university. I was helped by his advice and I was able to decide my course *(Stage 1 Participant 33, Female/Male High school teacher, Unknown subject).*

> I was a very naughty boy…I played tricks on my friends…I made the same error many times. I was reprimanded by him for my behavior. If he had not seen the event I would have repeated the action. Thank you to him for pointing out my bad thing…this is a memory that I will not forget for the rest of my life (Stage 2 *Participant 16, Male/Male Elementary school Physical Education teacher).*

Bonds & Ties

Approximately 1-in-16 learners mentioned their feelings of a strong personal connection with the good teacher that they selected:

> His life story is very strange. His life history has many interesting episodes. And he is friendly. I am in contact with him now. I will go to his home and eat lunch with his family. His family is very friendly too. So I love his family *(Stage 1 Participant 6, Female/Male High school English teacher).*

> After my high school graduation I contact him by Facebook even now. We meet and talk about our lives when I go back to my hometown *(Stage 2 Participant 52, Female/Male High school Mathematics teacher).*

Sternness

'Sternness' was a theme that emerged in Stage One with 9 out of 35 learners referring to it. Consequently, it became an overarching term used by the researcher to identify with learners' interpretations from keyword associations that were found in data analysis. These words and the number of learners who referred to them were: frightening (1); get mad at me (1); hit by him (1); scared (1); scolded (1); serious (1);

severe (2); sharp tongue (1); strict (1); and tell off me (1). In Stage 2, sternness was added to the teacher attribute checklist (see Appendix B) and 26 out of 122 learners selected it. An example of sternness from a learner's blog in Stage Two was:

> She is stern in my club. She was always mad at me. I didn't like her at first. I had known she was kind when I continued for a long time. I was inspired by her that she was mad at me *(Participant 89, Female/Female High school Physical Education teacher).*

Extracts from learners' written reflections provided snapshots of the interpretations of individual learners based upon the understanding that the learners wanted to express their perceptions of personal qualities which good teachers exhibited.

Discussion

Teacher Attributes

In relation to the first research question: 'What are the learners' most commonly selected positive teacher attributes?' - the most popularly selected attributes from Stages One and Two showed consistency across these stages with four attributes present in the top five lists: enthusiastic about teaching; empathetic; friendly; and knowledgeable, see Table 2.

Education Levels and Subjects

In regard to the second research question: 'What influence may variables such as learner gender, teacher gender, education level taught by a teacher, and subject taught by a teacher have on learners' perceptions of a good teacher?' - the most commonly selected education levels taught by teachers and the number of times that they were referred to by learners in Stages Two were: high school (63); junior high school (28); and other (17). Elementary school and university 'education levels' were not selected enough times by learners for the researcher to make a position on their significance to this study. The range of subjects taught by the good teachers selected varied significantly, see Figure 2). In Stage Two, English (38) and Mathematics (37) were the subjects taught by teachers most commonly referred to by learners. Although the learners were enrolled in a mandatory English course at the time this research was being conducted, none of them were undertaking an English major at university. So, the reason/s why English was the most commonly referred to subject taught by teachers can only be speculated.

Teacher Attributes and Learner Gender

In Stage Two, four of the five most commonly selected teacher attributes by male and female learners were the same: enthusiastic about teaching; empathetic; friendly; and knowledgeable. The sample pool for Stage One was too small to draw any significance from in relation to a connection between teacher attributes and learner gender.

Teacher Gender and Education Level

Both male and female learners in Stage Two most commonly selected high school teachers and male teachers for their good teacher, see Figure 1. High school male

teachers were selected 49 times and high school female teachers were chosen 14 times, while junior high school male teachers were chosen 21 times and 'other' male teachers were selected 12 times. It can only be speculated as to why male teachers were selected more often than female teachers. This difference and the low number of selections of elementary school and university teachers warrants further investigation.

Emergent themes

In relation to the third research question: 'What themes could be found in learners' blog reflections?' - the emergence of three themes, i.e., recognition: gratitude/respect, life-changing impact, and bonds & ties, from the written reflections in Stage One was collaborated by their presence in Stage Two. These emergent themes provided evidence from the learners of the influence that good teachers can have on their learners.

Emergent Attribute

Twenty-six participants selected 'sternness' in the teacher attribute checklist in Stage Two, while nine participants made a total of eleven keyword associations which the researcher noted as relating to the concept of sternness. However, its presence in the data may be related to the prominence of the sempai/kohai relationship between teacher and learner in Japan (Hadley & Hadley, 1996). However, to what extent the learners may have considered sternness as a positive teacher attribute is unclear.

Positive Teacher Attributes: Comparisons with Other Asian-based Studies

In relation to the fourth research question: 'How do the learners' most commonly selected positive teacher attributes from this study compare with those found in other Asian-based studies?' - five Asian-based studies were introduced to explore comparisons among learner perceptions of teacher attributes with the current research, see Table 6. These studies were selected for: their recency; sample size; participants' profile; and focus on positive/effective/best teacher characteristics, which complemented the current study.

Table 6
Comparative Asian-based studies

Country/Study	No. of Participants	Participants' Profiles	Focus of Study
Indonesia Liando (2010)	126 students 28 teachers	Undergraduates	Best EFL teacher characteristics
Japan *The current study (2016)*	*157 students*	*Undergraduates*	*Positive attributes of good teachers*
Oman Al-Mahrooqi et al. (2015)	171 students 233 teachers	High school students	Characteristics of good EFL teachers
Thailand Wichadee (2010)	400 students 53 teachers	Undergraduates	Characteristics of effective English teachers
Turkey Celik et al. (2013)	998 students	Undergraduates	Qualities of effective EFL teachers
Vietnam Nghia (2015)	358 students	Adults (18-27 yrs. old)	Qualities of English teachers for enhanced learning

Among the five other Asian-based studies, 'friendly' was selected by learners in three of the studies, while 'enthusiastic about teaching' and 'fair' were selected twice. 'Friendly' and 'enthusiastic about teaching' were top five attributes in the current study. Other attributes which were selected one time across those five studies, see Table 7, and found in the current study's teacher attribute checklist (see Appendix B) were: caring; creative; good communicator; good listener; and patient. Although 'helpful' was absent as an attribute in the current research, it was listed as a top attribute in two of the studies, see Table 7.

Table 7
Comparative Studies & their top attributes

Country & Study	**Attributes & Rankings**				
	1st	**2nd**	**3rd**	**4th**	**5th**
[Indonesia] Liando (2010)	Friendly	Intelligent & Explains things well	Nice	Interesting & Humorous	Patient
[Oman] Al-Mahrooqi et al. (2015)	Fair	Caring	Just	Good communicator	Enthusiastic about teaching
[Thailand] Wichadee (2010)	Interested in students	Helpful	Alleviate students' anxiety in class	Listens to students	Approachable & Friendly
[Turkey] Celik et al. (2013)	Fair & Just	Enthusiastic	Friendly	Loving	Creative
[Vietnam] Nghia (2015)	Dedicated*	Friendly*	Helpful*	Understanding*	Trusted & Respected*

Note: * denotes attributes from Nghia's (2015) study do not include rankings

There are several significant results from the studies that are worthy of reflection in the study of good teachers. In Liando's (2010) study, 100% of participants selected 'friendly' as a quality that they want in a teacher. In Nghia's (2015) study, participants wanted teachers whom they could ask for consultation in learning methods or constructive feedback, both in and after class. While in Al-Mahrooqi et al. (2015) study, participants valued a teacher's ability to build good rapport and a strong relationship with them.

Limitations

Several potential issues were identified in the current study. English was selected most commonly as a subject taught in the good teacher examples in the reflective blog activity. It can only be speculated that this subject selection may have been influenced by the situated research setting, i.e., the researcher is an English teacher and the research was conducted in an English course setting. However, Mathematics was an almost equally common subject selection. To reduce the potential for the meanings of the check listed teacher attributes (see Appendix B) having multiple meanings, 5 non-participant Japanese L1 users volunteered their translated choices for each of the attributes and all had the same Japanese meanings which were then included below each attribute on the checklist. Due to a significant variation in the number of teachers selected by the learners in regard to the five education levels, elementary and university teachers were not commonly represented and an analysis of these two education levels could not be successfully explored. Finally, the Asian-based studies

and their findings discussed in the current research are only snapshots of learner perceptions of teacher characteristics (attributes) and cannot be said to represent nationwide learner perceptions of good teachers.

Conclusions & Recommendations

The current study explored Zhang & Watkins (2007) notion that perceptions of good teaching can be influenced by a variety of factors, i.e., learner gender, teacher gender, subject and education level taught by a teacher. The top teacher attributes selected by learners in Stages One and Two of the current study were very similar. There were no significant gender differences found for good teacher attributes in the current study. This result was paralleled by findings in the studies by Nghia (2013) and Wichadee (2010). The results of the current study and other Asian-based studies (Al-Mahrooqi, Denman, Al-Siyabi, & Al-Maamari, 2015; Çelik, Arıkan, & Caner, 2013; Liando, 2010; Nghia, 2015; Wichadee, 2010) discussed in this paper may be useful in both a practical and a theoretical sense, as they can inform teachers about the personal qualities that are perceived by learners to be most important. Thus, allowing them to shape their practice in order to better meet the needs of learners. Additionally, the findings may assist administrators and educational policy makers in formulating decisions concerning curriculum design, teacher development programs (Celik et al., 2013), and student-centered teacher evaluation.

With future progress of this research in mind there are several elements that can be added to the current research. An expanded sample pool may offer the opportunity for a deeper exploration of the variables included in the present study, such as learner gender, teacher gender, subject level taught by a teacher, and education level taught by a teacher. A shift from an exploration of learner perceptions of a good teacher example to a good 'English' teacher example, utilizing the same five education levels taught by teachers, will realign the research to focus on one specialist area of teaching and complement the researcher's professional English teacher development. The continued improvement of giving instructions to participants can improve the accuracy of answers submitted in the student questionnaire, such as accurately naming a subject taught so that no unknown subjects are listed by learners. The inclusion of focus groups, for a post reflective blog activity, could provide a greater detailing of the reasons made by learners about the good teacher profiles that they select. Also, a further exploration of comparative studies in this field may support the development of culture as a variable that influences learner perceptions of personal characteristics found in good teachers.

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Contact email: andrew@lit.tamagawa.ac.jp

Appendices

Appendix A
Student Questionnaire

Choose one – mark X	Education level
□	Elementary school
□	Junior high school
□	High school
□	University
□	Other (Eikaiwa/Juku/Tutor, etc.)
My teacher was □ Male / □ Female	
My teacher taught _____ (write the subject here).	

Appendix B
Teacher attributes checklist

	Flexible		Friendly		*Compassionate*
	Honest		Fair		*Plays games*
	Humorous		Caring		Polite
	Prepared		*Good communicator*		Motivational
	Enthusiastic about teaching		Knowledgeable		*Self-confident*
	Kind		*Leader*		*Inspired*
	Creative		Organized		Empathetic
	Patient		Good listener		Unbiased
	**Sternness*		Other		Other

Note: Attributes developed by the researcher are italicized - Sternness was added for Stage Two use

Appendix C
Reflective blog activity task

Write an experience you had with one teacher who you think was a good teacher for you. What happened? Why do you think that your teacher was good? (100-150 words)

Appendix D
Reflective Blog activity sample

My good teacher is a cram school. She taught me English. She was a very friendly woman that I like. In class time she always interesting talk with me in English. Not only talking partner but enthusiastic about teaching teacher. She taught me very politely but I can't speak English. However she taught very politely. She never give up taught for me. In addition she is a good listener. Always getting tired, she tried to understand my easy English. telling of an enthusiastic teacher is my motivational up. I'm very thankful to this teacher. I hope is to be like her. (101 words) *Stage 2 P8 Female/Other - Female English Juku teacher*

Changing Instructional Practice with a Science Center workshop: The Journey of Six Elementary Science Teachers

Queen Ogbomo, Tennessee Technological University, United States

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Abstract
The purpose of this qualitative case study research was to ascertain the significance of the professional development workshops organized by a science center in a Midwestern city of the United States. The research investigated the effect the workshop had on the instructional practice of the participating elementary science teachers. This study was guided by the following research question: How do the professional development programs at a science center help teachers change the way they teach and consider science in their classroom? The six elementary school teachers in this study were identified as a result of their participation in the science center workshop. Teachers' self-efficacy regarding the teaching of science was sought through a Likert-style survey and triangulated with classroom observations and interviews of individual teachers.
The findings of this study revealed two overarching themes: one, that the workshops were beneficial to some and two, that it did not improve instructional practice of others. The paper will identify the reasons given by the teachers why they thought the workshop was relevant and beneficial or not. Though this study utilized a small sample of teachers, those involved in this study felt they acquired knowledge that would be either beneficial to them or to their students and they particularly enjoyed the inquiry-based activities that were conducted at the science center workshop. This study contributes to research that informs school administrators of the need for continued teacher professional development.

Keywords: Professional development, Science center, instructional Practice

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Introduction

Achieving scientific literacy for all has continued to be a challenge for science education scholars as the scientific community strive to reform our science standards. According to the reform standards, "scientific literacy has become a necessity for everyone" (NSTA, 1989, p.1,). Scientific literacy as suggested by the National Research council (2000, 2013) and the American Association for the advancement of science (1994) is the ability to understand and have knowledge of science concepts and processes. Bybee (2000) noted that though the national goal is to achieve scientific literacy, "this remains a challenge" (p. 45). Fulfilling this goal, Bybee continued, would require collaboration between formal and informal institutions. These informal institutions include Science Centers, Museums, Community Outreach programs and Cultural institutions which educate the public outside the regular school setting (Anderson, Lucas, & Ginns, 2003; Dierking, Falk, Rennie, Anderson, & Ellenbogen, 2003; Falk & Dierking, 2000; Hein, 2000, Kisiel, 2013; Roberts & Bybee, 2014).

The literature reveals that science centers and museums are assuming a dynamic role in the science education of children especially as public school budgets continue to decrease (Falk, 2001; Falk & Dierking, 2001; Kisel, 2013; Price & Hein, 1991). Researchers have suggested (Bitgood, Serrell, & Thompson, 1994, Schwan, Grajal, & Lewalter, 2014) that the traditional classroom is taking advantage of museums as informal learning environments. There is an increase in the number of schools turning to science centers, museums and zoos for the education of students (Price & Hein, 1991). These studies (Cox-Petersen, Marsh, Kisiel, & Melber, 2003; Dierking et al., 2003; Kisiel, 2013; Falk, 2001; Falk & Dierking, 2001) suggest science centers and museums provide experiences and resources that encourage hands-on learning and enhance creativity among elementary school children. It has also been suggested in the literature that these informal institutions provide students and science teachers alike, engagement in authentic science content learning and practices (Gano & Kinzler, 2011).

Statement of the Problem

Since the inception, of A Nation at Risk Report (1983) and the No Child Left Behind (2001) act the teaching of science still needs improvement. The attainment of science literacy a goal science teachers are still trying to achieve, is more than memorizing formulas and charts; it needs to help students understand the environment around them. A 2012 survey of science and mathematics education revealed that a large percentage of elementary school teachers did not major or minor in science during their college days. (Banilower, Smith, Weiss, Malzahn, K. Campbell, & Weis, 2013). How then can they be expected to teach science effectively to students? The problem, according to research, can be solved through extensive professional development (Loucks-Horsley, Love, Stiles, Mundry, & Hewson, 2010; Weiss, Banilower, McMahon, & Smith, 2001). There is still the question of how research can improve the teaching and learning of science in the nation's elementary schools.

Despite the acknowledgement that science literacy is of utmost importance, students are still not being provided with science experiences that are authentic or meaningful to them. It has also been documented that teachers lack the subject knowledge and

sometimes the resources to direct students to attain meaningful scientific inquiry (Kisiel, 2014). Lack of these resources have in turn led to avoidance of science topics not covered in science textbooks they were provided.

If teaching of science is to be improved, teachers need to fully utilize informal science learning resources available in their communities. Though many studies have documented the problems associated with the teaching of science (Abd-EL- Khalick, 2013; Abd-El-Khalick, Bell & Lederman, 1998, Hodson, 2014), very few have identified the potential resources science centers and science museums can provide. Empirical literature is also limited in terms of identifying how well aligned these professional development programs are with the needs of teachers. This study therefore focused on how this center can actively be involved with teachers to provide the inquiry-based experiences needed by students.

This study examined the professional development workshop offered by a science center. This is in recognition of the gap in available literature on the active role of science centers in the teaching of science. It also focused on the reflections of teachers who attended this workshop and whether attending this professional development workshop made any difference in the way they taught science in the classroom. The specific research question that guided this study was: How does the professional development program at this science center help teachers change the way they teach and consider science in their classroom?

Significance of Study

Educators today are asking if the skills children acquire in American schools would prepare them to compete globally with other world economies. Results of this study will inform educators as to how the workshop offered by science centers can help shape the way science is taught in elementary schools. The information can also be used by school administrators to collaborate with these out-of-school institutions to improve science teachers' instructional practice. It will also assist science centers, museums and other out of school institutions in recognizing their importance in the education of American children. Research also shows that adequate knowledge of science is a teacher's main tool in helping students learn science (Duschl et al., 2007). The authors argue that "currently K-8 teachers have a limited knowledge of science" (p. 296), a notion also supported by the 2012 survey by Banilower, Smith, Weiss, Malzahn, K. Campbell, & Weis (2013). Sustainable professional development is needed to overcome inadequate science content or science teaching self-efficacy of K-8 teachers currently in service.

Science centers have the potential to augment in-service training and provide resources for teachers. Since science is not one of the core subjects tested in the early grades, experience has shown that most school districts' curricula have narrowed to focusing on reading and mathematics in order to pass state standardized tests (Penna, 2007). This practice has placed limits on the kinds of experiences students and teachers have in school. Penna (2007) suggested that it is important for schools to look outside the school environment for resources that can help teachers improve the science learning experiences that students have, experiences much needed for them to learn about their natural environment. Science centers can therefore provide real-world experiences that will aid teachers in understanding the true nature of science.

Calls for reform require teachers to change their practice. However, as some researchers note Cohen and Ball, 1990, Davis, 2003) change is difficult, "And changing one's teaching is not like changing one's socks" (Cohen & Ball, 1990 p. 334). Changing the way one teaches requires a professional development that cannot be done in just one summer workshop, it has to be an on-going process. We must remember that, teachers who participate in in-service have many years of constructing their own way of teaching that involve their own personal beliefs and experiences. Teacher belief is not something that can be changed in one training.

The objective of any professional development program as suggested by Gall and Vojtek (1994) should be to improve teachers' professional skills and most importantly to encourage authentic learning. They also went on to state that any good professional development should take into consideration the need for teachers to enhance their teaching and make a difference in the lives of their students. According to Sparks (1988), this can be achieved through a program that is structured, encourages small-group sharing and problem solving sessions (as cited in Gall & Vojtek, 1994). A view also supported by Stewart (2014).

The answers to the research question in this study are intended to assist museums recognize programs most relevant to teachers and the ever-changing curriculum. It also highlights community resources available to teachers in the school districts in this Midwestern state. The answers will aid teachers to form partnerships with available science centers and museums, to develop their curriculum and provide other out-of-school opportunities for students to effectively gain scientific knowledge and to interact with the environment.
Answers to the research question also provide science centers the opportunity to examine the programs they offer if they are more engaging teachers.

Participants

The study started with ten teachers but due to attrition and time constraint only six teachers attending a Midwestern city science center professional development workshop completed the study. To examine how science center workshop, affect the field of science education, teachers were selected based on their interest in participating in the workshop and their ability to help this researcher best understand the phenomenon (Creswell, 2015). To keep the study balanced, teachers were purposely selected to represent different grade levels (1-6) and levels of teaching experience. These grades were selected because at these elementary levels teachers were teaching in a self-contained classroom, which made classroom observation more comprehensive. It also allowed for different perspectives about participants' teaching practices to be garnered (Creswell, 2015).
To guarantee rich data collection, participants selected were from several school districts in some Midwestern cities to allow for different instructional practices and experiences. Related literature reveals that a small sample size of 8 is common in qualitative case studies (Creswell, 2015; Miles & Huberman, 1994). This small sample size allowed the researcher to give a detailed description of each case. The small sample size was also due to the time constraint of school districts' academic calendar (Penna, 2007). The ultimate goal of this study was to use self–reporting techniques to gather information on how teachers feel about their ability to teach

science and how the professional development workshop helped them to make instructional changes. It was also to further the research knowledge of science centers' professional development for teachers and in turn enhance science teaching.

Methodology/Research Design

In this study, a collective case study was employed. A collective case study according to the literature is an instrumental study consisting of multiple cases focusing on a specific issue to understand each case (Creswell, 2015; Stake, 1995, 2003). The aim was to examine how science teachers' participation in a science center's professional development program changed their instructional practices. The importance of selecting each case was based on what Stake (2003) described as "balanced, variety and the opportunity to learn" (p. 135). There were other reasons for selecting a qualitative research design. Data collection occurred in a natural setting, where participants' perspectives were interpreted directly (Bogden & Biklen, 2003; Miles & Huberman, 1994; Stake, 1995). A case study according to Yin (1994) "is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (p. 13). Since qualitative research is more concerned with daily processes that shape a phenomenon (Bogden & Biklen, 2003; Gillham, 2000) a case study design allowed the researcher to view from the teachers' perspectives how what they do daily shapes their instruction. Also since several cases were examined to provide insight into the knowledge base in literature of how museum programs can change the way teachers teach science, a collective case study was more appropriate (Stake, 2000). To triangulate data, ethnographic tools such as observation and interviews were used in conjunction with a teacher efficacy survey to provide a holistic picture of participants' self–reflection and their teaching practices in the area of science.
Again, as this research focused on classroom practices, there was the need to reveal their self-efficacy beliefs to science teaching. A self-reporting of these beliefs informed the research of how these beliefs influence the way the participants teach science. The science teaching (STEBI-A) self-efficacy instrument developed in 1988 (Riggs) was adapted by Ramey-Gassert (1993). All 20 goals are presented and ranked according to a five-point rating scale (5=Strongly Agree, 4=Agree, 3=Uncertain, 2=Disagree, 1=Strongly Disagree).

Limitations

This study was based on teachers' beliefs or self-efficacy of how science can be taught in order to improve students' scientific experiences. It was also based on the assumption that professional development programs organized in informal settings such as science centers are relevant to the teaching of science in elementary schools. It is also assumed that teachers may not honestly provide answers to survey questions about the teaching of science and about their professional needs. On the other hand, science centers may identify professional development needs that may not be in the best interest of teachers. Another major limitation to this study that should be noted is that change takes time and this research had a 3-4-month time constraint.

Discussions/ Findings

The qualitative case study results offer narratives of six teachers perception of the professional development experiences and programs provided by the science center. Each participant described what was beneficial and what was not so beneficial to their instructional practices. Findings and results from observations, interviews and survey of teachers who participated in a science center professional development workshop revealed two themes. The following themes merged 1) workshop was beneficial and 2) it did not improve instructional practice. Themes were further explored to reveal the contributing factors or subthemes. As for theme one, teachers felt the following factors were gained from the workshop, scientific knowledge, opportunity to experience the unit, awareness of science center resources, teacher confidence, opportunity to collaborate with other teachers, teaching tips and the alignment of curriculum to the state content expectations. Theme 2 revealed factors that contributed to some teachers not feeling the workshops improved their instructional practice, and they include, strong science background, time constraint, loss of a full day of teaching and no follow-up activity.

Through the results of self-efficacy survey and the individual interview data teachers in this study clearly made their perceptions about the professional development and their beliefs in their ability to teach science and improve student learning known. Their efficacy beliefs may be due to the workshop provided by the science center or the number of years in the teaching profession. Overall, teachers involved in this study felt they received experiences that would be either beneficial to them or to their students and they particularly enjoyed the inquiry-based activities that were conducted in the science center. There were, however, areas they felt also needed some improvements to make it a more rewarding experience for them and their students.

Recommendations for Further Research

There are several ways this research can be extended. In this study, a very small sample of teachers who attended the workshop participated, which does not constitute the general view of all the teachers who attend such workshops. As the research on the importance of science centers continue to grow, a longitudinal research is needed to establish whether the workshops organized by these centers actually, have an impact on science teachers′ instructional practices. This study shed some light on teachers‟ perspectives on science center
workshops and their benefits to elementary school science teachers.

Further examination of the degree of impact through qualitative and quantitative methodology could provide a clearer picture of the science center workshop experience. In this study, recruitment of participants was done during the workshop which was organized in the middle school year. The time constraint contributed to the low number of participants in this study. It is therefore recommended that for future research teachers should be recruited earlier in the school year as it will give more opportunity for more classroom observations before and after the workshops. There is the belief that this might provide a more detailed account of any instructional improvements teachers make and if the improvements can be attributed to the workshop attendance.

As a result of time constraints, this study only focused on the post-workshop experience
of the participating teachers. To further extend this study, it is also recommended that a pre- and post-observation of classrooms be done to compare the instructional abilities of teachers before and after the workshop. This activity could provide a more explicit representation of the degree of change in their instruction after attending the workshops.

Conclusion

This study utilized a case study approach to explore the potential value of informal science institutions such as museum and science centers. It examined the effect of the professional development programs this center provide had on the science teachers who attended. This was achieved through the insight of six participating teachers obtained through workshop, classroom observations, interviews and self-efficacy survey instrument.

This study adds to the literature about science education because it brings to light how the integration of science center resources can enhance the instructional practices of elementary science teachers. Other researchers have noted limited effective professional development opportunities for teachers especially for science teachers who already feel inadequate to teach science because of their limited science background (Melber & Cox-Petersen, 2005). This study attempted to shed light on how informal science centers such as science centers can provide the additional information science teachers need to improve their instruction.

Majority of the teachers involved in this study reported that the workshop had a positive impact on their teaching practices. The extent to which the workshop experience improved their instructional practices is not known due to the small sample of participants and the duration of the study. It should be noted however that using a new sample is common in education research. However, more research is needed to determine how these informal science centers help teachers improve their instructional practices and positively impact student learning in science. The benefit of this study was also to draw attention of teachers to the use of workshops organized by science centers to fulfill their professional development needs.

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A Genre Analysis of Job Application Letters Written by ASEAN Applicants

Phanupong Thumnong, Khon Kaen University, Thailand
Angkana Tongpoon-Patanasorn, Khon Kaen University, Thailand

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Abstract
Recent genre-based studies on job application letters have increasingly focused on cross-cultural awareness. However, very few have been conducted in the ASEAN context and none have investigated at a regional level as of yet. Hence, this study aimed to analyze the generic structure (a.k.a. moves) used in job application letters written by ASEAN applicants. The data was collected from 30 job application letters written by 5 participants from each of 6 different nationalities including Indonesian, Malaysian, Filipino, Thai, Singaporean, and Vietnamese. A coding scheme synthesized from previous studies (Al-Ali, 2004; Bhatia, 1993; Henry & Roseberry, 2001; Upton & Connor, 2001) was employed to analyze moves in each letter. The findings were presented both as a whole to demonstrate the universal generic structure for the ASEAN region and separately to compare and contrast moves commonly used by each country. This study could provide ESP educators with teaching aids to increasing learner's awareness of the generic structure of a job application letter as well as the cross-cultural effect on writing in a genre.

Keywords: genre analysis, job application letters, move analysis, ASEAN

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1. Introduction

It is generally known that a résumé and a job application letter (a.k.a. a cover letter) are two essential documents in the employee recruitment process. In some practice, a job application letter functions as a transmittal document for the enclosed résumé. Bhatia (1993), however, pointed out that the letter offers an applicant with an opportunity not only to clarify the information in his/her enclosed résumé but also to exhibit an association between such information and the required qualifications in the job advertisement. By considering these characteristics, Bhatia (1993) categorized a job application letter as part of the promotional genre in business settings.

Bhatia's introduction has brought about a substantial number of analyses of the genre 'a letter of application'. Like other traditions of genre analysis, the ubiquitous focus of research on application letters is examination of move structure (a.k.a. schematic structure) (Henry & Roseberry, 2001; Hou, 2013; Nahar, 2013; Rahim & Arifin, 2014). The analysis of move structure allows researchers to gain insight into how writers in a particular genre achieve a specific communicative purpose within a certain boundary of linguistic units. Moreover, it also sheds light on how genre members organize each of the linguistic boundaries to make up the overall schematic structure to achieve one main communicative purpose of the genre (Vergaro, 2004; Swales, 1990).

One might believe that the move structure of a specific genre is so strictly constructed that no factors have an effect on it. Swales (1990), however, stated that a genre is dependent on the socio-cultural environment in which it is used, and different cultures use a genre dissimilarly. Bhatia (1993) also elaborated that different language users arrange their ideas contrarily when writing texts, and when it comes to writing in a new language, their texts appear to be in the same organization as their first language. These notions have encouraged genre-based researchers to take the cross-cultural awareness into account. Vergaro (2004), for example, investigated sales promotion letters written in Italian and English and found that letters from these two cultures differed in several aspects such as use of modality and politeness strategies.

Although cross-cultural research on the promotional genre has increasingly gained global popularity, very few of the previous studies have been conducted in the ASEAN context, and none have investigated this particular promotional genre at a regional level as of yet. Following this, socio-cultural variations or linguistic relation within the ASEAN region on writing an application letter has never been discovered. As the ASEAN region has considerable cultural and traditional variations (Crocco & Bunwirat, 2014), a study of the use of English language among the member states can therefore shed light on how individuals in each country convey their language through the discourse of writing an application letter. Thus, the present study aims to analyze moves used in job application letters written by ASEAN applicants.

2. Theoretical Framework

According to Bhatia (1993), the schematic structure of a job application letter consists of seven moves: 1) Establishing credentials, 2) Introducing candidate, 3) Offering incentives, 4) Enclosing documents, 5) Soliciting response, 6) Using pressure tactics, and 7) Ending politely. This structure provides a rhetorical organization that writers of

a job application letter can follow. Bhatia (1993) added that a writer neither necessarily write all of the seven moves nor arrange the moves in the exact order. In other words, the writer has a certain degree of freedom to select moves and sort them in an organization that best suits their communicative effort. However, some specific moves cannot be omitted from the letter, for they play a crucial role in achieving the communicative purpose. Specifically, the moves including Introducing the offer, Soliciting response and Ending politely are all necessary due to the fact that they are present in almost every sales promotion letter. These moves thus are considered to be 'obligatory' while the others are seen as 'optional' moves (Bhatia, 1993).

Bhatia's (1993) move structure has been employed as a framework for various studies (Al-Ali, 2004; Al-Ali, 2006; Maasum at al., 2007; Rahim & Arifin, 2014). Nonetheless, Henry and Roseberry (2001, p.155) argued that Bhatia (1993) neglected the notion of analysis in native speaker letters. They therefore conducted a move analysis of 40 application letters written by native speakers of English. The results of their study came up with eleven moves: 1) Opening, 2) Referring to a job Advertisement, 3) Offering candidature, 4) Stating reasons for applying, 5) Stating availability, 6) Promoting the candidate, 7) Stipulating terms and conditions of employment, 8) Naming referees, 9) Enclosing documents, 10) Polite ending, and 11) Signing off. This move structure differs from Bhatia's (1993) in certain ways. Firstly, two of Bhatia's – namely Establishing credentials and Offering incentives – were merged into the new move 'Promoting candidature' since they seem to hold the same communicative purpose: offering selected information signifying qualities relevant to the anticipated job position (Henry & Roseberry, 2001, p.159). Moreover, four moves which were not present in Bhatia's (1993) description were found; they include Referring to the Job Advertisement, Stating Reasons for Applying, Stipulating Terms of Employment and Naming Referee. Another difference is that Bhatia (1993) mentioned that job applicants can perform pressure tactics on the prospective employer by stating availability and/or writing sentences like "I look forward to hearing from you", yet Henry and Roseberry (2001) found no evidence of such purpose in any move in their letters. They also argued that the phrase "I look forward to …" is usually written to indicate the end of the letter rather than reinforce the reader to reply. Thus, Bhatia's move Using pressure tactics was excluded from Henry and Roseberry's (2001) move structure.

Henry and Roseberry's (2001) move structure of a job application letter provided insight into the context of native speakers. Upton and Connor (2001), however, believed that taking the cross-cultural concept into account might cast some fresh light on move analysis. They thus conducted a comparative move analysis of job application letters written by Americans, Belgians and Finns. It was revealed that most of the moves they found were fairly similar to Henry and Roseberry's (2001), yet there was a major difference in move interpretation. To clarify, Henry and Roseberry (p.160) considered expressions of welcoming response and offering to provide further information to be a polite ending; in contrast, Upton and Connor (p.18-19) considered these expressions to make up a move of their own and named it 'Indicating desire for interview or further contact, or signifying means for further communication/how to be contacted". Bhatia (1993) also suggested that when applicants express a desire for further negotiations, it can be inferred that they considered an interview to be a key indicator of success in the communicative effort of the application. Thus, the expressions of welcoming response and/or offering to

provide further information are not supposed to be interpreted as a signal of the end of the letter. The difference concerning move interpretation suggests that in order to realize moves appropriately one needs to concentrate on pragmatic functions that certain linguistic units are aiming for.

Furthermore, Al-Ali (2004) realized that there had not been a contrastive move analysis in the context of different languages. He thus investigated the move structure in Arabic and English job application letters and found ten moves: 1) Opening, 2) Referring to the source of information, 3) Applying for the job, 4) Glorifying the institution, 5) Promoting candidature, 6) Enclosing documents, 7) Invoking compassion, 8) Soliciting response, 9) Indicating willingness for personal interview, and 10) Ending politely. However, when each of the corpora was reviewed separately, it was found that Move 9 was only used by Americans whereas Move 4 and Move 7 were only employed by Jordanians. As a consequence, Al-Ali (2004, p.13) removed these three moves and proposed a seven-move structure. His contrastive move analysis shows that different languages use the same genre in different ways.

The move analyses of Bhatia (1993), Henry and Roseberry (2001), Upton and Connor (2001), and Al-Ali (2004) show that job applicants use and arrange rhetorical moves of a job application letter similarly in general but differently in specific. All in all, writing a job application letter deals with various kinds of communicative effort: describing one's qualities, persuading the target reader, stating desire, validating information stated in the resume and even expressing politeness. These communicative purposes together serve the main communicative purpose of this genre: 'to elicit a specific response from its reader' (Bhatia, 1993), or 'to create a desire on the part of the employer to hire the job applicants' (Brusaw et al., 1987 cited in Al-Ali, 2004).

3. Methodology

3.1 Sample

The sample were 30 English job application letters written by 5 participants from each of six different nationalities including Indonesian, Malaysian, Filipino, Thai, Singaporean, and Vietnamese, with a total number of 30 letters. The reasons for selecting these nationalities are the following. Primarily, the six countries are altogether considered to be major states driving the economy and especially supplying skilled labor force of ASEAN (Serrano, Marasigan & Palafox, 2004). Moreover, each of the six nationalities has different official languages (e.g. English in Singapore and the Philippines, Indonesian in Indonesia, Filipino in the Philippines, Bahasa Malaysia in Malaysia, Thai in Thailand, and Vietnamese in Vietnam). According to Thaweewong (2006), research on genre texts in professional settings is challenging due to the issue concerning confidentiality. In other words, most companies do not usually make their documents available for outsiders, making it difficult for researchers to acquire authentic genre texts. Taking this, the samples of the present study were collected from ASEAN participants who were invited to take part in the study. Once all the 30 letters were collected, names and any information that might identify the participants and particular institutions were removed. This practice is common in research on authentic genre texts as it protects confidential information of the sources (Al-Ali, 2004; Henry & Roseberry, 2001; Hou, 2013). From this point on,

the abbreviations: PH, ID, MY, SG, TH, and VN are used to refer to the nationalities: Filipino, Indonesian, Malaysian, Singaporean, Thai, and Vietnamese, respectively.

3.2 Coding scheme

In order to identify moves in each letter, a coding scheme was developed based on a synthesis of the four previous studies of job application letters (Bhatia, 1993; Henry & Roseberry, 2001; Upton & Connor, 2001; Al-Ali, 2004). However, the four move structures varied in the numbers of moves and interpretation, making it difficult to propose an anticipated move structure for the present study. Therefore, a pilot study was conducted by using the four structures to analyze 9 randomly selected letters in order to ensure moves of relevance to job application letters written by ASEAN applicants. It was found that job application letters written by ASEAN applicants seemed to contain eight moves, as shown in Table 1.

Code	Move Description	Example
M1	1. Opening: to identify and salute the target reader	*'Dear sir',* *'Dear sir or madam'*
M2	2. Referring to the source of information: to indicate how and/or when the applicant learned about the job position opening	*'I saw the housekeeping position which was posted by X.'*
M3	3. Offering candidature: to indicate a desire to be an applicant for the desired position	*'I would like to apply for X.'* or *'I am very interested in the vacancy of X.'*
M4	4. Promoting the candidature: to enhance the application by indicating selected information or other expressions persuading the reader to consider the application	*'I have five years' experience as X.'* or *'I have a Bachelor of Science degree in X.'*
M5	5. Enclosing documents: to refer to the resume enclosed together with the application letter	*'A resume is enclosed.'*
M6	6. Encouraging further contact: to keep the opportunity for further contact open	*'I look forward to speaking with you about this employment opportunity.'*
M7	7. Ending politely: to close the application letter with a polite conventional ending	*'Thank you for your time and consideration.'*
M8	8. Closing: to close the application letter in a conventional, respectful manner	*'Yours sincerely,'*

Table 1 Description of the Move Structure and Codes for the Present Study

3.3 Data Analysis

The identification of moves was primarily based on semantic and pragmatic criteria rather than on linguistic clues. This is because moves vary in size, and they can be realized by one sentence or more or even a short phrase or a clause (Swales, 1990; Bhatia, 1993; Henry & Roseberry, 2001; Al-Ali, 2004). Once a certain boundary of texts in each letter was realized as a move, it was annotated with a code as shown in Table 1. Once all moves had been identified, the outcomes were analyzed and presented in two different aspects: 1) the occurrences of moves and the move arrangements. Firstly, the numbers of occurrences of each move were counted and

presented as frequencies both in the overall ASEAN region and by country. In addition, the overall frequency of each move was recalculated as a percentage in order to provide results concerning obligatory and optional moves for the job application letters. Next, the move arrangements in every letter were compared and later separately analyzed by country in order to yield the results concerning common move structures for each of the six nationalities.

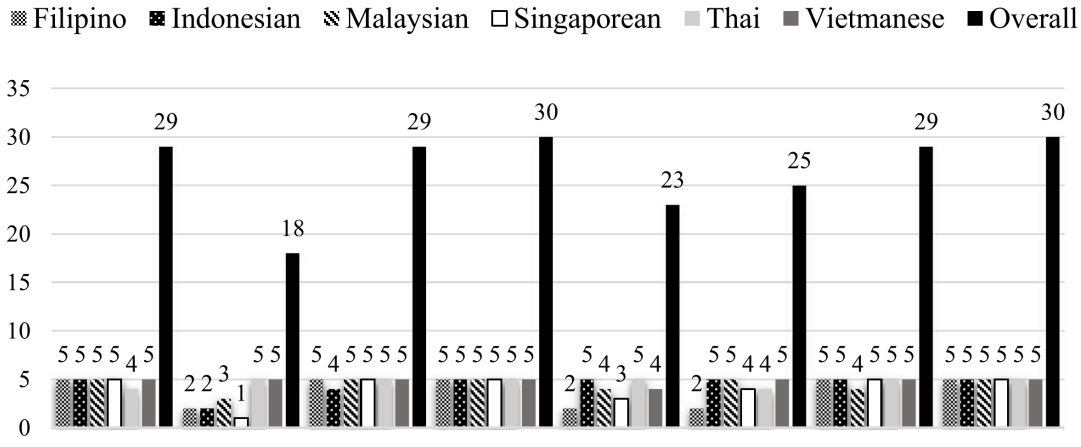
3.4 Reliability and validity of measurement

The present study employed inter-rater reliability to establish reliability of measurement. Nine letters (30%) were randomly selected and analyzed by two trained raters. As the results turned out, the agreement rate of identification of moves was 94.74%. In addition, the coding scheme was proved valid by two experts: one native speaker of English and one academic conversant with genre analysis. Hence, the reliability and validity of data measurement in all of the three coding schemes of the present study were ensured.

4. Results and discussions

4.1 Occurrences of moves

As can be seen from Figure 1, all of the eight moves were employed by applicants from every country. Furthermore, every move shows high frequencies in over half of the total 30 job application letters, with Move 4 (Promoting the candidature) and Move 8 (Closing) being used in all the letters. Despite not occurring in every letter, Move 1 (Opening), Move 7 (Ending politely) and Move 3 (Offering candidature) were also prevalently written with 29 occurrences (96.67%). Move 6 (Encouraging further contact) can as well seem to be common in ASEAN job application letters with the number of incidences at 25 (83.33%). Nevertheless, Move 5 (Enclosing documents) and Move 2 (Referring to the source of information) show less than 80 per cent of occurrences: 75.67 and 60.00, respectively.



%	96.67%	60.00%	96.67%	100.00%	76.67%	83.33%	96.67%	100.00%

Figure 1 The number of occurrences of moves

The closer examination of move occurrences by country reveals that almost all of the job application letters written by Thais and the Vietnamese employed every move, including even Move 2 which was the least popular in the overall perspective. As for the letters from Malaysian, Indonesian and Singaporean applicants, they also seemed to contain every move in spite of the lowest frequencies of Move 2. The difference in using moves by country becomes apparent in a case of job application letters written by Filipinos. To clarify, although all of them employed Move 1, Move 3, Move 4, Move 7 and Move 8, which are altogether common in the letters from the other countries, the numbers of occurrences of the other moves were lower.

The findings of the present study might indicate that Thai and Vietnamese applicants believe that their application letters would be considered effective with all of the eight moves; in contrast, those from the other countries do not find it essential to refer to the source of the job advertisement since they barely employed Move 2. The low frequency of Move 2 was also discovered in the related previous studies conducted in the Asian context. Hou (2013), for example, found that 57.5 per cent of her Taiwanese applicants identified the source of the job advertisement in their cover letters. Hou (2013, p.55) thus implied that the Taiwanese applicants might be unaccustomed to the purposes of this move.

In relation to obligatory and optional moves for job application letters written by ASEAN applicants, Move 1, Move 3, Move 4, Move 7 and Move 8 are obligatory while Move 2, Move 5, and Move 6 are optional. The determination of these results abided by Al-Ali's (2004) and Henry and Roseberry's (2001) studies in which moves with higher than 85 per cent of occurrences were considered to be obligatory. The results concerning obligatory and optional moves of the present study concur with those of Henry and Roseberry's (2001). They found that an effective job application letter written by a native speaker of English is commonly comprised of Opening (Move 1), Offering candidature (Move 3), Promoting the candidature (Move 4), Polite ending (Move 7), and Signing off (Move 8). This similarity indicates that ASEAN applicants, as a whole, realize all specific communicative purposes required in the genre of a job application letter.

4.2 Organization of moves

No.	Move arrangement	Freq.	Letters
1	M1 + M3 + M2 + M4 + M5 + M6 + M7 + M8	6	PH-1, PH-4, ID-1, MY-5, TH-3, VN-3
2	M1 + M3 + M4 + M7 + M8	3	PH-3, PH-5, SG-5
3	M1 + M3 + M2 + M4 + M6 + M7 + M8	2	MY-2, VN-1
4	M1 + M3 + M4 + M5 + M6 + M7 + M8	2	ID-5, SG-4
5	M1 + M2 + M3 + M4 + M5 + M4 + M7 + M6 + M8	1	ID-4
6	M1 + M2 + M3 + M4 + M5 + M6 + M7 + M8	1	TH-1
7	M1 + M2 + M3 + M5 + M4 + M6 + M7 + M8	1	TH-4
8	M1 + M3 + M2 + M4 + M5 + M4 + M5 + M6 + M7 + M8	1	VN-4
9	M1 + M3 + M2 + M4 + M5 + M6 + M4 + M7 + M8	1	MY-4
10	M1 + M3 + M2 + M4 + M5 + M7 + M8	1	TH-5
11	M1 + M3 + M2 + M4 + M7 + M5 + M6 + M8	1	VN-2
12	M1 + M3 + M2 + M5 + M4 + M6 + M7 + M8	1	VN-5

13	M1 + M3 + M4 + M5 + M6 + M8	1	MY-3
14	M1 + M3 + M4 + M6 + M5 + M6 + M7 + M8	1	MY-1
15	M1 + M3 + M5 + M4 + M6 + M7 + M8	1	SG-3
16	M1 + M4 + M2 + M3 + M4 + M7 + M6 + M8	1	SG-1
17	M1 + M4 + M3 + M4 + M7 + M6 + M5 + M6 + M7 + M8	1	SG-2
18	M1 + M4 + M3 + M4 + M7 + M8	1	PH-2
19	M1 + M4 + M3 + M5 + M6 + M7 + M8	1	ID-2
20	M1 + M4 + M5 + M7 + M6 + M8	1	ID-3
21	M4 + M2 + M3 + M4 + M5 + M6 + M7 + M8	1	TH-2

Table 2 Move arrangements in job application letters written by ASEAN applicants

As one can see from Table 2, 21 patterns of move arrangements were written by ASEAN applicants. Twenty patterns (95.24%) began with Move 1. Among these patterns, there are twelve (60%) in which Move 1 was followed by Move 3, whereas it was followed by either Move 2 or Move 4 in the rest (40%). Considering the arrangements in which both Move 2 and Move 3 were employed, it can be noticed that Move 3 predominantly preceded Move 2 (72.22%). This agrees with Bhatia's (1993) statement that the ordering of Move 2 before Move 3 is more commonly used than the opposite sequence. It should be noted that Bhatia's study was conducted in the context of South Asia. Taking this, it might be implied that Asian applicants consider it more important to direct their application to the potential employer's hand at the first place.

As for particular move arrangements in the body, the majority of the patterns show that Move 4 preceded Move 5. This sorting is a common phenomenon in job application letters written by English speakers (Henry & Roseberry, 2001), Asian writers (Al-Ali, 2004; Bhatia, 1993) as well as writers from European countries (Upton & Connor, 2001). This suggests that job applicants, in the ordinary way, promote their candidature before leading the addressee to the enclosed documents. Furthermore, there are 6 cases (ID-4, VN-4, SG-1, SG-2 and PH-2) in which Move 4 was employed twice, which was a characteristic of 'move recursive' (Santos, 1996). Two of these cases (ID-4 and VN-4) display the pattern of M4 + M5 + M4, but these occurrences exhibit different use of Move 5. To illustrate, it can be interpreted from example 1 that the applicant took a pause from promoting his/her skill to mention the curriculum vitae as a reference to the aforementioned skill and then went on to promote his/her candidature with other different information. On the other hand, Move 5 in example 2 did not seem to show such intention. In fact, it was written in the middle of move 4 to simply enclose the document, without a potential hidden agenda.

(1) *I have skill in Statistical Process Control Method that will be useful for process control analysis.* *Additional information may be required, please kindly find in my Curriculum Vitae.* *I am willing to become part of your teams. I am excited to get new experience and knowledge as Management Trainee. (ID-4)*

➔ Move 4
➔ Move 5
➔ Move 4

(2) *I note with great interest that you require a Project Coordinator who holds skills and competences that I believe I*

➔ Move 4

possess. I have attached my resume for your review. I believe that I can make a valuable contribution to your organisation's development. (VN-4)

➔ Move 5
➔ Move 4

Other three cases in which Move 4 were employed twice (PH-2, SG-1 and SG2) display the pattern of M4 + M3 + M4 (see example 3). In all of these cases, the first occurrence of Move 4 mainly included the applicant' name, educational qualifications and educational institutions. Afterwards, s/he continued to offer the candidature and then promote it with different information. This can be implied that the applicant considered it more appropriate to introduce himself/herself before offering the application.

(3) *I have just recently graduated from (educational institution) with a Bachelor of Arts, majoring in Southeast Asian Studies with a minor in Religious Studies. I am writing to apply for the position Assistant Manager at (potential employer). (potential employer) is a key component in the nation's efforts to maintain a cohesive and inclusive society for all Singaporeans.* (SG-2)

➔ Move 4
➔ Move 3
➔ Move 4

In relation to Move 6 and Move 7, there were 17 patterns in which both were employed. Move 6 mostly preceded Move 7 with 76.47 per cent of frequency, and this arrangement coincides with the results from the studies of Al-Ali (2004) and Bhatia (1993). Thus, it can be inferred that applicants customarily express their appreciation as an indicator of the end of the content and what occurs afterwards should not be any further information but signing off. Finally, it is evident that Move 8 was placed at the end of all the patterns.

As for common move arrangements by country, the move patterns from Table 2 were analyzed separately according to the six different nationalities. Afterwards, all the move structures as well as obligatory and optional moves in each structure for the six ASEAN countries were presented in Table 3.

Nationality	**Allowable Move Order**
Filipino	M1 + M3 + (M2) + M4 + (M5 + M6) + M7 + M8
Indonesian	M1 + (M2) × M3 + M4 + M5 + M6 × M7 + M8
Malaysian	M1 + M3 + (M2) + M4 + M5 + M6 + M7 + M8
Singaporean	M1 + M3 + M4 + (M5) + M6 + M7 + M8
Thai	M1 + M2 × M3 + M4 + M5 + M6 + M7 + M8
The Vietnamese	M1 + M3 + M2 + M4 + M5 + M6 + M7 + M8
Note: + indicates 'followed by', × indicates 'reversing' and parentheses indicates 'optional moves'	

Table 3 The allowable move order of job application letters for each ASEAN country

It can be clearly seen that Move 1, Move 3, Move 4, Move 7 and Move 8 are obligatory in every structure. Move 6 seems to be likewise except for Filipinos. As for the move order, it is evident that every structure begins with Move 1, and it is followed mostly by Move 3 or occasionally by Move 2. However, it is noticeable that Move 2 can follow Move 1 only in the case of reversing Move 3. After the first three

moves, all of the structures show the same organization as follows: Move 4, Move 5, Move 6, Move 7 and Move 8, respectively.

5. Conclusion

The present study aims to investigate, compare and contrast moves used in job application letters written by ASEAN applicants. The move analysis serves as an analytical approach to comprehend the genre at a macro level, which enables genre members (i.e. job applicants in the present study) to recognize moves as the minor communicative events that altogether accomplish the overall communicative goal. The marginally different results reveal that ASEAN applicants participate in this genre in mostly similar ways. However, the existence of move recursive or move reversal suggests that there still appears a certain degree of freedom in the genre of a job application letter. Also, although the majority of the present findings are consistent with those from the previous research conducted in different contexts, the certain amount of difference, especially in the move structure, suggests that ASEAN applicants do not entirely follow in the footsteps of members in the genre community from other cultures. All in all, it can be concluded that the promotional genre of job application letters is a well-constructed class of communicative event that is somehow bound by the socio-cultural setting within which it is used (Bhatia, 1993; Swales, 1990).

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Contact email: phanupong.thumnong@kkumail.com

E-Learning Implementation: Challenges and Opportunities for Higher Education Institutions in Rural Settings in South Africa (Case Study)

Muhandji Kikunga, University of South Africa, South Africa
Munienge Mbodila, University of Venda, South Africa

The Asian Conference on Education & International Development 2017
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Abstract
The use of information and communication technology (ICT) is changing all aspects of our lives and fueling the economic growth globally. Technology can play an important role in building Africa's progress in education, training and development. The utilization of modern technologies in education is becoming at the heart of higher education institutions (HEIs) generally and South Africa (SA) in particular. E-learning refers to the use of ICT in different processes of education to support and enhance learning in education. The implementation of e-learning in HEIs in SA is becoming an important factor for government and educational sector. For more than a decade, educational systems in SA are looking for e-learning programs that would help to address challenges and to significantly improve the quality and content of HE teaching and learning. But the successful implementation of e-learning in HE depends on many factors such as, the accessibility of technology, how learners and teachers are supported in its use and the integration of technology within the curriculum. The purpose of this research is to investigate the challenges and opportunities e-learning offers in a rural HEIs in SA over the traditional way. The paper also highlighted major barriers to the integration of e-learning in rural HEIs in South Africa. The findings indicated that the implementation of e-learning offered a diversity of opportunity for teaching and learning in rural HEIs but for a successful implementation some factors need to be address. Finally, the paper provides guideline for the integration of new technologies in rural settings Universities.

Keywords : *ICTs, e-learning, technology, learning, higher education, e-learning integration*

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Introduction

Information Communication Technology (ICT), has brought about heightened interconnectedness across borders. Technology is driving change globally and fueling the economic growth. There is now an urgent need for essential technological revolution Africa general is now prepared to embrace. Education is the key to the future and, if is to do what is expected of it, modern technology has to be at the heart of education systems in Africa in general and South Africa (SA) in particular. In SA context, the successful implementation of e-learning in educational systems can contribute to an intense change in teaching and learning practice in higher education (HE). E-Learning becomes possible when there is an integration of ICTs in the education system, which requires a policy and strategy of its own. Although ICT has brought about heightened interconnectedness across the world, the reality is that until now in most countries of Africa, there is no clear marriage between a national ICT policy with national education goals and strategy. A report by UNESCO (2006), confirm that the use of Information and Communication Technologies (ICTs) in educational systems in Africa, is believed to have huge potential for governments struggling to meet the growing demand for education while facing an increasing shortage of teachers, ITCs infrastructures and modern facility to usher modern technology. E-learning may have a great potential in Africa due to the great need for educational systems to speed-up the millennium development goals to the sustainable development goals. Another report by the UNESCO indicated that, the gains from the adoption and implementation of eLearning are many and varied among which are the flexibility in learning (Kocur & Kosc, 2009), lower cost compared to face-to-face contact, ability to engage the increasing number of student, availability of re-usable content, more avenues for students' development, increased educational opportunities, among others develop practices in today's fast moving work place environment by the use of modern technology. These advantages or opportunities of e-learning are however faced with some challenges that are central and critical for the entire African continent and SA specific to a successful implementation of e-learning in higher education institutions. Among these challenges, most rural universities in SA are characterized by issues such as: lack of access and connectivity, infrastructure, proper technology, funding, technological skills, strategy and policy, etc. The discussion in this paper is to investigate the challenges and opportunities that e-learning offers over traditional way of teaching/learning and also highlighted major barriers to the integration of e-learning in rural HEIs settings in South Africa.

Definition of E-Learning

Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning, teach learners, and also regulate courses in an organization (Fry, 2001). E-learning as a concept is not just learning with technology but also covers a range of applications, teaching pedagogy, learning methods, and processes (Rossi, 2009). According to Maltz et al (2005), the term 'e-learning' is applied in different perspectives, including distributed learning, online-distance learning, as well as hybrid learning. E-learning refers to the use of information and communication technologies to enable the access to online learning/teaching resources. In their literature review on definitions for e-learning, Liu and Wang (2009) found that the features of eLearning process are chiefly centered on the internet; global sharing and learning resources; information

broadcasts and knowledge flow by way of network courses, and lastly flexibility of learning as computer-generated environment for learning is created to overcome issues of distance and time (Liu and Wang, 2009). E-learning, according to OECD (2005) is defined as the use of information and communication technologies in diverse processes of education to support and enhance learning in institutions of higher education, and includes the usage of information and communication technology as a complement to traditional classrooms, online learning or mixing the two modes. E-Learning becomes possible when there is an integration of ICTs in the education system, which requires a clear policy and strategy of its own. In SA context this policy maybe derived from joining a national ICT policy with national education goals and strategy.

Higher Education Environments in South Africa

Higher education institutions in South Africa are working toward the new waves of change in 21st century by seeking innovative pathways and crossing new frontiers into the fundamentally different education landscape in the digital age. However, the challenges still in how rural universities in SA can make use of technology to serve on- and off-campus students. The last decade has seen unprecedented shifts in the higher education landscape in South Africa with the growth of ICTs and education technologies initiating changes in the teaching and learning practice of higher education institutions. However, the ICTs revolution in higher education, some rural universities setting are still facing challenges such as digital divide, effective physical infrastructure as well as virtual learning environments that will contribute to the successful integration of the modern technology. Rapid growth of online distance education worldwide prompted there is a need for HE in South Africa to review delivery structures for teaching and learning and re-think pedagogical practices in the digital age. Introducing PCs into school systems and building school networks is still in process and not much has been happening in some part of South Africa. The issues of technical maintenance or for capacity building for teachers with regards to the use of technology in the classroom, content development and delivery, pedagogical use of technology, and infrastructures (old building, electricity etc..), need to be address, in order to gain a foothold in the worldwide knowledge economy driven by ICTs. Currently, the effective integration of ICT in the higher education institutions in rural settings is critically important to reduce the knowledge gaps, digital literacy, and economic gaps between rural institutions and those in the urban settings.

The Use of E-Learning In Education

The expansion of multimedia, computer based program and the fast growth of the use of ICTs and Emerging technologies (EMTs), as well as the use internet as a new technique of delivery content, has caused a changes in the traditional ways of teaching and learning (Wang et al. 2007). The use of ICTs in education has created more avenues and innovation in 21st century. Agendas of schools and higher education institutions worldwide have recognized e-Learning as having the prospect to transform people, knowledge, skills and performance. Love and Fry (2006), argued that colleges, universities, and other institutions of higher learning race to advance online course capability in a speedily developing cyber education market. E-learning, has come to be more and more important in institutions of higher education. The introduction and expansion of a range of e-Learning tools has been initiating

numerous changes in higher education institutions, particularly when it comes to their educational delivery and support processes (Dublin, 2003). Figure 1, show a model adapted from Algahtani (2011), for using e-learning in education.

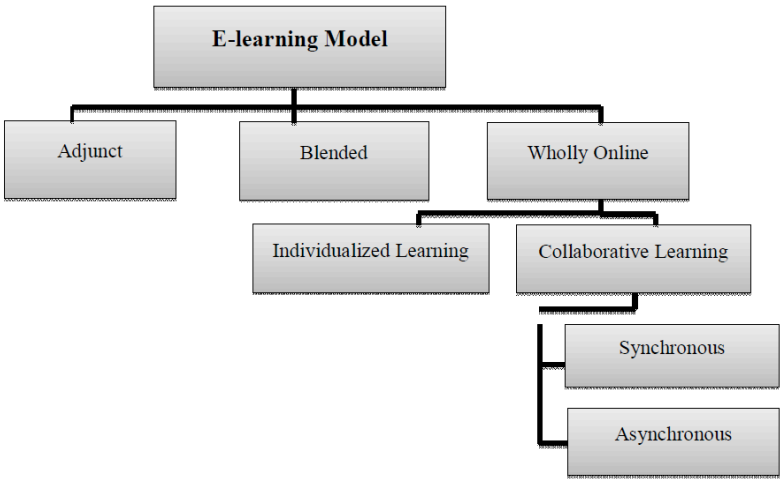

Figure 1: Source: Adapted from Algahtani (2001).

The above model is one general that can be utilize in the use of e-leaning which is different from the model use in the implementation of e-learning. The same way there are different types of e- Learning, there are also diverse ways of employing the technique in education. The model that may work for HE in the developed countries may not be the same model that can work in developing countries in Africa. That is why there is a need to inspect different types of e-learning approach and identify a suitable approach that can be used in developing countries especially in rural institutions.

Types of E-Learning

There are various ways of categorizing the types of e-learning. According to Algahtani (2011), there are some classifications based on the extent of their engagement in education. Some classifications are also built on the timing of collaboration. Some researcher divided e- Learning into two basic types, which is: computer-based and the internet based e-learning (Algahtani, 2011). In his paper, Algahtani (2011) argued that computer-based learning comprises the use of a full range of hardware and software generally that can enable better use of Information and Communication Technology (ICT). These component can be used in either of two ways: computer managed instruction and computer-assisted-learning. Whereby in computer assisted- learning, computers are used instead of the traditional methods by providing interactive software as a support tool within the class or as a tool for self-learning outside the class. In the computer-managed instruction, however, computers are employed for the purpose of storing and retrieving information to aid in the management of education. This type may be appropriate in areas where internet connection is a problem due to geographically localization. The internet-based learning according to Almosa (2001), is a more advance of the computer-based learning, and it makes the content available on the internet, with the readiness of links to related knowledge sources, for examples e-mail services and references which could be used by learners at any time and place as well as the availability or absence

of teachers or instructors (Almosa, 2001). Zeitoun (2008) classified this by the extent of such features use in education, mixed or blended more, assistant mode, and completely online mode. The assistant mode supplements the traditional method as needed. Mixed or blended mode offers a short-term degree for a partly traditional method. The completely online mode, which is the most complete improvement, involves the exclusive use of the network for learning (Zeitoun, 2008). With these technologies, HE education institutions in Africa general and SA in particular can benefits and also embrace globalization in education. With the increase number of mobile phones technology and the internet in Africa, this type of eLearning maybe be appropriate for use in urban and rural are in South Africa. But the challenge maybe in the cost of data bundle since most area do not have free access on internet.

Challenges of Implementing E-Learing in Higher Education Institutions in The Rural Settings.

In South Africa, the education systems have been shaped by the political and economic goals of apartheid and colonialism (Gordon & Qiang, 2000). Even though Several advantages can be derived from the implementation of e-learning in the education systems, most of higher education institutions in the rural settings of South Africa are still faced with challenges such as shortage of skilled instructors, learners and teachers background, shortage of ICT infrastructures, lack of pedagogical strategy in the use of ICT, inadequate technical support, and attitudes of instructors and learners towards the use of ICT. In the following section we will discuss few of these challenges.

1. Learners background

In South Africa, there are diverse backgrounds, languages and race; the country is divided between rich and poor. Most learners from rural institutions are from poor backgrounds, disadvantaged schools, and they receive underprivileged education. Sometimes, they are taught in their mother's tongues for better understanding even though in South Africa, English is used as the instruction language. These learners have difficulties to read, write or communicate in English since they use their home languages most of the time to communicate with their teachers and classmates. The inequality to education is still a major challenge in South Africa. The education offered in urban areas is totally different from the one learners in rural settings receive. Leaners in most rural schools have low/no access to ICT infrastructure such as computers and Internet. It also becomes a challenge to adopt ICT in these rural institutions as most of the content is English, a language still considered foreign. In most countries where English is not the first language this represents a serious barrier in integrating ICTs use in the education (Mbodila et al., 2013). Even if these learners may have access to the ICT infrastructures, if they cannot read and understand its contents it becomes a challenge to implement e-learning in these institutions. Literacy in today's digital age requires more than the ability to read and write (Hennessy et al., 2010). ICT literacy can be defined as "the ability to realise the need for finding and effectively using" ICTs. (Kawooya, 2004). The Integration of ICT in the context of eLearning, can enhance teaching and learning in these rural institutions but with this challenge, it is difficult for these type of learners to embrace it fully.

2. Shortage of skilled instructors

Most higher education institutions in the rural setting of South Africa have shortage of skilled instructors. Skilled instructors prefer to work in urban areas for different reasons. Before implementing e-learning in these institutions, there is a need of having skilled instructors that will be able to use the technology and the e-learning contents. However, for instructors to have a successful learning experience in the use of this technology, it is important that they adapt and familiarize themselves with technology. A research studies by (Gorder, 2008) reported that teacher experience is significantly correlated with the actual use of technology. Taylor (2002), reported that academics are only good as much as they can adapt to the new technology. In their study (Baek et al., 2008) claimed that experienced teachers are less ready to integrate ICT in their teaching. Sandholtz & Reilly (2004), reported that teachers' technology skills are strong determinant of ICT integration, but they are not conditions for effective use of technology in the classroom. Many academics believe that being skilled with technology is to know how to use technology such as word processing, PowerPoint to create a better presentation and upload it on e-learning system rather than learning new e-teaching skills to improve and help student learning. In their research study (Sang et al., 2010) highlight that teacher with higher self–efficacy about computers tend to use computers more often and they experience less anxiety related to computers but teachers with lower self-efficacy related to computers experience frustration and hesitate to use computers when they encounter problems. (Rosen & Maguire, 1990) claim that teachers teaching experience does not eliminate computer phobias and many experienced teachers display some wariness, discomfort and/or mid anxiety in relation to computers. Many researches have shown that whether beginner or experienced, ICT training program develop teachers' competences in using computers (Franklin, 2007) and assist teachers restructure the task of technology and how new technology tools can be used to enhance teaching and learning (Plair, 2008). The Implementation of e-learning in these rural institutions is possible if these challenge is overcome by providing adequate ICT training that will assist teachers adapt to technology and do their jobs effectively whether this relates to uploading study materials or assessing students online.

3. Shortage of ICT infrastructures and lack of access to appropriate resources

The shortage of ICT infrastructures and lack of access to appropriate resources are the major challenges in the rural institutions of South Africa. The implementation of e-learning in these institutions still posing a major challenge due to economic and social discrimination cause by the digital divide. After independency, the South African government has developed guidelines for the distribution and use of digital resources to strengthen teaching and learning to promote access to educational opportunities for previously advantaged groups (Dumbrajs et al., 2013). No matter this intervention, previously disadvantaged schools are still struggling to access appropriate resources where adapting new teaching and learning approaches with available ICTs is concerned. A study by (Lundell et al, 2000) argue that, the problem is not always caused by the lack of resources, but how teachers use the available educational tools in their teaching. Adopting e-learning raises many financial and strategic challenges (Levine & Sun, 2002). Financial problems push institutions to find adequate resources to develop and maintain proper equipment, provide static technical support, fund training courses and hire support staff. The infrastructure challenges in most rural

institutions is due to the apartheid policy of segregation and development (Dzansi and Amedzo, 2014). Access to ICT infrastructure and resources is still an issue in the rural institutions of South Africa. In these institutions, there is limited access to resources such as computer hardware, software, and Internet. Teachers and learners in these institutions struggle to use the ICT resources for teaching and learning. In their study (Plomp, 2009) reported that access to ICT infrastructure and resources in schools is a necessary condition to the integration of ICT in education. Access to technological resources is one of effective ways to teachers' pedagogical use of ICT in teaching (Yildirim, 2007). Without full accessibility and availability of ICT infrastructure and resources, it is difficult to implement e-learning the in rural institutions.

Some Factors to Be Consider Before Implemntation of E-Learning

E-learning has without doubt certain limitations or disadvantages in spite of the advantages that it has when adopted in education. But for a successful implementation of e-learning, there are some factors that need to be look such as: 1) Having IT infrastructure in place (Internet, Computers, LMS etc.). A successful implementation of e-learning requires proper Internet, bandwidth, and LMS so to meet the technology requirements. Lack of these technology awareness suppresses the adaption of eLearning. 2) Having infrastructures in place (computer labs, ICTs devices etc.). It is important for any organization before implementing e-learning to understand the importance of setting up facilities or infrastructure in order to ensure that students can access the courses material easily. 3) Training academic staff, tutors and learners on how to use the tools of e-learning. In rural settings most teachers and learners are computer illiterate. This is because most of them never use these type of technology before. Training them on how to use these tools will motivate and help them adopt eLearning in their teaching and learning. This is one of the crucial step for any institution to ensure a successful implementation of e-learning. 4) To upgrade the existing curriculum or review existing curriculum to ensure the integration of ICT. Once staff and students are trained, there is a need to review the curriculum to ensure a full integration of eLearning.

Guideline for E-Learning Integration

The integration of e-learning generally involved various components such as planning, design a e-learning content, available technology and infrastructure, training and monitoring. The planning is a collaborative process, that start with making stakeholder buy-in and support and involving stakeholders in the whole process. The e-learning content should be relevant to local needs of the users in our case students and teachers and adapted properly. The choice of the appropriate technology must be available and suitable to users (students and teachers). Training is the most important part for end users, implementers, and IT support personnel is a vital component of eLearning integration. Monitoring is essential for as with any project to measuring outcomes and must be planned for each stage of the process to reach the e-learning goals. Make use of the component of e-learning integration Figure 2, shows to use as guideline before integration of e-learning in some rural settings.

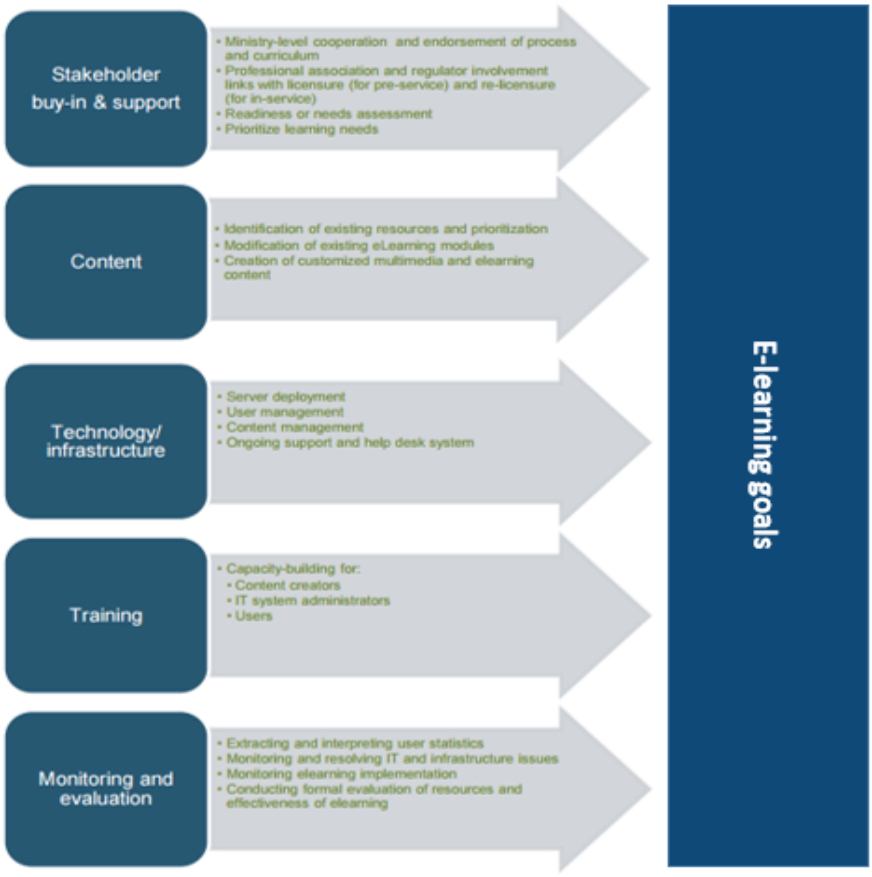

Figure 2: Components involved in e-learning integration

The actual e-learning integration in a rural settings institution, will require planning, training, implementation testing, dissemination, formative evaluation, ongoing user support, and addressing any technical issues.

Conclusion

E-Learning is still in its growth phase and holds tremendous potential for developing countries in Africa. The growth of e-learning is almost wholly dependent on the advancements in corresponding technologies. However, it requires huge amounts of financial and human resources input for rural institution in SA. There is a major data gap in ICT in education data between urban institutions and rural institutions in SA. E-Learning involves the use ICTs and digital tools for teaching and learning in education. This comprise but not limited to the policy and strategies, training, infrastructure, technology available, delivery of knowledge and motivates teacher and students to interact with each other, as well as exchange and respect different point of views. Regardless of some challenges of e-learning discussed in the literature, the reality is that the role of eLearning in SA Higher education's institutions will make a strong impact in teaching and learning delivery. Generally, the literature which explains the advantages and disadvantages of eLearning suggests the need for its implementation in higher education for faculty, administrators and students to enjoy the full benefits that come with its adoption and implementation. Although the Rural institutions in SA has not make full use of e-learning technology, by making use of the guideline proposed in this paper, there are opportunities for Rural HE institutions

in SA to close gap with the rest of the urban institutions in the use of eLearning in education.

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Survey on Whether the Sri Lankan Pre-Service National Diploma in Teaching Programme Addresses the Learning Needs of Diverse Learners

Illanco Selvaranee, National Institute of Education, Sri Lanka

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Abstract

This study sought to identify the state of prospective teachers' knowledge about differentiated instruction; how often prospective teachers differentiate instruction in specific subject areas; and the differentiated instruction factors that are implemented during the internship practicum period in the pre-service National Diploma in teaching program in order to meet the needs of diverse learners in 8 National Colleges of Education in Sri Lanka. This study involved stratified sample of (three Tamil medium, three Sinhala medium and two English medium) 158 prospective teachers, 36 teacher educators from 8 National Colleges of Education in seven provinces and 8 different districts.

Data were collected using questionnaires for prospective teachers and teacher educators, interview schedules for prospective teachers and teacher educators; observation schedule for prospective teachers. In addition, differentiated instruction factors embedded in the syllabus of National Diploma in teaching (29 subjects) were analyzed using content analysis method. Chi square analyses and the descriptive analysis are used as major analysis techniques, and the qualitative data provided by prospective teachers and teacher educators were considered for a cross checking of the quantitative inferences.

The researcher concluded that differentiated instruction factors have to include in the theory and practice of the National Diploma in teaching syllabi and teaching practicum would result in improved better achievement in pre-service National Diploma in teaching diploma in teaching. Empowering the teacher educators in differentiated instruction concept and practice is a dire necessity for the successful implementation of this pre-service teacher training conducted in Sri Lankan National Colleges of Education.

Keywords: Learning needs, diverse learners, differentiated instruction, pre-service teacher education

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Introduction

The quality of a nation depends upon the quality of its citizens. The quality of its citizens depends on not exclusively, but in critical measure, upon the quality of their education, the quality of their education depends upon more than any single predominant factor, the quality of their teacher. According to Clinton (1996), every community should have a talented and a dedicated teacher in every classroom. We have enormous opportunities for ensuring teacher quality well into the 21st century if we recruit promising people into the teaching profession provide them with the highest quality preparation and training. It is common knowledge that the academic and professional standards of teachers constitute a critical component of the essential learning conditions for achieving the educational goals of a nation.

In recent years, rapid attention has been paid to the effectiveness of teacher training programs in producing skillful teachers. There are two types of teacher training programs, namely, pre- service and in- service conducted for the professional development of teachers in Sri Lanka. The National Colleges of Education (NCoE) play a major role in providing pre-service teacher education in Sri Lanka. However, the present general education system of Sri Lanka widely recognizes that today's classrooms are characterized by diverse students. Therefore, the teacher should be able to recognize and accommodate students' diverse needs. The ability to focus on students' diverse need is an important step in a teacher's professional development. This is not possible if teacher preparation is focused only on traditional training modalities. Holistic teacher development is the need of the hour and therefore teacher education involves and should involve more factors than mere training.

However, teaching processes of teachers are not based on or flexible enough to accommodate the large span of students with differences in mixed ability classrooms, such as student's readiness, interests and learning styles. Therefore, the needs of the under achievers and students with learning difficulty are not considered by the teacher. In addition, as mentioned by the teachers in the survey, the reality is that teachers mainly face difficulties in handling the diverse needs of students due to the lack of teaching skills which are required to identify and cater to diverse needs.

The aim of teacher training and institutions assigned with the task is to produce diverse pedagogically skilled teachers to cater diverse students in the classroom. But unfortunately in reality teacher professional development training has failed to produce a teacher with diverse skills' to cater diverse student's learning needs and styles. This shows that there is a mismatch between the training provided and the objective of catering to diverse students' learning needs.

Therefore, I paid special attention in my research regarding the factors of differentiated instruction such as content (Syllabi), Process (Individual differences, Instructional strategies and Classroom environment), Product (assessing the learner) influencing diverse students learning. It is necessary that the Pre- service teacher training programs have to address this burning issues and provide greater opportunities for pre-service teachers to develop their teaching skills by demonstrating differentiated instruction to meet the learning needs of diverse students in the classroom which the student can then use in his her practice.

Background of The Research Problem

In essence, schools always knew that there were certain student population was not making as much an achievement in terms of growth as others. These have been documented along with disadvantaged students for years. This achievement gap is argued to have lifetime consequences limiting opportunities for weak students in higher education and beyond. Educators who view classrooms as whole entities and do not account for the variances in the levels of readiness with which students enter the class room may be a significant challenge in creating change.

Nevertheless, up to now studies had not been done on the above topic in the particular NCoE's in Sri Lanka. Therefore, the researcher decided to conduct a study in the above – mentioned topic to fill the knowledge gap. The present study is an attempt to investigate the influence of the five dimensions of "differentiated instruction"; content (syllabi), Process (individual differences, instructional strategies, classroom environment,) and the influence of product (assessing the learner) in meeting the learning needs have within the National Diploma in teaching program.

Literature Review

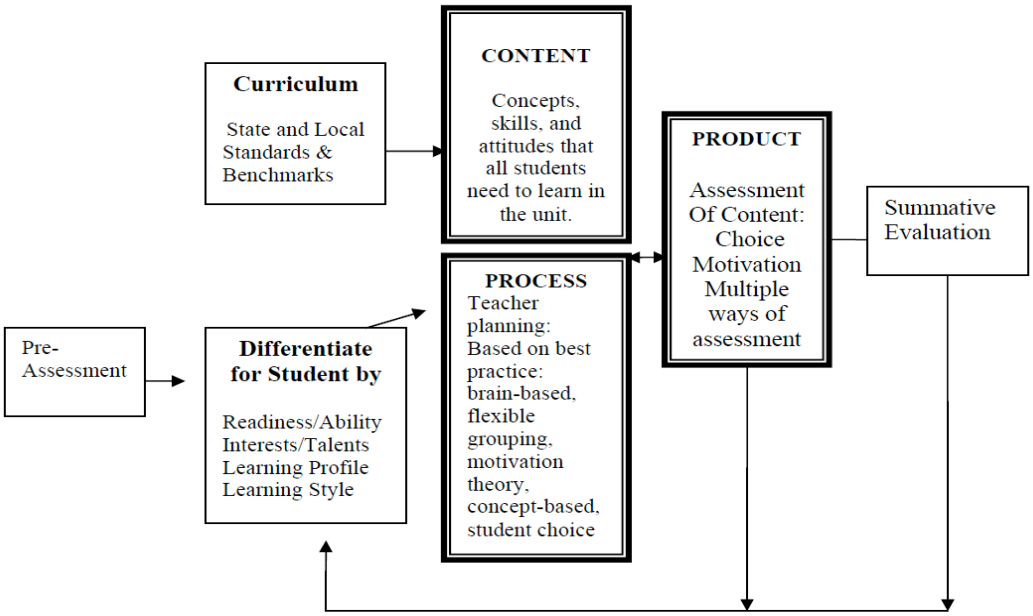

Figure 1: Conceptual framework of differentiation. (Adapted from Hall, 2004)

However, Hall (2004) mentioned that differentiation is flexible grouping, student centered, based on readiness, for all learners, changing all the time and meeting personal needs. Hall (On-line, 2004) stated "A differentiated classroom differs from a traditional classroom in many ways. Conceptual framework given above clearly shows the important of differentiated instruction factors. Most importantly, in a differentiated classroom more than one way to complete a lesson exists for any given topic. These lessons are designed around the diverse needs of the students. This framework is more relevant to this research and shows the need of the DI in classrooms.

As per, Anderson (2007) differentiation, stems from beliefs about differences among learners, how they learn, learning preferences and individual interests. Therefore, differentiation is an organized, yet flexible way of proactively adjusting teaching and learning methods to accommodate each child's learning needs and preferences in order to achieve his or her maximum growth as a learner. In order to understand how our students learn and what they know, pre-assessment and ongoing assessment is essential. This provides feedback for both the teacher and the student with the ultimate goal of improving student learning. The above literature would be a guidance to prepare the questionnaire and the observation schedule.
However, delivery of instruction in the past often followed a "one size fits all" approach. In contrast, differentiation is individually student centered, with focus on utilizing appropriate instructional and assessment tools that are fair, flexible, challenging, and engage students in the content in meaningful ways. Therefore, the present study has considered that these different previous literatures appropriate for the proposed objectives of the study.

Research Questions

As a next step, In order to get clear answers for this main purpose the researcher formulated the following research questions.

1. How does the syllabus of National Teaching Diploma program satisfying the diverse learners need?
2. How do the differentiated Instruction factors (content, individual differences, instructional strategies, classroom environment and assessing the learner) influence the fulfillment of diverse students need?
3. How knowledgeable and skillful are the prospective teachers in implementing differentiated instruction strategies to fulfill the diverse student's needs?

Statements of the Hypotheses

The list of hypotheses was designed to address the second research question is given below:

1. H_o - There is no significant difference between content of NDT program and meeting the "*diverse needs of the learners" at* $\alpha = 0.05$ significant level.
2. H_o - There is no significant difference between identifying individual differences of learners and meeting the *"diverse needs of the learners" at* $\alpha = 0.05$ significant level.
3. H_o - There is no significant difference between *instructional strategies* of prospective teachers and teacher educators in meeting the *"diverse needs of the learners" at* $\alpha = 0.05$ significant level.
4. H_o - There is no significant difference between classroom environment of learners and meeting the "diverse needs of the learners" at $\alpha = 0.05$ significant level.
5. H_o - There is no significant relationship between assessing the learner and meeting the "*diverse needs of the students*" *at* $\alpha = 0.05$ significant level.

Methodology

This research makes use of naturalistic inquiry, personal contact and insight. In addition, this research consists of in-depth, open-ended interviews; direct observation and written documents, data collection methods for a quality approach. Further, the qualitative methods results in quantification (e.g., counting the number of occurrences of a particular behavior). And it represents negative connotation. Therefore, it comes under quantitative approach also. Therefore, with the above reasons this research falls under the mixed method research category.

Selecting a representative Sample

The sample of this study encompasses different teaching learning media (Tamil, Sinhala, and English), representation of different geographical areas and multi ethnicity of prospective teachers' communities. There are nineteen National colleges of Education established in Sri Lanka. 29 subject streams are distributed among those National Colleges of Education.

Sampling Techniques

No	Name of the NCoEs	Medium	District	Provin-ce	Prospective teachers						sample					
					T		S		E		T		S		E	
					M	F	M	F	M	F	M	F	M	F	M	F
01	Nilwala	Sinhala	Akuressa	Southern			37	167					4	16		
02	Sripada	Tamil& Sinhala	Hatton	Central	28	105	12	42	-	-	3	10	1	4	-	-
03	Addalachenai	Tamil	Ampara	Eastern	32	166	-	-	-	-	3	16	-	-	-	-
04	Jaffna	Tamil	Jaffna	Northern	29	120	-	-	4	32	3	12				3
05	Pulathisipura	Sinhala	Polonaruwa	North Central	-	-	07	152	-	-	-	-		15		
06	Mahaweli	English	Kandy	Central	10	25	12	30	27	139	1	3	1	3	4	14
07	Siyane	English	Gampaha	Western			22	129	22	47			2	13	2	5
08	Wayamba	Sinhala	Bingiriya	North Western			19	183					2	18		
	Total				99	416	109	703	53	218	10	41	10	69	6	22

Table No. 1: Selected stratified Samples -prospective teacher

Table No. 2: Teachers Educators

No	Name of the NCoEs	Medim	District	Province	Teacher Educators						sample					
					T		S		E		T		S		E	
					M	F	M	F	M	F	M	F	M	F	M	F
01	Nilwala	Sinhala	Akuressa	Southern			16	13					2	2		
02	Sripada	Tamil & Sinhala	Hatton	Central	5	13	8	3	-	-	1	2	1	1	-	-
03	Addalachenai	Tamil	Ampara	Eastern	22	2	-	-	-	-	4		-	-	-	-
04	Jaffna	Tamil	Jaffna	Northern	13	24	-	-	2	6	1	2				1
05	Pulathisipura	Sinhala	Polonaruwa	North Central	-	-	14	7	-	-	-	-	2	1		
06	Mahaweli	English	Kandy	Central	2	3	12	12	5	15	1	-	1	1	1	2
07	Siyane	English	Gampaha	Western			14	25					2	4		
08	Wayamba	Sinhala	Bingiriya	North Western			18	13					3	1		
	Total				42	42	82	73	7	21	7	4	11	10	1	3

FINDINGS AND DISCUSSION

Research Question 1: How does the Syllabi of National Teaching Diploma program cater to satisfying the diverse learners' need?

Professional Subjects: (Coding results)

Most of the Professional subjects did not contain any elements related to individual difference and instructional strategies and the subject "Educational Practice" (33%) seems to have ensured that it covered most elements while the other subjects did consider all the differentiated factors.

Special subjects like Food Technology (13%), Home Economical Science (15%), Buddhism (24%), Hinduism (13%), Special Education (20%) and Physical Education (20%) are considering key aspects of identifying individual differences but most of such positive feedback seems to be influenced by the fact that these subjects (Food technology and Home Economical Science) involved group work and practical sessions which may have been interpreted as practice. Further, mathematics and Science did not even feature among the subjects in which practice opportunities were provided.

Special Subjects

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developing the ability of the prospective teachers to understand the readiness of the students, developing and using appropriate teaching methods assessing the learners for diverse learners were not part of any of these subjects according to the syllabus.

Table No. 3: Content analysis of General Subjects

General Subjects (6)	**Individual differences(22)**		**Instructional strategies(7)**		**Classroom environment(8)**		**Assessing the learner (9)**		**Total (46)**	
		%		**%**		**%**		**%**		
Art	**3**	**15**	**4**	**57**	**`1**	**13**	**-**	**-**	**8**	**17**
Kandyan Dance	**4**	**20**	**3**	**43**	**2**	**25**	**-**	**--**	**9**	**20**
Carnatic Music	**4**	**20**	**2**	**29**	**3**	**39**	**-**	**-**	**9**	**20**
Western Music	**4**	**20**	**3**	**43**	**2**	**25**	**-**	**-**	**9**	**20**
Drama & Theatre	**5**	**25**	**5**	**70**	**2**	**25**	**-**	**-**	**12**	**26**
Baratha naatiyam	**1**	**5**	**1**	**14**	**2**	**25**	**-**	**-**	**4**	**9**
Second National Language-Tamil	**5**	**25**	**2**	**29**	**-**	**-**	**-**	**-**	**7**	**15**
English	**3**	**15**	**1**	**14**	**-**	**-**	**-**	**-**	**4**	**9**
First Language Tamil	**4**	**20**	**-**	**-**	**-**	**-**	**-**	**-**	**4**	**9**
French.	**3**	**15**	**3**	**43**	**-**	**-**	**-**	**-**	**6**	**13**
Second National Language-Sinhala	**6**	**30**	**5**	**70**	**1**	**13**	**-**	**-**	**12**	**26**
First Language Sinhala	**2**	**10**	**1**	**14**	**-**	**-**	**1**	**11**	**4**	**9**

General subjects have been identified to be analyzed separately as they showed a marked difference in terms of the relationship they have with individual differences and identifying the difference in instructional strategies required for successful teaching. General subjects by nature, need to be taught and practiced and require more personal involvement of the teacher with the student and allows the student to express himself physically as well. This may even pave the way for aesthetic subjects becoming a tool of successfully transmitting the idea of different instructional strategies for diverse students.

Demographic Information's of Teacher Educators

Demographic information about the teacher educators and the prospective teachers were obtained from the survey utilized in this study, including gender, years of teaching experience, teaching qualifications, and subject areas currently. The teacher educators recruited for professional subjects are teaching 100% professional subjects and 75% English appointments are teaching their own subject. But there is a remarkable difference between subject area one is recruited for and the subject taught when it comes to "Special subjects".

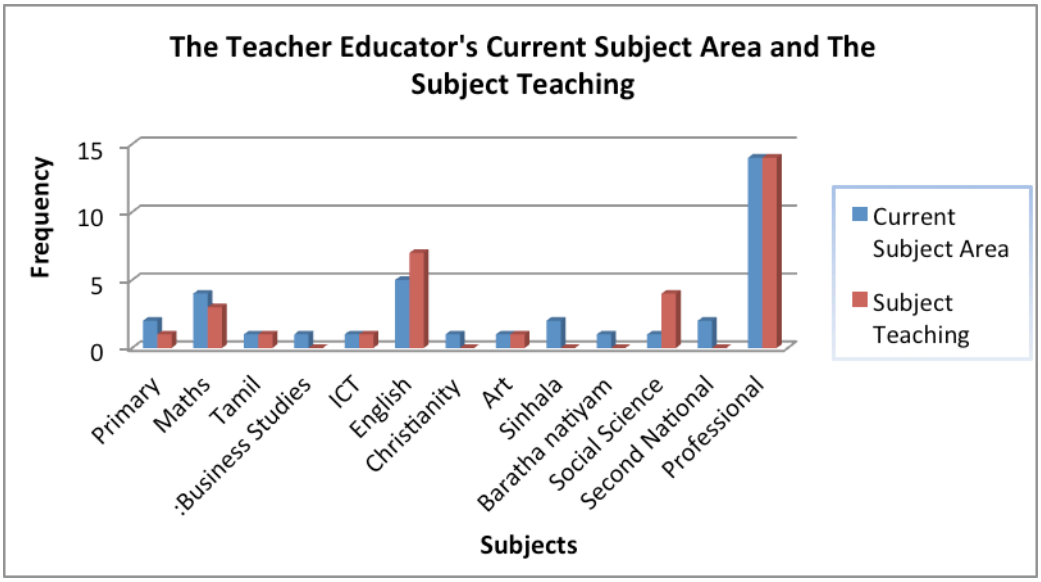


Figure 2: Teacher Educators Current Subject area

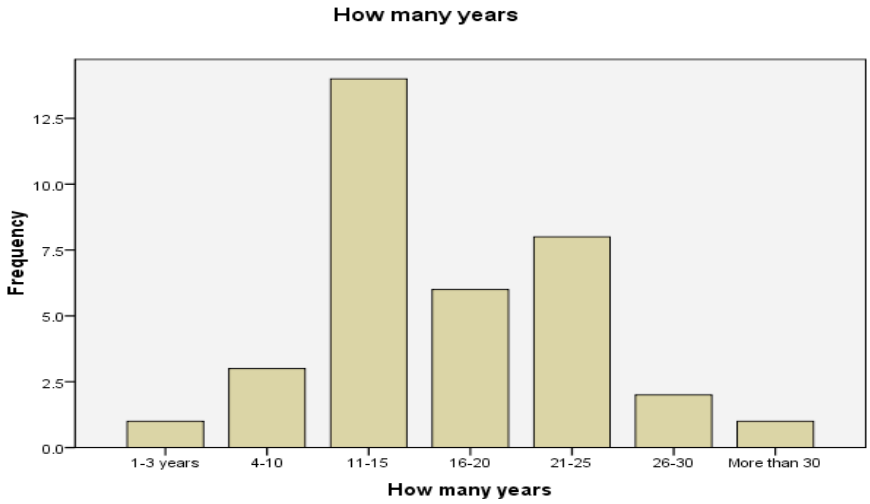


Figure 3: Teaching Experiences of Teacher Educators

The above graph indicates that all the teacher educators have had teaching experience during their careers. This is also a positive aspect for the teaching learning process. However, the number of years of experience is not an indicator for the measure the teaching talent. The recruitment policies have to consider their teaching ability and positive attitude towards diverse learners.

Second research Question:

Hypothesis 1: H_o -There is no significant difference between **content** and meeting the diverse needs of the learners *at* $\alpha = 0.05$ significant level.

Chi-Square Tests- content – Teacher educators

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.947[a]	9	0.05
Likelihood Ratio	16.924	9	0.05
N of Valid Cases	36		

Table No. 4: Chi Square Table: Content- Teacher educators

a. 7 cells (46.7%) have expected count less than 5. The minimum expected count is .20.

According to the chi square table of teacher educator responses given above the results indicate that there is a significant difference between degree of competence of teacher educators and the degree of the need in content. However, the teacher educators' perception favors the content of the NDT syllabi in terms of need their perception differs. This qualitative inference supports quantitative analysis of content that there is no significant difference between degree of competencies and the degree of need at $\alpha = 0.05$ level. However, the significant level of p value is 0.050. We can reject the null hypothesis that indicates that there is a strong difference between the degree of competence and the degree of needs based on the content of syllabi.

Content- degree of competencies and degree of need

	Value	df	Asymp.Sig. (2-sided)
Pearson Chi-Square	12.832[a]	8	.118
Likelihood Ratio	11.928	8	.154
No of Valid Cases	158		

Table No. 5: Chi square test – prospective teacher - content

a. 7 cells (46.7%) have expected count less than 5. The minimum expected count is .20.

According to the chi square table given above for the prospective teachers' questionnaire, the degree of competencies and the degree of need (at $\alpha = 0.05$ level) "p" value is 0.118. For the same hypothesis teacher educators' "p" value is 0.05. If we compare the value of "p", the prospective teacher's opinion differs from that of the teacher educators. The "p" value of prospective teacher's questionnaire indicates that there is no significant difference between content of the pre-service programme and meeting the diverse needs of learners. It indicates that the dependent variable and the independent variable are independent The teacher educators on the NDT programme accepted that they did not consider the differentiated learning concept in their teaching and therefore, it can be assumed that the knowledge of the prospective

teachers will be relatively lower in the domain of differentiated learning in order to identify the differentiated factors in the questionnaire and to answer appropriately.
The conclusion of the content area is that the competencies of the prospective teachers and teacher educators are not at the expected level and the need for this knowledge is greatly expected and required mostly by teacher educators than prospective teachers.
This qualitative inference supports the quantitative analysis of content that there is no significant difference between degree of competencies and the degree of need at $\alpha = 0.05$ level. However, the significant level "p" value is 0.050 in the Chi-square test. We can reject the null hypothesis and predict that there is a strong difference indicated between degree of competence and degree of needs based on individual differences of teacher educators

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.89[a]	9	0.001
Likelihood Ratio	22.93	9	0.006
N of Valid Cases	158		

Table No. 6: Chi Square – Individual difference- Teacher Educators

Hypothesis: H_o -There is no significant difference between **individual difference** and meeting the diverse needs of the students *at $\alpha = 0.05$* significant level.

a. 8 cells (50.0%) have expected count less than 5. The minimum expected count is 09.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.526[a]	12	0.050
Likelihood Ratio	22.092	12	0.037
N of Valid Cases	36		

Table No. 7: Chi Square – Individual difference- prospective teachers

a. 20 cells (100.0%) have expected count less than 5. The minimum expected count is .08.

The individual difference factor of differentiation instruction "p" value is 0.001 for the response of prospective teacher's questionnaire. $\chi 2$ (9), n = (158) = 26.898, $p \leq 0.05$. The p value is less than 0.005. The null hypothesis can be rejected. Therefore, there is a strong difference between individual difference factor of differentiation and meeting the needs of diverse learners. The prospective teachers feel that their degree of competencies in the individual difference factor is very low to compare with the degree of need. However, prospective teachers are not guided well enough to identify individual differences of learners. Further, the lack of knowledge individual difference leads them to prepare inappropriate lessons for the students they teach in the allocated school during the internship period.

When the chi-square tests were carried out to determine the difference between individual difference and meeting the needs of diverse learners, the results revealed the difference between individual difference and diverse need, with $\chi 2$ (12), n = (36) = 20.526, $p \leq 0.05$. The null hypothesis is rejected. Individual differences influence in meeting the needs of diverse learners. In other words, teacher educators were not very familiar with the knowledge of individual differences and diverse needs and they have not implemented them frequently in their classes. Therefore, the prospective teachers have not taken the above into consideration and do not have a great understanding of the individual difference concept. It has led to the prospective teachers not practicing it in their classrooms.

Hypothesis: H_o -There is no significant difference between **instructional strategies** and meeting the diverse needs of the students *at* $\alpha = 0.05$ significant level.

The given below table indicates the "p" value 0.357, $p \geq 0.05$. $\chi 2$ (12) n = (36) = 20.526, $p \geq 0.05$. The null hypothesis is retained. Instructional strategies and the meeting diverse needs are independent. There is no difference between instructional strategies and the diverse learners. Teacher educator's competencies are equal to the needs or are independent. Teacher educators are confident of their instructional strategies related to the diverse learners. However, the teacher's educators assume that they have inadequately covered the instructional strategies related to diverse learners to meeting the needs

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	13.171[a]	12	0.357
Likelihood Ratio	15.931	12	0.194
No of Valid Cases	36		

Table: No. 8: Chi square test – Instructional strategies – Teacher educators

a. 20 cells (100.0%) have expected count less than 5. The minimum expected count is .06.

	Value	df	Asymp.Sig. (2-sided)
Pearson Chi-Square	28.791[a]	12	.004
Likelihood Ratio	23.713	12	.022
N of Valid Cases	158		

Table No. 9: Chi square test Prospective teachers -– Instructional strategies

a. 25 cells (100.0%) have expected count less than 5. The minimum expected count is .06.

If we examine the prospective teachers questionnaire analysis, chi square p value is $\alpha = 0.004$ for instructional strategies factor of differentiated instruction. The table given above indicates

the "p" value of instructional strategies as 0.004, $p \leq 0.05$. $\chi 2$ (12), n = (158) = 28.791, $p \leq 0.05$. However, the "p" value rejects the null hypothesis. Further, the chi square value proves that there is a strong difference between the prospective teacher's degree of competencies and the degree of need of instructional strategies. The analysis indicates the degree of need is higher than the degree of competencies. However, teacher educator's felt that the degree of competencies is not less than the degree of need. The teacher educators share their view on different instruction and they request training on differentiated instruction and suggested allocation more units for differentiated instruction in related subjects. Learning style has also been included in instructional strategies. Both parties agree that learning style which was not considered more in training programmes influences the in teaching learning process strongly.

Hypothesis: H_o -There is no significant difference between **classroom environment** and meeting the diverse needs of the learners *at* $\alpha = 0.05$ significant level.

According to the chi square test table 21 p value is 0.006 ($p \leq 0.05$). However, it shows a strong difference between classroom environment and the diverse learners' needs. We can reject the null hypothesis and accept that there is a strong difference indicated between degree of competence and degree of needs based on the classroom environment among the teacher educators and the prospective teachers. Both parties agreed in the interview that classroom environment which was not considered more in training programmes influences the teaching learning process strongly.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.865[a]	16	0.006
Likelihood Ratio	39.82	16	0.001
N of Valid Cases	36		

a. 18 cells (90.0%) have expected count less than 5. The minimum expected count is .03.

Table No. 10: Chi Square table for classroom environment – Teacher Educators

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	37.637[a]	12	0.001
Likelihood Ratio	36.285	12	0.001
N of Valid Cases	158		

a. 18 cells (90.0%) have expected count less than 5. The minimum expected count is .03.

Table No. 11: Chi Square table for classroom environment – Prospective teachers

The two grids above indicate that the p values are 0.006value and 0.001. Both values are less than the significant level 0.005. (0.006 ($p \leq 0.05$), is 0.001 $p \leq 0.05$). Therefore it's proven that the null hypothesis can be rejected. It indicates there is a strong difference between the degree of competencies and degree of needs classroom environment. The cross tabulation (see annexure vii) value shows that the degree of need is more than the degree of competencies. After a brief discussion they understood what classroom environment is and how it is important for a teacher to plan a lesson.

Hypothesis: H_o -There is no significant difference between **assessing the learner** and meeting the diverse needs of the learners *at* $\alpha = 0.05$ significant level.

According to the chi square test table p value is 0.015($p \leq 0.05$). However, it shows a strong difference between assessing the learner and the diverse learners need. We can reject the null hypothesis that there is a strong difference indicated between the degree of competence and the degree of needs based on assessing the learner.

Furthermore, we can see that the largest difference is average and lower than average 38.90% between degree of competencies and degree of needs in assessing the learner occurs among those with of teacher educators (see annexure VII). 16.7% of teacher educators agree with assessing the learner.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.988[a]	12	0.015
Likelihood Ratio	29.766	12	0.003
N of Valid Cases	36		
a. 18 cells (90.0%) have expected count less than 5. The minimum expected count is .03.			

Table No. 12: Teacher Educators - Assessing Learner

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.785a	12	0.003
Likelihood Ratio	20.065	12	0.066
N of Valid Cases	158		

Table No. 13: Chi square test – Prospective teachers

a. 20 cells (100.0%) have expected count less than 5. The minimum expected count is .06.

The two grids above indicate that the p values are 0.015value and 0.003. Both values are less than the significant level 0.005. (0.015 ($p \leq 0.05$), is 0.003 $p \leq 0.05$). Therefore it's proven that the null hypothesis can be rejected. It indicates there is a strong difference between the degree of competencies and degree of needs in assessing the learner.. The teacher educators and the prospective teachers have accepted in the interview that they consider formative and summative assessment only. After a brief discussion they understood what assessing the learner is and how it is important for a teacher to plan a lesson.

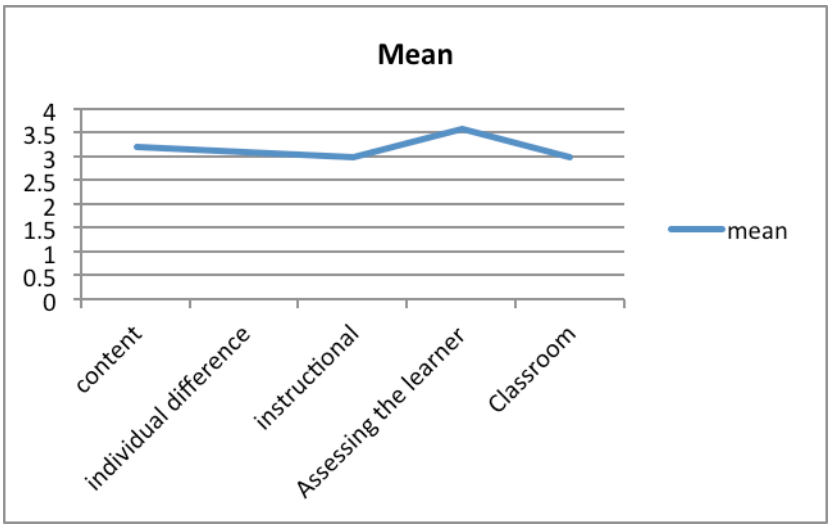
On the whole, the differentiated factors the researcher selected were not very familiar to prospective teachers and teacher educators. The analysis indicates that the differentiated instruction concept should be emphasized more in the pre – service National diploma in teaching programme.

Research Question 3: Is there a significant relationship between the knowledge of differentiated instruction and implementation in the classroom environment of the diverse needs learners?

Observation Schedule results and discussion

Integration of specific differentiated activities was evidenced throughout the observations as follows:

- The less use of hands-on activities was evident for all teachers, in each of the teaching practice.
- Video clips and music were not much incorporated into lessons for student engagements prescribed in classroom lessons.
- Pre assessment, readiness of learners and interest are merely consider in classroom teaching
- Worksheets that incorporated scaffold instruction were merely used in every classroom.
- Group activities were excessively used for individual instruction.
- Real-world scenarios were read to students in language classes and without allowing them to reflect on the situation presented.
- The critical thinking and brainstorming components of the lesson were omitted.
- Classroom games, intended for assessment review, were omitted.
- Class discussion and partner activities were lacking in the majority of classrooms.
- Physical layout of classroom only considered.
- The prospective teachers are not happily engaged in lesson
- Less usage of Teaching aids
- Mechanical and traditional teaching
- Majority prospective teachers used
- "One fits for all method" very less differentiated lessons



1-Strongly agree 2. Agree 3. Neutral 4. Disagree 5. Strongly Disagree

Figure 4: Total mean of selected 5 differentiated factors

Conclusions And Recomendatation

The researcher found out the above factors of differentiated instruction is not much emphasized in content analysis. However, these results indicate that there is adequate room to include the individual difference factor and learning style in the teaching and learning process of the NDT. The basic concept of differentiated instruction 'readiness' is lacking in the content of the NDT syllabi and it reflects in the teaching practice. Classroom environment also influences in the teaching and learning process in the classroom. Our schools classrooms are overcrowded to implement any kind of teaching strategies. Even though, a circular has been published regarding the square feet needed for a child, in reality it is not in practice. It shows that the democratic classroom concept is not much developed in Sri Lankan schools. The teacher educators, prospective teachers mostly consider the physical layout of classroom only. This factor also does not strongly agree or agree by the evaluators who observed the lessons.

Beyond the summative and formative evaluation assessing the learner is an important factor in teaching learning process in successful teaching. This concept also lacked in teaching learning process in the NDT program. In addition Observation of teaching practice also indicated the limited usage of assessing the learner in the classroom. Usage of multiple intelligence and tiered type assessment strategies are not evident in professional and general subjects. However this assessment method is used to some extent in aesthetic subjects and second National language only.

On the whole all factors are considered together, the common mean (see figures above) also falls three to four. It shows that the common mean also is in between neutral and disagree. Moreover, with the results of observation of lessons the conclusion that differentiated instruction factors are not much used in the teaching learning process of the NDT program. . Assessing the learner is the lowest mean and it indicates that the teaching is done on a 'one fits all' method. According to the teacher educators and the prospective teachers view the assessment part is considered only in formative and summative evaluation.

The major conclusions based on the statistical analysis, supported by qualitative data, are summed up here in relation to the hypotheses formulated in the previous chapters.

Content: Inappropriate teaching and learning approaches are used, with the consequence being, that the pre-service NDT training program becoming a relatively poor vehicle for delivering learning outcomes.

Further, the syllabi pointed out the main topics and the sub topics only of each unit In order to achieve similar targets in every College of Education the curriculum of NDT program has to be prepared in detail with competencies and learning outcomes for each topic specified for each unit for the benefit of prospective teachers and the teacher educators.

Theory – to practice and practice to theory relations was not addressed in all the syllabi
The researcher also suggests that theory-to-practice relations practice-to-theory-to-practice relations in the NDT program need to be given more thought and attention.

Individual difference

The findings reveals, teacher educators have to be empowered with required skills and knowledge, that a lesson can be differentiated in many ways to best meet the needs of all learners.

The most prevalent ways that differentiation occurs is by readiness, interest, and learning profile of each student. "Human judgment should be exercised in the way we provide services to a child who has a high degree of creativity and interest, even if "the scores" are below some arbitrarily set cutoff point.

Moreover, a lesson organized around interest gives students a choice on how they learn the lesson. Students may be placed into groups based on a variety of ways including learning styles, interests, or choice, or they may work independently to complete the assignment.
Further, the teacher would accommodate for differences in how students learn so that optimal learning can take place.

Instructional strategies

However, tiered lessons strategy is not used by the teacher educators and they are not aware of this important differentiated instruction strategy. Pre-assessments play an important role in the development of the lessons. The teacher decides what type of group, if any, will best meet the needs of the child. Teaching is considered to be a process to initiate, facilitate, and sustain students' self – learning, self – exploration and self – actualization; therefore, prospective teachers and the teacher educators need to be facilitators and mentors who support students' learning. The focus of teaching in the new paradigm is to arouse student's curiosity and motivation to think, act and learn. Also teaching is an art of sharing with students the joy of the learning process and outcomes. In addition teaching is also a life - long learning process involving continuous discovery, experimentation, self- actualization, reflection, and professional development.

Classroom environment

The findings clearly indicated that a strong relationship exists between classroom environment and DI. As per the response from prospective teachers and teacher educators, classroom management part is the difficult part in their practicum teaching period.

Assessing the learner

In the syllabi there was some confusion about the distinction between formative and summative forms of assessment, or at least, the syllabi did not specify how the two assessments work in different ways, and how each is important in the pre-service curriculum. In addition, choosing the right people to be teacher educators and accrediting or licensing those who subsequently become teachers are important issues. Some of the syllabuses of the NDT program gave prominence to forms of assessment (i.e. examinations) which are not suitable for assessing many of the knowledge constructs, skills and dispositions associated with teacher training.

Implications and suggestions

Through localization and globalization, there are multiple sources of learning, for example, there are self-learning programs and packages, web-based learning, outside experts, and community experiential programs inside and outside their institutions, locally and globally. Teachers can encourage local and global networking and exposure through the internet, web-based teaching, video-conferencing, cross cultural sharing, and different types of interactive and multi-media materials.

Recommendation for Further Research Studies

1. More comprehensive studies may be undertaken to include teacher attitude, curriculum standard, and cultural background, learning approaches and other variables influencing differentiated instruction, to arrive at a comprehensive model for differentiated instruction.
2. Studies on how differences impact time table at different levels could have a positive effect on differentiated instruction in primary and secondary time table concerns
3. Future studies could be conducted that would utilize an instrument during a classroom observation through mentors for a longer period to identify the strategies teachers are implementing in the classroom.

Acknowledgement

There are several individuals that I would like to thank for their contribution along the way. Prof. P.C.P. Jaufar, my advisor and reader challenged, guided, inspired and supported, gave his insights and assistance along the way me throughout this process.

Appendix A

Questionnaire For Teacher Eductors Of The National Diploma In Teaching Pre – Service Teacher Training Program

The purpose of this questionnaire is to collect data to identify the degree of usage of differentiated instructions in the pre- service National Diploma in teaching teacher training program conducted at National Colleges of Education. Please read each response carefully and accurately answer the following items by circling the number in the left and right column indicating the level of competence for each item. All individual responses will be kept strictly confidential. Therefore, I would be grateful if you would give sincere and detailed responses to all of the questions. Thank you very much in advance for your time and patience.Your participation is voluntary, confidential and greatly appreciated.

I.Selvaranee
Lecturer
Department of Teacher Education

Part I

Background Demographic Data

Please complete the following questions:

01. Current subject area (according to your appointment):
……
02. Gender: Male/ Female
03. Your age range is:

20 - 25	
26 - 30	
31 - 35	
36 - 40	
41 - 45	
46 - 50	
51 - 55	
56 - 60	
More than 60	

04. Education Level

Bachelor's Degree	
Master's Degree	
Doctoral Degree	
Other please specify	

05. How many years have you been teaching?

1-3 years	
4-10	
11-15	
16-20	
21-25	
26-30	
More than 30	

06. How many years have you been a teacher Educator?

1-3 years	
4-10	
11-15	
16-20	
21-25	
26-30	
More than 30	

07. Your working place:……. National Colleges of Education

08. Subjects you are teaching:
……

09. Are you stay at the college quarters:……

10. Is there a Library available in your college: ……..

Part II

Below is a list of skills and abilities related to teaching academically diverse learners. On the left hand column could you rate **how competent you consider yourself** in each skill and ability? On the right hand column could you rate **your need** for these skills and abilities as a teacher? (Could you respond by putting a circle around the appropriate number in each column)

Key: Not At all, Lower than average, Average, High, Very high

Degree of Competence						**Degree of Need**				
Not At all	Lower Than	Average	high	Very high		Not At All	Lower Than	average	high	Very high
					A. Content of syllabi					
1	2	3	4	5	The content of the syllabi is interesting	1	2	3	4	5
1	2	3	4	5	The curriculum is based on competencies	1	2	3	4	5
1	2	3	4	5	Reasonable balance exists between theory and practice	1	2	3	4	5
1	2	3	4	5	The syllabi pay enough attention to challenging learning processes to accommodate diverse learners in the classroom	1	2	3	4	5
1	2	3	4	5	Incorporates appropriate technology for teaching according to individual differences	1	2	3	4	5
1	2	3	4	5	The syllabi pay attention to different instructional strategies to deliver different subjects	1	2	3	4	5
1	2	3	4	5	The syllabi incorporate teaching and learning methods to cater each child's learning needs.	1	2	3	4	5
1	2	3	4	5	The syllabi is designed to suit high expectations for each child's learning needs	1	2	3	4	5
1	2	3	4	5	Syllabi utilizing appropriate instructional and assessment tools engage student in meaningful ways	1	2	3	4	5
1	2	3	4	5	Attention paid to the distinction between pre assessment and ongoing assessments	1	2	3	4	5
					B. Process **B1. Student individual differences**					
1	2	3	4	5	Able to understand the learning needs of individual students.	1	2	3	4	5
1	2	3	4	5	Able to understand the readiness of the students.	1	2	3	4	5
1	2	3	4	5	Learning profiles of students help in the teacher in the preparation the lesson according to their interest.	1	2	3	4	5

1	2	3	4	5	Able to understand the social and emotional problems of students in the diverse classroom	1	2	3	4	5
1	2	3	4	5	Provided opportunities for independent or group learning to promote depth in understanding content.	1	2	3	4	5
1	2	3	4	5	Providing sufficient practice opportunities for students.	1	2	3	4	5
1	2	3	4	5	Being able to use classroom materials Appropriately for diverse learners	1	2	3	4	5
1	2	3	4	5	Allowed students to discover key ideas individually through structured activities and / or questions?	1	2	3	4	5
1	2	3	4	5	Able to engage the students in peer supported learning	1	2	3	4	5
1	2	3	4	5	Able to consider student choices in their learning	1	2	3	4	5
1	2	3	4	5	Provide different fun learning approaches for disengaged students.	1	2	3	4	5
1	2	3	4	5	Feel free to accommodate specialist support for learning difficulties among children	1	2	3	4	5
1	2	3	4	5	Accommodated individual or subgroup differences (e.g., through individual conferencing, student or teacher choice in material selection and task assignments)	1	2	3	4	5
1	2	3	4	5	Encouraged multiple interpretations of events and situations	1	2	3	4	5
B2- Identifying the learning style										
1	2	3	4	5	To be able to identify the potentials of each learner	1	2	3	4	5
1	2	3	4	5	Able to create fun learning activities to suit student's learning styles.**;**	1	2	3	4	5
1	2	3	4	5	Small group techniques can be used to teach difficult concepts	1	2	3	4	5
1	2	3	4	5	Activity Packages will be of benefit to cater diverse learners learning styles	1	2	3	4	5
1	2	3	4	5	Students active participation in redesigning the classroom encourage the learners in their learning style	1	2	3	4	5

1	2	3	4	5	Allows students to designate how they like to learn	1	2	3	4	5
1	2	3	4	5	Able to use teaching materials effectively for visual learners	1	2	3	4	5
1	2	3	4	5	Discussion, debate, oral interpretation and listening activities are included in classroom activities for the benefit of auditory learners	1	2	3	4	5
1	2	3	4	5	Providing experiments, projects, visual aids, role play and field trips to explain the concept clearly.	1	2	3	4	5
1	2	3	4	5	Being able to understand that the learning style and thinking style knowledge is essential for a teacher to teach a diverse class	1	2	3	4	5
					B3. Instructional strategies					
1	2	3	4	5	Able to understand the concept of Different strategies to different learners	1	2	3	4	5
1	2	3	4	5	Providing tiered assignments to cater academically diverse students in the classroom	1	2	3	4	5
1	2	3	4	5	Providing Project based learning experiences	1	2	3	4	5
1	2	3	4	5	Providing Mini lessons	1	2	3	4	5
1	2	3	4	5	Activities consists of Corporative learning attractive to students	1	2	3	4	5
1	2	3	4	5	Providing problem solving activities	1	2	3	4	5
1	2	3	4	5	Being able to use novelty in teaching	1	2	3	4	5
					Product **C. Assessing the learner**					
1	2	3	4	5	Being able to understand the concept of assessing the learner.	1	2	3	4	5
1	2	3	4	5	Being able to understand how pre assessment is important to plan the lesson for diverse learners	1	2	3	4	5
1	2	3	4	5	Able to identify the readiness of the students to adjust the lesson	1	2	3	4	5
1	2	3	4	5	Successful teachers can assess how students learn best	1	2	3	4	5
1	2	3	4	5	Monitoring students' progress is an essential type of assessment	1	2	3	4	5
1	2	3	4	5	Use multiple (oral/written/graphic or collage) type of formative assessments	1	2	3	4	5
1	2	3	4	5	Summative evaluation should be	1	2	3	4	5

					set to cater to diverse learning needs					
1	2	3	4	5	Assessments help the teacher to modify instruction to focus on each and every individual student.	1	2	3	4	5
1	2	3	4	5	Ongoing assessments have to be of tier type	1	2	3	4	5
1	2	3	4	5	Consider Multiple Intelligence of students in the preparation of the summative evaluation	1	2	3	4	5
B4. Classroom environment										
1	2	3	4	5	Being able to understand the concept of classroom environment	1	2	3	4	5
1	2	3	4	5	Physical layout of the classroom is essential for learning	1	2	3	4	5
1	2	3	4	5	Seating arrangements influence the learning	1	2	3	4	5
1	2	3	4	5	Sound system and lighting help visual and auditory learners	1	2	3	4	5
1	2	3	4	5	Area for group work provides a good learning environment for diverse learners	1	2	3	4	5
1	2	3	4	5	Safe and comfortable classroom environment provides a positive attitude towards learning	1	2	3	4	5
1	2	3	4	5	The teacher and the student mutual respect is necessary to have a friendly classroom environment	1	2	3	4	5
1	2	3	4	5	Create rules and encourage sprit to maintain classroom discipline.	1	2	3	4	5

Appendix B

Questionnaire For Prospective Teachers Of The National Diploma In Pre – Service Teacher Training Program

The purpose of this questionnaire is to collect data to identify the degree of usage of differentiated instructions in the pre- service National Diploma in teaching teacher training program conducted at National Colleges of Education. Please read each response carefully and accurately answer the following items by circling the number in the left and right column indicating the level of competence for each item. All individual responses will be kept strictly confidential. Therefore, I would be grateful if you would give sincere and detailed responses to all of the questions. Thank you very much in advance for your time and patience. Your participation is voluntary, confidential and greatly appreciated.

I.Selvaranee
Lecturer
Department of Teacher Education

Part I

Background Demographics Data

Please complete the following questions:

01. Current subject area (according to your appointment):
……
02. Gender: Male/ Female
03. Your age range is:

20 - 22	
23 - 25	
More than 30	

04. Subject you learnt at G.C.E (A/L)

Science	
Maths	
Arts	
commerce	
Languages	
technology;	
others	

05. Your National Colleges of Education
……..

06. Your favorite Subjects:
……

07. Is there a Library available in your college:
……..

Part II

Below is a list of skills and abilities related to teaching academically diverse learners. On the left hand column could you rate **how competent you consider yourself** in each skill and ability? On the right hand column could you rate **your need** for these skills and abilities as a teacher? (Could you respond by putting a circle around the appropriate number in each column).

Key: Not At all, lower than average, Average, High, very high

Degree of Competence **Degree of Need**

Not At all	Lower Than	Average	high	Very high		Not At All	Lower Than	average	high	Very high
					A. Content of syllabi					
1	2	3	4	5	The content of the syllabi is interesting	1	2	3	4	5
1	2	3	4	5	The syllabi pay enough attention to challenging learning processes to accommodate diverse learners in the classroom	1	2	3	4	5
1	2	3	4	5	Incorporates appropriate technology for teaching according to individual differences	1	2	3	4	5
1	2	3	4	5	The syllabi pay attention to different instructional strategies to deliver different subjects	1	2	3	4	5
1	2	3	4	5	The syllabi incorporate teaching and learning methods to cater each child's learning needs.	1	2	3	4	5
1	2	3	4	5	The syllabi is designed to suit high expectations for each child's learning needs	1	2	3	4	5
1	2	3	4	5	Syllabi utilizing appropriate instructional and assessment tools engage us in meaningful ways	1	2	3	4	5
1	2	3	4	5	Attention paid to the distinction between pre assessment and ongoing assessments	1	2	3	4	5
					B. Process **B1. Student individual**					

					differences					
1	2	3	4	5	Provided knowledge and skill to understand the learning needs of individual students.	1	2	3	4	5
1	2	3	4	5	Able to understand the readiness of the students.	1	2	3	4	5
1	2	3	4	5	We leant that Learning profiles of students help in the teacher in the preparation the lesson according to their interest.	1	2	3	4	5
1	2	3	4	5	Made us to understand the social and emotional problems of students in the diverse classroom	1	2	3	4	5
1	2	3	4	5	Provided opportunities for independent or group learning to promote depth in understanding content.	1	2	3	4	5
1	2	3	4	5	Provided sufficient classroom practice opportunities for us	1	2	3	4	5
1	2	3	4	5	Provided opportunities to use classroom materials Appropriately for diverse learners	1	2	3	4	5
1	2	3	4	5	Allowed us to discover key ideas individually through structured activities and / or questions?	1	2	3	4	5
1	2	3	4	5	Engage us in peer supported learning	1	2	3	4	5
1	2	3	4	5	Provided knowledge to consider student choices in their learning	1	2	3	4	5
1	2	3	4	5	Provide us knowledge to cater different fun learning approaches for disengaged students.	1	2	3	4	5
1	2	3	4	5	Lecturer Feel free to accommodate specialist support for learning difficulties among children in our classroom	1	2	3	4	5
1	2	3	4	5	Accommodated individual or subgroup differences (e.g., through individual conferencing, student or teacher choice in material selection and task assignments)	1	2	3	4	5
1	2	3	4	5	Encouraged us to use multiple interpretations of events and situations	1	2	3	4	5
B2- Identifying the learning style										
1	2	3	4	5	Provided practice to identify the potentials of each learner	1	2	3	4	5
1	2	3	4	5	Provided in create fun learning activities to suit student's learning	1	2	3	4	5

					styles.;					
1	2	3	4	5	Small group techniques used to teach difficult concepts	1	2	3	4	5
1	2	3	4	5	Provide opportunities to use Activity Packages of benefit to cater diverse learners learning styles	1	2	3	4	5
1	2	3	4	5	Prospective teachers actively participated in redesigning the classroom to encourage the learners in their learning style	1	2	3	4	5
1	2	3	4	5	Allows prospective teachers to designate how they like to learn	1	2	3	4	5
1	2	3	4	5	Provided practice in use teaching materials effectively for visual learners	1	2	3	4	5
1	2	3	4	5	Conducted discussion, debate, oral interpretation and listening activities are included in classroom activities for the benefit of auditory learners	1	2	3	4	5
1	2	3	4	5	Providing experiments, projects, visual aids, role play and field trips to explain the concept clearly.	1	2	3	4	5
1	2	3	4	5	Provided experiences to understand that the learning style and thinking style knowledge is essential for a teacher to teach a diverse class	1	2	3	4	5
					B3. Instructional strategies					
1	2	3	4	5	Provided experiences to understand the concept of Different strategies to different learners	1	2	3	4	5
1	2	3	4	5	Providing tiered assignments to cater academically diverse students in the classroom	1	2	3	4	5
1	2	3	4	5	Providing Project based learning experiences	1	2	3	4	5
1	2	3	4	5	Providing Mini lessons	1	2	3	4	5
1	2	3	4	5	Practiced with activities consists of Corporative learning attractive to students	1	2	3	4	5
1	2	3	4	5	Providing problem solving activities	1	2	3	4	5

1	2	3	4	5	Provided classroom practicein use of novelty in teaching	1	2	3	4	5
Product C. Assessing the learner										
1	2	3	4	5	Provided knowledge to understand the concept of assessing the learner.	1	2	3	4	5
1	2	3	4	5	Provided classroom practices to understand how pre assessment is important to plan the lesson for diverse learners	1	2	3	4	5
1	2	3	4	5	Provided knowledge and skill to identify the readiness of the students to adjust the lesson	1	2	3	4	5
1	2	3	4	5	Successful teachers can assess how students learn best	1	2	3	4	5
1	2	3	4	5	Monitoring students' progress is an essential type of assessment	1	2	3	4	5
1	2	3	4	5	Used multiple (oral/written/graphic or collage) type of formative assessments	1	2	3	4	5
1	2	3	4	5	Prepared Summative evaluation suitable to cater to diverse learning needs	1	2	3	4	5
1	2	3	4	5	We understood that assessments help the teacher to modify instruction to focus on each and every individual student.	1	2	3	4	5
1	2	3	4	5	Ongoing assessments have to be of tier type	1	2	3	4	5
1	2	3	4	5	It is necessary to consider Multiple Intelligence of students in the preparation of the summative evaluation	1	2	3	4	5
C4. Classroom environment										
1	2	3	4	5	Provided knowledge to understand the concept of classroom environment	1	2	3	4	5
1	2	3	4	5	Physical layout of the classroom is essential for learning	1	2	3	4	5
1	2	3	4	5	Seating arrangements influence the learning	1	2	3	4	5
1	2	3	4	5	Sound system and lighting help visual and auditory learners	1	2	3	4	5
1	2	3	4	5	Area for group work provides a good learning environment for diverse learners	1	2	3	4	5

1	2	3	4	5	Safe and comfortable classroom environment provides a positive attitude towards learning	1	2	3	4	5
1	2	3	4	5	The teacher and the student mutual respect is necessary to have a friendly classroom environment	1	2	3	4	5
1	2	3	4	5	Create rules and encourage sprit to maintain classroom discipline.	1	2	3	4	5

Appendix C

OBSERVATION SCHEDULE FOR THE SELECTED PROSPECTIVE TEACHRS OF THE NATIONAL DIPLOMA IN PRESERVICE TEACHER TRAINING PROGRAM

The purpose of this questionnaire is to collect data for the evaluation of the pre-service teacher training program at National Colleges of Education. All individual responses will be kept strictly confidential. Therefore, Could you respond by putting a circle around the appropriate number in each column?

I.Selvaranee
Lecturer
Department of Teacher Education
National Institute of Education, Maharagama.

SA – Strongly Agree A- Agree N- Neutral D- Disagree SD- Strongly Disagree

S.N	Content	SA	A	N	D	SD
01	The teacher assessed the pre-knowledge of the diverse students					
02	Exhibited good knowledge of the subject matter					
03	Presented the subject matter clearly to cater diverse learners					
04	Possible to explain the concept clearly to diverse learners					
05	Used attractive teaching aids to cater diverse learners.					
06	Showed enthusiasm for the subject and commitment to the job					
07	Assessed the readiness of the diverse students					
	Process - Individual differences Identify the learning style					
08	Considered the learning styles of the student (visual, auditory, kinesthetic)					
09	Used different strategies with different learners					
10	Used authentic materials effectively to diverse learners					
11	Incorporated the use of computers effectively in the presentation for visual learners					
12	Introduced Project based learning based on diverse students interest					
13	Knows how diverse students learn best individually					
14	Considered the individual learning needs of children and showed a sensitivity to individual interests and abilities					
	Process - Instructional strategies					
15	This teacher made the diverse children ready to learn through engagement and stimulated interest in the subject with an activity					

16	Kept diverse students active participation					
17	Treated students with respect					
18	Kept eye contact with all students					
19	Knows the potential of each student					
20	Engaged the diverse students in peer supporting learning					
21	Used fun approaches to disengaged students					
22	Drills and questioning techniques used by the teacher to evoke the diverse students' interest.					
23	Successfully handled the social and emotional problems of diverse learners					
24	Knows the name of the students					
25	Small group technique used by the teacher and allowed flexible grouping for activities					
26	Did not discriminate students on the basis of personal attributes e.g. gender, race etc.					
27	Gave additional support for underachievers					
28	Provided student centered and fun learning					
29	Guides with mini lesson to help the diversity of learners					
30	Shows individual interest in each student					
	Assessing the learner					
31	Used multiple type of (oral/written/ graphic/collage) assessments					
32	Used tiered assessment to cater to diverse needs					
33	Used ongoing assessments methods for diverse learners					
34	Prepared the summative evaluation based on multiple intelligence					
	Classroom environment					
35	Classroom environment is clean and beautiful					
36	Displayed duty chart, rules and regulation formulated by the students and decorated by students' performances in the classroom					
37	Classroom Lighting and sound system are favorable for diverses students learning					
38	Physical layout of the classroom is suitable for group work					
39	Seating arrangements organized according to the needs of students					
40	The classroom environment is set for Optimal condition for diverse students learning					
41	Effectively maintained the classroom area safe for the children					
42	Discipline of the students maintainedwell					
43	Encouraged students to participate in class room activities					
44	Student – teacher relationship is commendable					

45	maintains a democratic environment in the classroom while teaching					
46	Manages the class well					
47	Good time management					

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Contact email: m.selvaraneee@yahoo.com

Linking Supply on Demand of Indonesia Human Resource in Science and Technology on Perspective Black Swan Phenomenon

Indri Juwita Asmara, Indonesian Institute of Sciences, Indonesia
Elmi Achelia, Indonesian Institute of Sciences, Indonesia
Maulana Akbar, Indonesian Institute of Sciences, Indonesia
Muhammad Tasrif, Institut Teknologi Bandung, Indonesia

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Abstract
This paper discusses how the influence of the phenomenon of black swan in the development of human resource on science and technology (HRST) in Indonesia. Indonesia was predicted to become a developed country in 2025 with GDP growth conditions in 2025 reached 9%. While the government is implementing policy that is linking the labor supply on demand through Indonesia National Qualification Frameworks (KKNI). Both of these issues become background of black swan phenomenon. Indonesia HRST model has main structure that is sub model supply and demand. Simulation models use to absorb the phenomenon black swan through targeted GDP growth scenarios as well as link and match that assumes that the average waiting time to get a job of HRST is 3 months. HRST model are particularly vulnerable to KKNI policy. It means to be a developed country, Indonesia should prioritize a policy in qualifying HRST supply on labor market, taking into account the effectiveness of link and match program which has been running at the moment.

Keywords: Indonesian HRST, KKNI, supply demand, the black swan, developed country

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Introduction

Indonesia is a developing country which has a population of about 255 million people. With the number of the population, Indonesia is the fourth most populous country in the world. Indonesia's population growth rate between 2000 and 2010 was around 1.49 per cent per year. During this period, Indonesia has increased the population of childbearing age or who is often called demographic dividend, with dependency ratio below 0.5. Indonesia's workforce in 2013 is 121 million with a labor force of 114 million people. With a human development index continued to increase to 68.90 in 2014, the demographic bonus provides an opportunity for Indonesia to take advantage of the productivity of the population in the labor force so that it can be a potential in increase the nation's economy.

While in Indonesia's development plans in 2025 had stated that the knowledge-based economy driven by human resources that is able to utilize and produce technology for development, so that the required acceleration and national science and technology human resource capacity. Knowledge-based economic development is based on two important issues, the national innovation system and the quantity, quality and mobility of human resources of science and technology (HRST). Development of knowledge-based economy is known as a driver of productivity and economic growth [OECD, The Knowledge-Based Economy, Paris, 1996 p.7]. So as to meet the 2025 development plan, Indonesia needs to know the development of science and technology human resources Indonesia until 2025.

Research on the Human Resources Science and Technology (HRST) in Indonesia has been done in 2015. The study is “Indonesia Scenarios of HRST 2025” aims to formulate models of supply and demand Indonesia HRST and prediction of Indonesia HRST up to 2025. The results showed that the proportion of HRST Indonesia against a workforce of around 6.2% in 2014, with growth of supply is greater than demand. This means that HRST supply of college graduates are not working in the field of science and technology, and higher education academic qualification does not correspond to the needs of the labor market. In 2013 only amounted to 16.5% demand can be met by supply. So the analysis while it can be said that the link and match between supply and demand on HRST not occur optimally.

While today, the base sectors of Indonesian economic activity has shifted from the agricultural sector into the country with the growth of the manufacturing industry and services is greater. The economic upturn has also brought increased prosperity, which is reflected not only in increasing per capita income, but also in the improvement of various other social and economic indicators including the Human Development Index (HDI). In the period 1980 and 2010, the Human Development Index increased from 0.39 to 0.60. Economic growth which is characterized by an average GDP growth from 2001 to 2014 amounted to 5.4%, and Indonesia managed to get through the economic crisis in 2008 through micro or small and medium businesses. So that Indonesia is able to rank the 17 largest economies in the world.

Master plan for the Acceleration of Development Planning of Indonesia (MP3EI) predicted that Indonesia could become a developed country in Indonesia will become a developed country by 2025 with a per capita income ranging between USD 14,250 -

USD 15,500 with a total value of the economy (GDP) ranged between USD 4.0 - 4.5 trillion (KP3EI, 2011). City Research also predicts that Indonesia will be included into the Top 10 World Economy or country with the strongest economy in the world by 2025. Indonesia will be aligned with the position of developed countries such as India, China, Korea and Germany. This is evident from the emergence of newly industrialized countries, such as South Korea, Thailand, Malaysia, Taiwan, and China is showing progress in the field of science and technology very closely with the country's economic growth. Science and technology-based economic development can be realized if the government is able to settle the infrastructure, optimize government spending and improve the quality of human resources.

Predictions of Indonesia will become a developed country by 2025 is a black swan phenomenon that will be shown in this paper. Due to the fact that the Indonesian government is no longer referring to the MP3EI. But if only predictions it will happen what should be prepared by Indonesia government primarily associated with the development of HRST in Indonesia as a driver of the nation's economy. Therefore, this paper will absorb the phenomenon of Indonesia will become a developed country in 2025 HRST in the model to see the effect on the economic growth scenario Indonesia HRST.

Analytical Framework

Human resource on devoted on science and technology is a human resources involved in science and technology activities, involved means taking a role in science and technology activities to have the education and / or working on the field of science and technology, and will Likely to be the driver of economic growth , Definition of Human Resources Science and Technology refers to Canberra Manual 1992 which is one of Frascati Family manual published by the OECD. Canberra manually categorize HRST in two categories: HRST based Occupation (HRSTO) and HRST based Education (HRSTE). Two of these categories show a different dimension, the dimension that is HRSTE supply side and demand side dimension is HRSTO. So that definitive HRST is "Successfully completed education at the third level in a S & T field of study" (classification of science and technology fields of study refers to the International Standard Classification of Education (ISCED)). "Not Formally qualified as above, but employed in an S & T occupation where the above qualifications are normally required" (job classification in the field of science and technology refers to International Standard Classification of Occupation (ISCO)).

HRST formulation approach to human resource model using supply and demand forecasting. This approach provides two perspectives on the data that is HRST Analysis Demand and Supply Analysis. Demand analysis identifies current conditions in Indonesia and in the past. Economic conditions, public welfare, quality of education, and so forth. The next process is the assessment of the condition relating to the effect on the growth of HRST in Indonesia in the present and the past.

Based on the results involving the historical data, the next process is the prediction of HRST request basis of educational qualifications and employment in 2025. Supply analysis is divided into two general categories: internal and external supply. Internal supply identifies changes that occur to the HRST Indonesia. Changes that occur both

in quantity and activity. Both of these are affected by the policies imposed by the government and the college at the time, as the main producer of HRST Indonesia (internal). Factors that affect the HRST from the "Internal Supply": (i) the existence and movement of HRST (human resources flow), (ii) supply current science and technology human resources (human resources Stock). (iii) the level of science and technology human resource productivity or performance. In addition to internal inventory, also conducted an analysis of the external supply. This process is the process of predicting stock HRST from abroad, such as foreign nationals who have qualified as science and technology human resources. The end of the process is to reconcile the needs and demands of HRST in Indonesia until 2025. HRST scenario that may be produced is surplus, deficit or balance between demand and supply of human resources Science Indonesia up to 2025.

HRST data require the employment data by obtained from national labor force survey (SAKERNAS) that implemented by national statics unit (BPS). According to BPS workforce is resident whose activity in the reference period (one week) are working and looking for work. While the labor force is not a resident of the activity in the reference period (one week) is a school, find a job and more. Idle period is the period during which someone continuously unemployed or unemployed duration of the average worker. Older unemployed depends on (i) organization of the labor market, with regard to the presence or absence of institutions or labor suppliers and so on, (ii) Geographical situation of the labor force, as discussed above (iii) the ability of the desire of the unemployed to remain looking for a better job (iv) the availability and shape of companies (Dharmakususma, 1998). Figure 1 shows trend of Indonesia HRST stock from 2000 until 2014.

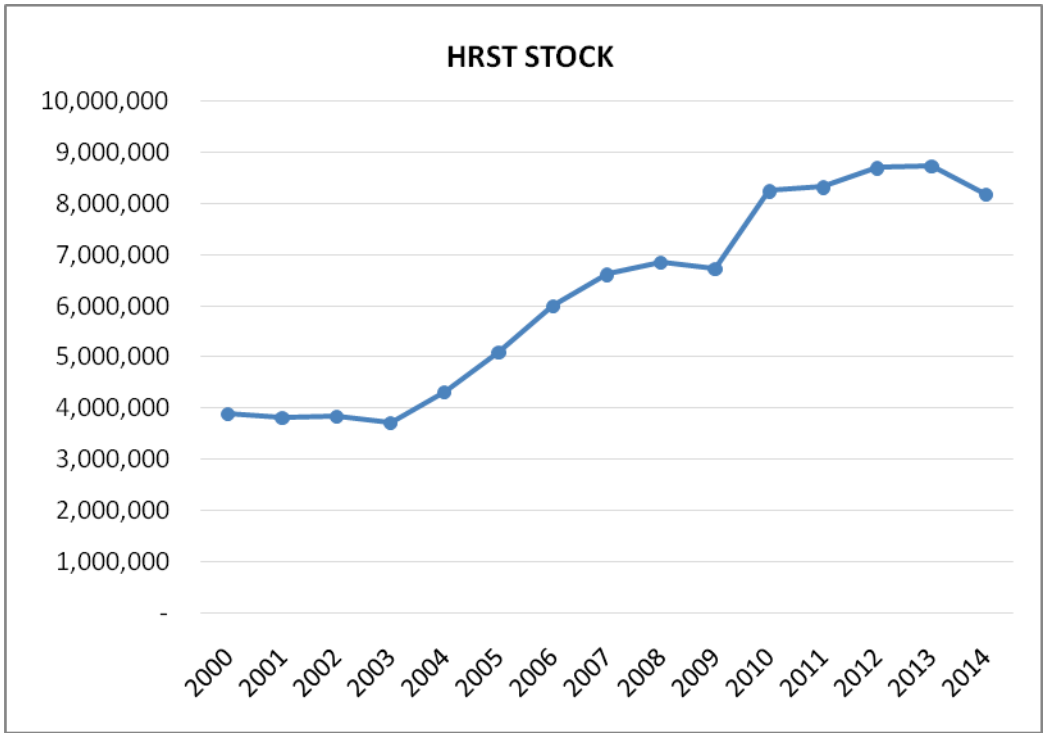

Figure 1: Indonesia HRST Stock from 2000-2014

While HRST supply data is obtained from Ministry of research technology and higher education. HRST data supply is the data of graduates from universities in the field of science and technology. Figure 2 shows the trend of Indonesia HRST supply from 2002 until 2013.

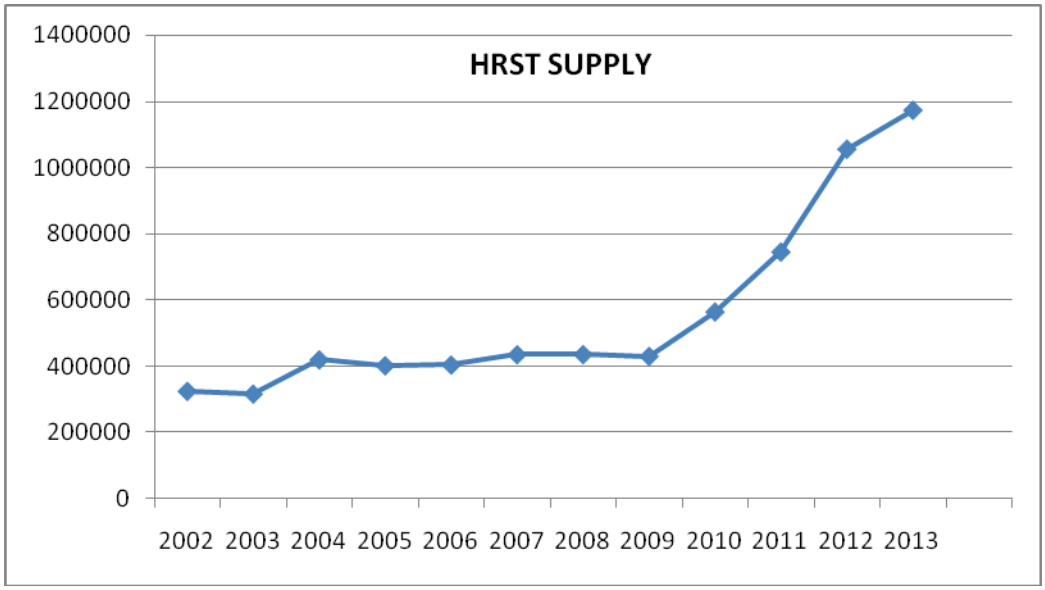

Figure 2: Indonesia HRST supply, 2002-2013

Black Swan on Indonesia HRST Model

HRST model consists of a sub-model of economy, technology, HRST demand, expected HRST, HRST, HRST education capacity, HRST supply and Wage. Seventh sub models are interrelated in the perspective of supply and demand. Dimensions demand is driven by affecting the targeted GDP growth elasticity technology, where technology growth follows economic growth in conditions of certain elasticity. Elasticity these technologies affect HRST technology requiring certain levels as well. Demand for HRST will create the desired HRST, which will influence the stock or the quantity of current as well as HRST supply. HRST supply is affected by the capacity of the education provided and the interest of potential HRST driven by wages. In general Indonesia HRST model is described in the following big picture. Furthermore, this model will absorb black swan phenomenon that can be analyzed to influence the future Indonesia HRST.

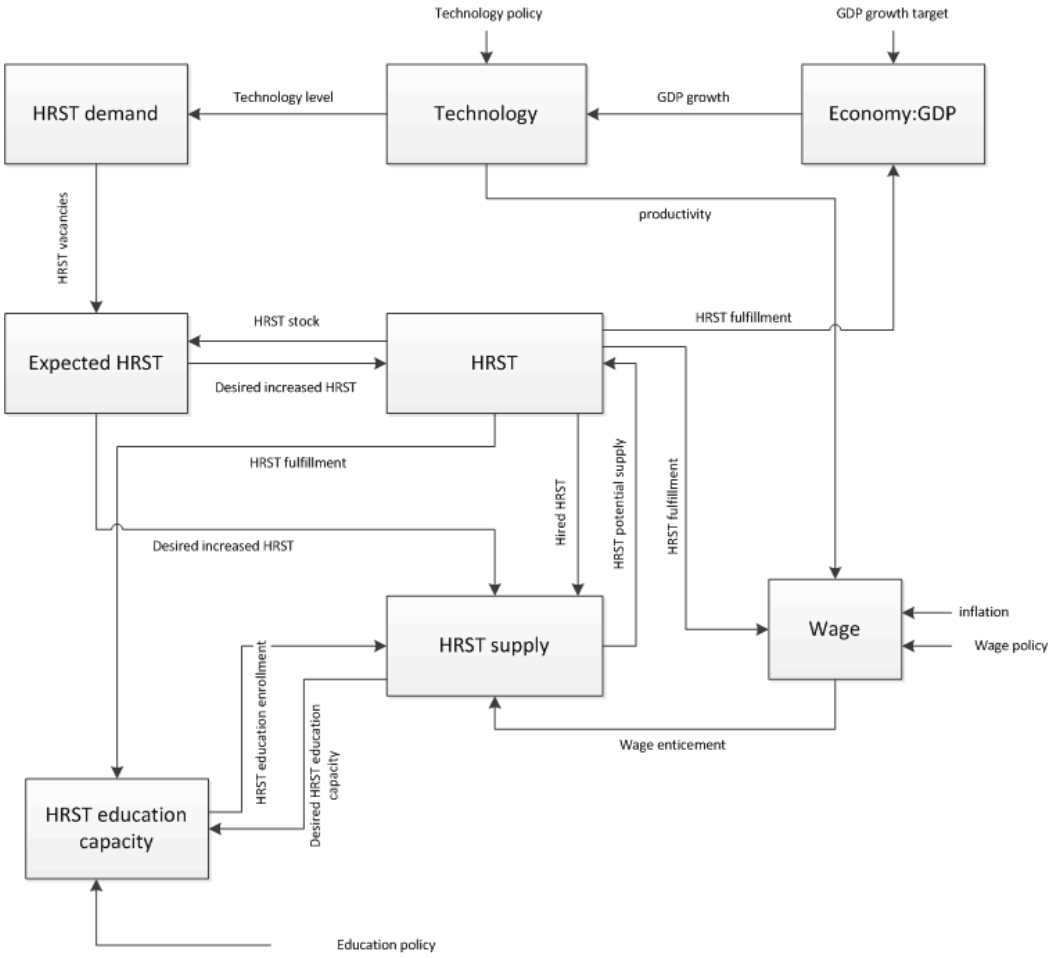

Figure 3: Big picture of Indonesia HRST model (Indri, 2015)

"A Black Swan is a highly improbable event with three principal characteristics: it is unpredictable; it carries a massive impact; and, after the fact, we concoct an explanation that makes it Appear less random, and more predictable, than it was. "(N. N. Taleb, 2007). Often black swan phenomenon is seen as a negative phenomenon but it just means a highly unlikely but nevertheless possible occurrence of an event (Gobler, 2010). But do not rule out that possibility in fact create a positive phenomenon, such as the phenomenon of Indonesia into developed countries. This approach could be stretched to issues, system and analyzes that are even more uncertain. That is, to what are sometimes called black swans (Taleb 2007). Although Black Swans are by nature impossible to predict, one you see one, we can include it in your system dynamics models. This Allows you to analyze the effects of the Black Swan on the model.–Therefore, the phenomenon of Indonesia become a developed country is highly unlikely, but Indonesia still have to see this as a possibility that needs to be responded so that Indonesia can anticipate things that might happen in the future. The response in the face of a black swan phenomenon makes one may be able to discover new plausible futures, and possibly turn into gray swan black swan (Erik Pruyt, 2014). Moving towards a recognized ignorance also may require more robust policy designs and robust optimization to design more robust policies (Hamarat C, 2014). Especially Indonesia HRST policy in Indonesia is what to prioritize in achieving better conditions in the face of the phenomenon of black swan.

Black swan phenomenon in this paper is Indonesia into developed countries. Issue or predictive Indonesia become a developed country sparked by step the Master Plan for the Acceleration and Expansion of Indonesian Economic Development (MP3EI). Aligned with the national development vision as stated in Law No. 17 of 2007 About the National Long Term Development Plan 2005-2025, the vision for the Acceleration and Expansion of Indonesian Economic Development is "Creating an Independent Indonesian Society, Forward, Just and Prosperous". MP3EI put Indonesia as a developed country by 2025 with per capita income ranging between USD 14,250 - USD 15,500 with a total value of the economy (GDP) ranged between USD 4.0 - 4.5 trillion. To realize the necessary real economic growth of 6.4 - 7.5 percent in the period 2011-2014, and about 8.0 - 9.0 percent in the period 2015 - 2025. The economic growth will be accompanied by a reduction in inflation of 6.5 percent in the period 2011 - 2014 to 3.0 percent in 2025. the combination of growth and inflation as it reflects the characteristics of developed countries

But in reality the GDP target of Indonesia's GDP in 2015 and the economy minister's speech at the World economy forum (WEF) in 2015 stated that Indonesia's GDP growth target of 5.7% not 7.5% as planned in the MP3EI. However, with improvements in infrastructure and reform of the bureaucracy that is currently happening in Indonesia, it is not impossible that Indonesia will become a developed country someday. In the perspective of HRST model of economic growth will affect the supply and demand of HRST.

Parameter	Asumption	Reference
Technology elasticity	0.3	Asia Productivity Organization 2015
GDP growth targeted (%/year)	5.7	APBNP 2015 Ministry of Economy on WEF 2015
Inflation (%/year)	5	APBNP 2015
Link and match (year)	1	Labor Survey

Table 1: Reference scenario

Today the Indonesian government is also currently implementing a program linking the supply on demand through a program of the National Competence Qualification Indonesia (KKNI). Through this program, the Indonesian government labor is planning that waiting time in getting work more quickly. Some universities are implementing KKNI curriculum has stated that college graduates waiting time is three months. While based on the Sakernas the average waiting time of HRST supply to get a job was 1 year. From these two phenomena, the model will absorbs black swan phenomenon that is the phenomenon Indonesia become a developed country with GDP growth as planned in the MP3EI with the fulfillment of demand on supply more quickly as planned in the program link and match. To see the difference, then the model running two scenarios which is the reference scenario that is the state of

currently happening based on historical data on the Table 1 and scenario black swan as in the following Table 2.

Parameter	Reference	A
Link and Match	1 year	0,25 year
Technology elasticity	0,3	0,2
GDP growth targeted	0,054	0.09

Table 2: Simulation scenario

Simulation for the two scenarios is shown in Figure 4. Model simulation results show that Scenario A is a black swan phenomenon causes a significant improvement over Indonesia HRST. So if Indonesia become into developed countries, the growth rate of HRST will be significantly increased.

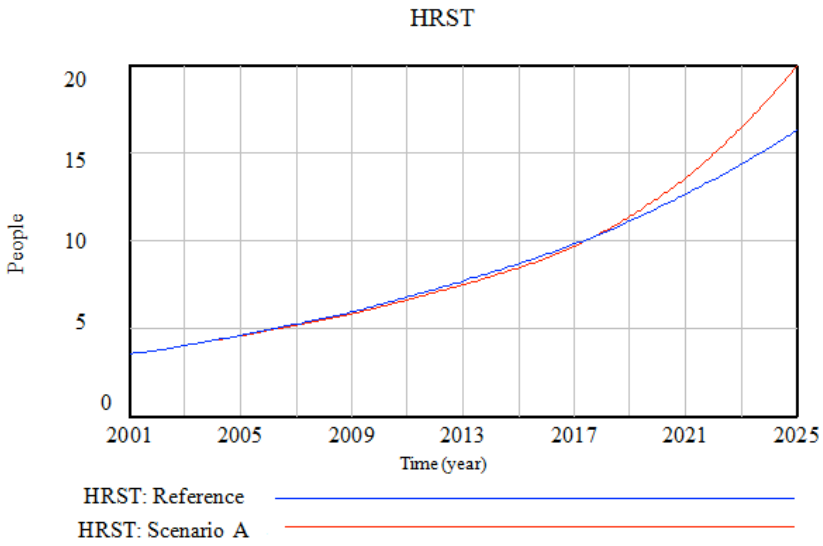

Figure 4: Simulation for Indonesia HRST

With the phenomenon of Indonesia become a developed country, the HRST will increase dramatically, but the unemployment rate also increased, this is due to the improving economy makes people can receive education with ease so that supply and potential supply is not proportionate with the demand of labor market. This simulation is shown in Figure 5.

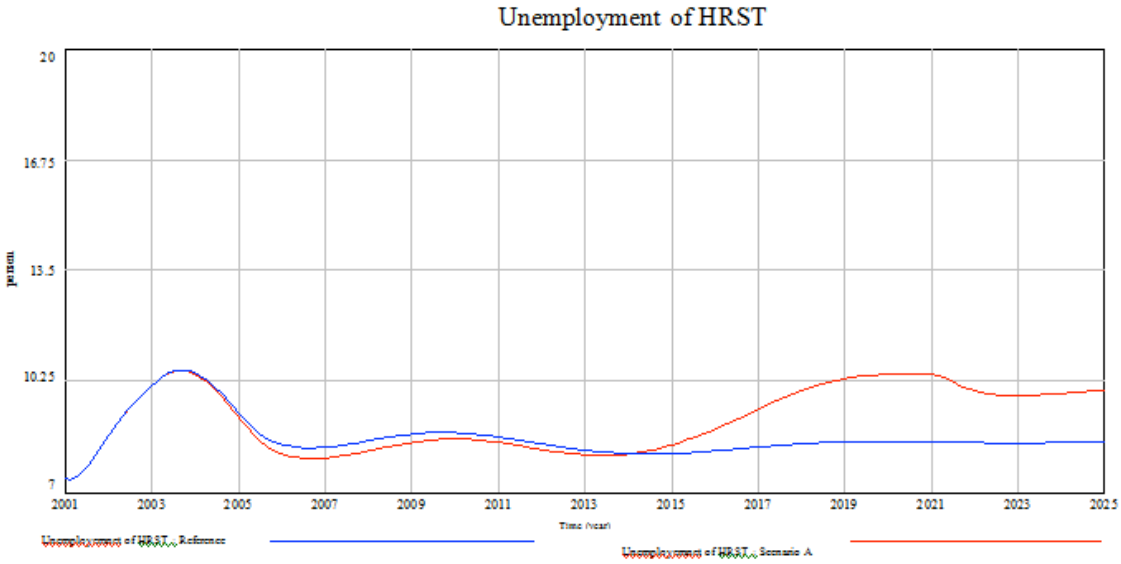

Figure 5: The effect of reference scenario and scenario A on unemployment of Indonesia HRST

Model simulation results show that Scenario A is a black swan phenomenon causes a significant improvement over Indonesia HRST. So if Indonesia would become developed country, the growth rate of HRST will be significantly increased, but this increase was also concurrently with an increase in the percentage of unemployed HRST.

Then try another scenario that involves a change in the elasticity of technology to economic growth and accelerated changes in waiting times. Of the five scenarios where the closest seen a black swan phenomenon Indonesia as developed countries.

	A	B	C	D	E
Link and Match	0,25 year	1 year	0,25 year	1 year	0,25 year
Technology elasticity	0,2	0,2	0,4	0,4	0,54
GDP growth targeted (Black Swan)	0.09	0,09	0,09	0,09	0,09
RESULT (Closest Scenario Ranking)	1	4	3	5	2

Table 3: Simulation scenarios A-E

The growth effect of technology on the waiting time HRST supply to meet the demand in reference scenarios is one year, it is based on a national employment survey issued by BPS. While the black swan scenario is scenario A,B,C,D,E, in addition to changing the elasticity of technology based on the issue of speeding up the link and match to 3 months to implement the Indonesian National Competency Qualification (KKNI). The implication of this government program is at vocational

schools, which previously could only continue their education to Diploma level, can now be directly pursue a college (undergraduate).

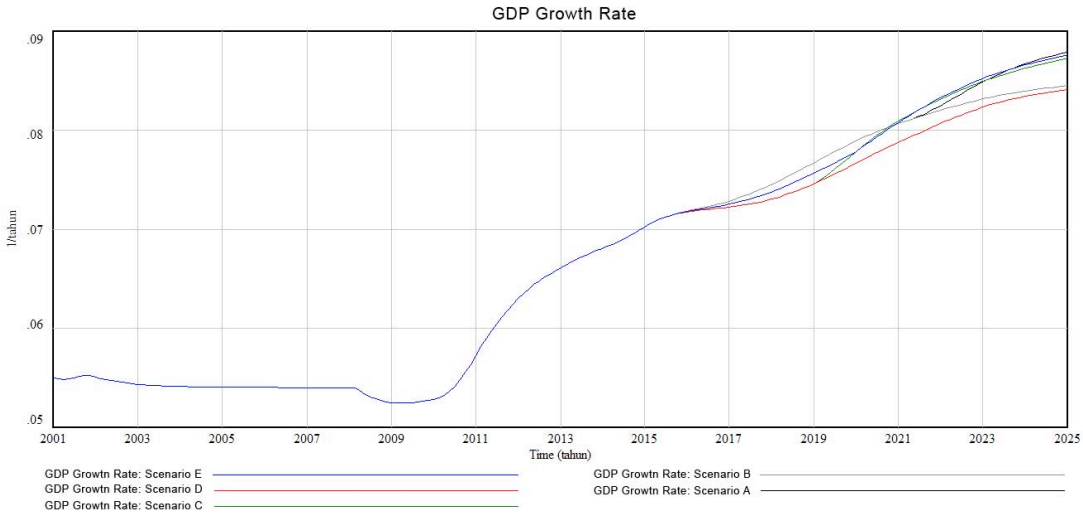

Figure 6: Efect of scenarios A-E on GDP growth rate

Of the five scenarios were simulated based on the GDP growth rate to the targeted GDP growth, Scenario A most closely with the targeted GDP then E and C. All three scenarios that have a link and match only 3 months (faster than the reference), while for the elasticity of technology same but with a link and match of the waiting time is longer then the scenario that away from the GDP targeted. From the simulations shown that early changes in the chart shows that the same movement but in 2019 until 2022, the graph shows the significant difference. Therefore, the government needs to pay attention to the 3-year period in a policy relate to HRST.

Conclusion and Discussion

That if Indonesia desired to be developed countries that must be considered and prioritized is a function of link and match between HRST supply and demand. In order to avoid unemployment that have good educational qualifications. KKNI that currently applied occur some questions, is higher education in Indonesia was ready to pair and synchronized; whether vocational qualifications can be likened to high school. How can a person's qualifications can be paired and synchronized, among the variations of the quality of education is so wide.

So things need to be discussed that plan in the link and match should be very comprehensive with rapid technological change. In Indonesia currently situation, rapid technological change with permanent vocational education will not be effective. Because in general Indonesia is still relatively users of the technology, not the creator. Change the orientation of this education system hopefully can also create the creators or technological innovation. However, concluding remark could be mistaken therefore this model needs to be investigated further.

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Contact email: indri.asmara@gmail.com

Relationshipb between Teachers' Interpersonal Communication Skills and Students' Achievement in Science at Muhammadiyah Primary Schools in Sidoarjo District

Duhita Savira Wardani, State University of Surabaya, Indonesia

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Abstract
This study aims to determine the relationship between interpersonal communication abilities of teachers and learning achievement students. The study used quantitative research methods conducted at Muhammdiyah Primary School (PS) in Sidoarjo. The population in this study were students Muhammdiyah PS Sidoarjo district in academic year 2014/2015. The sampling technique used was 100 students. The technique of collecting data using questionnaires and documentation. Methods of data analysis using statistical analysis of the correlation of product moment. The results of this study shows that the achievement of science subjects PS Sidoarjo has an average of 81.12. and there are three students who score below 75. The results of this study also indicate that learning achievement subjects of science influenced by interpersonal communication skills of teachers. The relationship between the two variables is positive means of mutual support. The higher the interpersonal communication skills of teachers, the higher learning achievement in the subjects of science and vice versa. If the interpersonal communication skills of teachers lower the learning achievement of science subjects will also be lower.

Keywords: Interpersonal Communication, Achievement, Science

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Introduction

Science is knowledge about the natural surroundings of a general nature that derive from human activities through scientific work and continues to be refined. The essence of science in Puskur (2006: 4) has four main elements, namely attitudes, processes, products and applications. The fourth element that is characteristic of the whole real science can not be separated from one another. Learning science involves a student activity, both physical activity and mental activity, and focus on the students, based on students' everyday experiences and interests of students. Learning science in elementary school has three main objectives: to develop scientific skills, understand science concepts, and develop an attitude that is based on the values contained in the learning. Learning science is not just about and mastery of the material, but what aspects of science that needs to be taught and in what way, so that students can understand the concepts studied and logically skilled to apply these concepts to other situations that are relevant to their everyday experience. The success of science learning in achieving the four elements will also determine the quality of education.

The quality of education will greatly affect the progress of a nation. The success of a nation in improving the quality of education serves as a barometer to measure the progress of the country. Many people assume that the quality of education in Indonesia is still very low compared to other neighboring countries.

\Student Assessment (PISA) in 2009 showed that of 65 countries surveyed, to the ability of science, Indonesia ranks 60th. Indonesia scores obtained for the ability of science at 383. The score is included in the categories below the average score is equal to 501 for science capability. In addition, a survey conducted by the Trends in International Mathematics and Science Study (TIMSS) in 2011 were the result puts Indonesia was ranked 60th out of 62 countries participating to the ability of science. As for the country of Thailand was ranked 47th for science capability. Score Indonesian child's acquisition of 406 science capabilities of the average score of 500. This score is classified into the category of low benchmark, which means new students to know some basic concepts in science capability. Based on the results of the survey found that the quality of Indonesian children's science capability is still low.

Supardi (2012: 71) states that the low ratings of Indonesian students in science learning caused by the material of textbooks that are difficult to follow, instructional media less effective, less precisely the use of instructional media selected in the learning process, curriculum dense, lab inadequate , less than optimal effort the students themselves, or conventional nature where students are not much involved in the learning process so that student achievement is not increased.

The learning achievement is the acquisition of knowledge or skills developed by the subjects usually indicated by test scores or numerical value assigned by the teacher (Indonesia Department of Education, 2004: 747). In the study, a person would want to learn a proud achievement, because good learning performance is the hope of everyone, whether parents, teachers and the child. Attempts to reach the learning achievements can not be separated from the role of education managers, therefore, the educators should know the factors that affect student achievement (Sardiman, 1997: 29).

According Slameto, the factors that affect the learning achievement are: the internal factors include physical, psychological, and fatigue. External factors include family factors, school factors and community factors (Slameto, 2003: 60). According to Winkel (2004: 142), the factors that affect the learning achievement are: external factors, including the natural environment, social, culture, curriculum, programs, facilities and amenities as well as teachers. Factors from the inside, covering aspects of physiology, and psychology, among others: the conditions of the senses, interests, intelligence, motivation, talent and cognitive skills.

Many factors affect the learning achievement but in this study only focused on one of the factors that interpersonal communication skills of teachers. The teacher is a profession that is important in the development of human resources, as key to the success of education programs is in the hands of teachers. Quality education does not depend on the applicable curriculum, but also depends on the ability of teachers. Governments and communities are expecting the teacher to carry out its duties effectively and creatively, so it can produce graduates who are qualified and capable of improving human resources.
Sukmadinata believes that communication plays a decisive role in teaching (Winkel, 2004: 259). One objective of the teaching process is to motivate students to learn, so the use of appropriate communication methods will affect students' motivation.

Through communication, not only teachers interact with students or vice versa, but further than that. Expectations, desires, or ideas can be expressed through the communications made. Someone will get feedback in communication, so that the hopes, desires, or ideas will get a response. The presence of other people is not only considered as an interlocutor but more than that. The presence of other people would provide useful feedback for improving interpersonal effectiveness. Events of this kind of communication is called interpersonal communication. As said by De Vitto (1998: 23) that the communication is understood as the feedback that aims to help people improve interpersonal effectiveness.

Judging from the process, education is communication, in the sense that the process involved two components consisting of the person, that teacher and student as a communicator and communicant. In general, education planning takes place in the classroom face-to-face. Due to the relatively small group, although the communication between teachers and students in the classroom including group communication, the teaching time can turn it into interpersonal communication. Happened two-way communication or dialogue in which the students become communicants and communicators, as well as the teacher. This two-way communication is when students are responsive, presents opinions or ask questions, solicited or unsolicited (Effendi, 2005: 24).
Interpersonal communication between teachers and students will result in the relationship between both nurtured well so that the learning process in schools become more smoothly. Another result was the teacher can help students to instill positive behavior and help solve the problems faced by students.

In interpersonal communication, teachers must understand the messages conveyed by the students to the teachers because each student has a unique way of delivering a message. Therefore, in order to succeed in teaching, a teacher needs to acquire some communication skills. Effective interpersonal communication within the processes

contained believe, receive, empathy and sympathy, honesty, attitude, supportive and open attitude (Rachmat, 2003: 129). Effective interpersonal communication skills allow teachers to understand students.

Interpersonal communication will strengthen the relationship between teachers and students. If the teacher is able to understand the opinions, feelings and ideas of the students then students will be more receptive to the opinions, ideas and feelings of the teacher, so that the relationship between teachers and students be mutual respect, mutual cooperation and mutual caring. Relationships such as this, allows teachers to deliver information and instead students are able to receive that information properly.

Based on the observation of Science student learning achievement on PS Muhammadiyah Sidoarjo regency obtained information that their learning achievement in these subjects is less satisfactory. The inability of teachers in imparting knowledge and become a model in experimental activities make students less than the maximum of constructing knowledge in science. Therefore, in their delivery Science subjects, teachers should more clearly describe the practice as well as in everyday life. This course requires interpersonal communication skills that teachers optimum Science subjects more easily understood by students. In addition, delivery of material with an interesting narrative will also make students interested in the subjects of Science. Unfortunately there are many teachers who have the interpersonal communication skills are inadequate, so this impact on students' lack of understanding of the subject matter of Science. As a result, student achievement on these subjects is less satisfactory. Research will discuss how "Relationship between Interpersonal Communication Skills Teacher with Student Achievement in Science Subjects in Primary School Muhammadiyah Sidoarjo."

Research Method

This type of research is quantitative. Research conducted at PS Muhammadiyah Sidoarjo regency in the academic year 2014 / 2015.Subyek this research is the students PS Muhammadiyah Sidoarjo district, in the academic year 2014/2015. The research object is the interpersonal skills of teachers and students' science learning achievement.

Population is a generalization region consisting of objects or subjects that have a certain quantity and characteristics defined by the researchers to learn and then drawn conclusions (Sugiyono, 2008: 3). The population in this study were students PS Muhammadiyah Sidoarjo district, in the academic year 2014/2015, amounting to 100 students. The sample is part of the whole object studied and considered representative of the overall population. Sampeldalam this research is the whole population, or 100 students (Arikunto, 2005: 109). The sampling technique used is the total sample that is the entire population sampled.

Testing the validity and reliability of the measurement tool in this research is done before data collection. The formulation used in the presentation of the validity of this scale using product moment correlation with the following formula:

$$rxy = \frac{N(\sum XY) - (\sum X \sum Y)}{\sqrt{[N\sum X^2][N\sum Y^2 (\sum Y)^3]}}$$

Information:
rxy: correlation coefficients between item scores and total score
N: number of subjects
ΣX: the total score of each item
ΣXY: the number of multiplications score item with a total score

In addition to valid, a measurement tool used in scientific research must also be reliable. Reliability is the extent to which the results of a measurement can be trusted (Anwar, 1999: 22). Tests on the reliability scale of teacher competence and motivation to learn this scale using Cronbach alpha reliability test for the reliability test technique is one of the reliability test technique that is currently the most reliable detection level of accuracy. Formula Cronbach alpha reliability test techniques as follows (Anwar, 1999: 22):

$$a = 2\left[1 - \frac{S_1^2 + S_1^2}{S_x^2}\right]$$

Information:
a: the reliability coefficient measuring instrument
S_1^2: variance score hemisphere 1
S_2^2: variants score 2
S_x^2: variance of test scores

Finding and Analysis
Test preconditions or assumptions made prior to correlation analysis. Test prerequisite in this study is the normality and linearity test.

Normality Test Analysis
Normality test done to see if the data from each of the variables normal distribution or not. In this study, the analytical techniques used to test data normality using the Kolmogorov-Smirnov analysis techniques. Distribution said to be normal if p> 0.05 and a summary of normality test results are as follows.

Table 1 Normality Test Results

Variable	KS	p	Information
Interpersonal communication skills of teachers (X)	0,550	0,923	Normal
The learning achievement of science subjects (Y)	0,955	0,321	Normal

Source: processed data, 2014

Based on calculations that have been done, the results are as follows:

a. Normality Test interpersonal communication skills teacher variables obtained value of p = 0.923 (p>0.05), suggesting that these variables have a normal distribution.
b. Normality test achievement variable learn science subjects obtained value of p = 0.321 (p> 0.05), this indicates that these variables have a normal distribution.

Linearity Test Analysis

The guidelines are used to test the linearity of the regression line is done by testing the significance of the value of F. The test results linearity relationship can be seen in the following table:

Table 2 Linearity Test Results

Variable	F_{count}	p	Information
Interpersonal communication skills of teachers (X) The learning achievement of science subjects (Y)	1,368	0,147	Normal

Source: processed data, 2014

Linearity test performed to determine whether the variables analyzed the correlation has a linear relationship. The relationship between the variables of interpersonal communication skills (X) and the learning achievement of science subjects (Y) has a value of p = 0.147 (p> 0.05), suggesting that the relationship between both variables is linear.

Hypothesis Test

Analysis of the data to determine the relationship between the variables of interpersonal communication skills and learning achievement in science subjects using product moment correlation with SPSS 15 for windows. The result of correlation analysis can be seen in the following table:

Table 3 Correlation Analysis Test Results

Variable	r_{xy}	p	R^2
Interpersonal communication skills of teachers (X) The learning achievement of science subjects (Y)	0,481	0,000	0,231

Source: processed data, 2014

The relationship between the variables of interpersonal communication skills and learning achievement in science subjects has a value of p = 0.000 or less than 0.05 so that there is a significant relationship between the two variables. Correlation coefficient of 0.481 or positive. Thus the higher the interpersonal communication

skills of teachers, the higher the learning achievement of science subjects. Vice versa, if the interpersonal communication skills of teachers lower the learning achievement of science subjects will also be lower.

The learning achievement of students of science subjects PS Muhammadiyah Sidoarjo district has an average of 81.12. and there are three students who score below 75. The results of this study also indicate that learning achievement of science subjects are influenced by the interpersonal communication skills of teachers. The relationship between these two variables is positive means of mutual support. The higher the interpersonal communication skills of teachers, the higher the learning achievement of science subjects. Vice versa, if the interpersonal communication skills of teachers lower the learning achievement of science subjects will also be lower.

Communication has an important role in the interaction between the participants and facilitator for this interaction means that there are sending and receiving messages in an interactive and continuous (Suparno, 2000). The existence of a good communication process then the message can be received, absorbed and internalized by the recipient. Teacher interpersonal communication plays an important role in communicating the subject matter to the students. Teachers in connection with trying to carry out this role as a source of information to master the knowledge contained in the field of study with the teacher must be able to communicate ideas, advice, material and so on.

In science lessons, the teacher is required to bring the matter before the class with interesting narratives. This is done so that the material being taught to attract students. Science teachers are required to have to do a good communication in order to communicate the nature of the material to the optimum. Science teacher's role as a communicator that provides information to their students. Professional teacher is a teacher who mastered the field of nature study broadly should try to improve communication, so that their students can be more interested in science subjects and in the end the teacher interpersonal communication is positively correlated with student achievement.

Winkel (1996) which states that one of the factors that is important in determining the learning achievements of learners, the teachers' skills in teaching. Such skills include interpersonal communication therein teachers. teacher interpersonal communication is a skill of the individual to adapt themselves to two or more individuals, through the role of the so-called transmitting (message transfer of both verbal and non-verbal) and receiving (receiving messages). Interpersonal communication at the teacher becomes effective when the message sent by the receiver as well understood at the meeting that communication is fun for teachers and other individuals. Ranayuni research results (2011) also showed that there is a relationship between interpersonal communication teacher with student achievement. Teachers with inteperpersonal good communication can overcome barriers to learning through personal approach to the students concerned.

Conclusion

Based on the analysis and discussion of research results, and the results of hypothesis testing showed that the relationship between the variables of interpersonal communication skills and learning achievement in science subjects has a value of p = 0.000 or less than 0.05 so that there is a significant relationship between the two variables. Correlation coefficient of 0.481 or higher positive thus the interpersonal communication skills of teachers, the higher the learning achievement of science subjects. Vice versa, if the interpersonal communication skills of teachers lower the learning achievement of science subjects will also be lower. Thus it can be concluded that there is a relationship between interpersonal communication skills of teachers with student achievement in Science Lesson in elementary school Muhammadiyah Sidoarjo. The higher the interpersonal communication skills of teachers, the higher the learning achievement in science subjects. Vice versa, if the interpersonal communication skills of teachers lower the learning achievement of science subjects will also be lower.

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Contact Email: duhitasavirawardani@gmail.com

Management Structure of Thailand Premier League by the Standard Criteria of the Asian Football Confederation

Saowalee Kaewchuay, Mahidol University, Thailand
Eakrat Onnom, Chandrakasem Rajabhat University, Thailand
Chanankarn Saengprasan, Sakon Nakhon Rajabhat University, Thailand

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Abstract
This research has the objective to study the managing of Ratchaburi Mitr Phol FC by the standard criteria of The Asian Football Confederation. The methodology of this research were divided following 1) Define the conceptual framework from the related documents 2) The in-depth interview with the five responsible key informants in five aspects of Ratchaburi Mitr Phol FC by the standard criteria of The Asian Football Confederation has been used for the qualitative research. The data have been retrieved from two sources which were the interview and documents, and analyzed follow the research objective in order to propose the data in model of the Descriptive Analysis. The result of the research found that the managing in five aspects of Ratchaburi Mitr Phol FC by the A standard criteria of The Asian Football Confederation found that 1. The law criteria need to have the standard of The Asian Football Confederation. 2. The sport criteria 3. The human resource management club 4. The structure for competition, and haven't operated yet in some areas; for example, Developing youth structure plan, Being the owner of the competition stadium, the operation place and the admin department of the club 5. The financial and accounting aspect were low; for example, haven't checked by 5. The financial and accounting aspect were low; for example, Haven't checked by the auditor for company's yearly budget, and don't have the planning for club financial plan such as budget, profit and loss, cash flow budget.

Keywords: Management, Thailand Premier League football club, Standard criteria of The Asian Football Confederation

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Introduction

Football is the biggest global sport. "Thailand Provincial Football League" was held as the professional football league in 1999 which has been allocated from the supporting budget by the government. This made people more excited and interested in football. It seemed to be a good start point, but it hasn't achieved enough. In 2007 the event was held by Thailand Provincial Football League and Thai Premiere League which Chonburi Football Team was the first from Thailand Provincial Football League which has won Thai Premier League in 2007.The result of developing the professional football in Thailand in few decades ago made a large amount of income by having been supported from both public and private section. In term of managing each Football club in Thai Premier League and League one need to have the role model from others achieved Football clubs, such as English Premier League Football, Spain La Liga Football League. However although the overall picture of achieving for Thai Premier League is high, but there are lot of football clubs are fail. Some football clubs need to decrease the number of team member or sell the whole team. In order to have the same quality as world class standard, they should find the answer of what does the right management suppose to be? What is the important of managing? (Sanguan Geerakai Sothon, 2012). Furthermore the most important is the professional football club need to have the effective management for leading the team to accomplish. (Sport Authority of Thailand, 2006)

One of the important problems and obstacles for developing the professional football in Thailand is lacking of many standard aspects especially in term of Football club. AFC (Asian Football Confederation) has assessed the standard of the football club in Thailand that they weren't ready to adapt to the professional club as follow the Asian Football Confederation's criteria. This result may effect to be disqualified in the Match that will be held by Asian Football Confederation which relates to Pinyapat Thawwessuwan, (2012) found that the result of the study from The Sport Authority Of Thailand showed that the management of the professional football clubs haven't achieve yet. Many of them don't have much knowledge about the professional management, such as funding, building good quality of football player, having the match, creating the trend from the local and setting up the fan club, creating the income from the marketing and privilege and the public relation. The issue of managing the professional football club relates to the study of Akkarapun Chiyasut, (2012) which is the budget of making TTM football team isn't enough for having the main sponsor as the bigger team, but the marketing is good. This make the team have continuously income which can take care themselves better than other teams who keeps trying to look for the yearly sponsor. The main weakness of the club is the limitation of the budget and lack of the specialize officers. These factors affect the goal's achievement.

AFC launched the regulation about being the perfect professional football club in 2009 which was the reason of setting up Thai Premiere League for national football league. From the adaptation of managing professional football club model follow AFC's regulations. AFC is the highest organization that controls the football match in Asia. They have launched the regulation that the professional football club need to set up the juristic person for taking care of the club. That regulation made lot of teams can't adapt themselves which lead to decrease the team member or sell the team, and this was the reason of changing the way to manage the professional football club both

in Bangkok and other provinces. Professional football league in Thailand became popular again in 2009.
The management of professional football clubs isn't successful. Some club isn't strong enough. Some club can't even take care themselves. The reason are lacking of knowledge and professional management experience, such as funding, building good quality of football player, creating the trend from the local, creating the income, privilege and management. So the researcher is interested in study the management professional football club in Thailand as the AFC's criteria. Rajburi Mitr Phol FC's management has been picked up to be the case study. They are the other province teams who always have the good results and keep up good works, such as the first running up of Provincial league in 2006, the winner of Division one football league in 2012. They were promoted to Premier League for the first time in 2013, and still keep their standards till these days.

Conclusion

The researcher has designed the interview forms follow AFC's criteria in 5 aspects, and brought them to consult with the advisor and the specialist for fixing. The next step the researcher has brought the interview forms which have been fixed, and trying out with other similar samples before using with target samples for improving and fixing in order to be more complete. The researcher analyses the data together with the data collection process follow the qualitative principal. The researcher has brought the data from two sources which are the interview and the documents that have been analyzed follow the research objectives, and propose the data in Descriptive analysis.

The management of Rajburu Mitr Phol FC follow the AFC's standard criteria level A (minimum criteria) in 5 aspects found that the law criteria have the standard follow the AFC's standard criteria in everything. The sport criteria have the management system, the sport competition system, the marketing system, the media system including with having the committees who have authorize in making decision, have the technical standard in medium level for defining the competition result (Home/Away) and the total of the spectators ,taking notes and report the number of the spectators follow the criteria. Human resource's club management criteria reported that the club needs to have a good managing department and qualified. Each managing department isn't properly yet. The personnel who want to manage the professional club have to understand what is the different between football team and the professional football club. Football team is only a part of professional football club. The football club consists of the clubs that need to invest for developing youth player, but the clubs haven't done it yet including with building the fundamental for youth and the reserve club's team, the relation public aspect, the media aspect, the marketing aspect, the financing and accounting aspect, contract law aspect, the stadium management (in and out competition). The professional football clubs in Thailand give the priority to football team only, so the club won't last. The football clubs in Thailand need to develop in any aspects. Not only developing the football team, but also needs to cooperate with Football association of Thailand and Thai premier league which always support and develop the professional football in Thailand. The structure criterion (Stadium) is still not completely operated, such as the structure plan for developing the youth, being the owner of stadium, modern equipment for the competition and the facility, the office and the club's admin. Financing and accounting's standard is low, such as unprepared for making a balance

sheet annual plan, unexamined by the annual financial budget club's auditor and no the club's future financial plan, such as profit and loss, cash flow and so on. So the management of Rajburu Mitr Phol FC follow AFC's criteria didn't pass. Management is the process of controlling management for the overall works to the highest efficiency and effectiveness.

Rajburu Mitr Phol FC has passed the law criteria. In order to develop the professional sport need to have the rules and regulations for leading to professional management and sustainability development. That is respond to the national sport development plan no.5. The professional sport development strategy has defined to be the guidelines in term of the professional sport development by focusing on the system development for the sports competition follow the world standard by having the rules and regulations. That is involved with the sport career and relates the objective of launching the license for allowing the club to attend the AFC's competitions. In the development of the club model in order to be equal in financial, sport, law, personnel, management and the structure follow the Asia's criteria.

The financing and accounting criteria is the lowest, so Rajburu Mitr Phol FC should make the annual budget plan for checking the operation and for long term planning as well. According the budget and finance is one of the important factors for management which relates with Peerasuk Wilirat, 2010) The AFC's regulations define that the professional football clubs need to have the audit and the balance sheet.

For the management of Rajburu Mitr Phol FC follow AFC's criteria didn't pass the standard criteria which define the club need to have the license for attending the AFC's competition, and have to pass the minimum criteria in every item. In order to be equal, so the important of the sport club management need to have good relationship within the organization, developing the good attitude in team work, building the strong organization in order to get ready for any obstacles and challenging, effective problem solving and cooperate for moving the club to the important goal which need to do in all systems by using the value resources which relates with Robbins and Coulter (2002). They said that the successful operation by efficiency and effectiveness is the important fundamental resources which consist of 4 things. Man is the man management. How do we use the man work with the most efficiency and effectiveness? Money is the money management. How do we use the least cost, but the highest efficiency and effectiveness? Material is how to manage the material in order to have the least expense, but the highest benefit. Management is the process of controlling management for the overall works to the highest efficiency and effectiveness.

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Contact email: eakrat.o@chandra.ac.th

Vietnam's National Foreign Language 2020 Project after 9 years: A Difficult Stage

Thuong Nguyen, National Chengchi University, Taiwan

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Abstract
Viet Nam has been witnessing many changes in learning language, and the National Foreign Language 2020 project is the latest breakthrough that delves into brand-new advances to improve effectively the quality of English language learning and teaching across all school levels in Vietnam. After nine years, this innovation has attracted considerable public attention and feedback from those concerned. On November 16, 2016, Mr. Phung Xuan Nha - Minister of Education and Training - admitted that the National Foreign Language scheme for the 2008-2020 periods had been failed. However, there is no debate on why the project could not be completed within the defined period. This paper aims to discuss how it has failed by analysing the Vietnam national high school graduation examination results from Ho Chi Minh City's high schools as a case study. In addition, it incorporates findings from an observation of 3 English classes in Dao Son Tay High School that was conducted to provide first-hand evidence for this discussion. Through the analysis and observation, the study finds major obstacles that affect students' performance: the misuse of L1 in class, the unbalanced teaching time for 4 language skills, the lack of teacher – student interactions and the shortage of English teaching equipment. It then concludes that there are still uneven in teachers' ability as well as teaching environments among schools. Moreover, the design of teachers' lesson plan is still in an un-improved way.

Keywords: NFL 2020, language policies, Common European Framework of Reference (CEFR), pedagogy, teaching materials

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Introduction

From the welcoming of "open door" policy during the 1980s's Economic Renovation stages to the becoming an official member of the TPP in 2016, Vietnam has been being experienced the deeper and wider international integration. In response to the developmental process, the increasing competition between knowledge-based economies has a requirement of basic skills to human resources. The introduction of foreign languages into one of the advantages of human resources is crucial for the success of the integration process.

Following the perspective outlined in the guidance of the Party Central Committee's Resolution 8 Conference XI of radical innovation, comprehensive education and training: "To be self-motivated and active in the international integration for the development of education and training, simultaneously education and training need to be met the requirements of international integration for the development of country", Vietnamese educational managers have been planning and implementing new advances in teaching and learning foreign languages (FL) of all levels, focusing on from primary to higher education level, and even in vocational schools and training level. Although there has been some initially achievements, the overall of FL education has not yet reached objectively significant results. In order to enhance the FL ability of Vietnamese student, the Ministry of Education and Training (MOET) issued National Foreign Languages Project scheme for the 2008-2020 periods as a comprehensive solution for the English language teaching and learning in Viet Nam.

Nevertheless, on November 16, 2016, Mr. Phung Xuan Nha - Minister of Education and Training announced that "*the government had failed to meet the goals of the NFL scheme for the 2008-2020 periods*"(VBN, 2016). However, there is no debate on why the project could not be completed within the defined period. This paper is aimed at discussing how it has failed by analysing the Vietnam national high school graduation examination results from Ho Chi Minh City's high schools as a case study. In addition, it incorporates findings from an observation of three (3) English classes in Đào Sơn Tây High School that was conducted to provide first-hand evidence for this discussion. It should be noted that NFL 2020 for high school level is beyond the discussion mentioned in this paper.

Old And New Approaches In Practice

Vietnamese education system

Generally, there are three levels (12 grades) in the Vietnamese school-level system including primary level (grades 1-5) from the age of 6 to 11, secondary level (grades 6–9) from the age of 11–15) and high school level (grades 10–12) for the age of 15–18 (T. T. L. Nguyen, 2016). In this system, MOET assign foreign language as a separately school subject and student will start learning it from grade 6. Accordingly, all curriculums for all school levels are also designed by MOET (T. T. L. Nguyen, 2016). Regarding textbooks, MOET regulates the standards, the process of compiling, editing and decides on the official textbooks used for all schools in general education throughout the country (EducationalLaw, 2005).

Since 2002, all students in grade 3 (age 8) start learning English as an optional course or in grade 1 in several schools, and it is a required subject for students from grade 6 until the end of upper-secondary education (grade 12) (Hoang, 2010). When graduating from a secondary school, one student had spent nearly 600 periods for learning FL (with an average of 3 periods for each week in 35 weeks academic year system). For higher education, a curriculum with 10 up to 12 percentages of total credit hours can be applied for FL study.

The existing problem and new direction

Despite positive changes, teaching and learning English in Vietnam nowadays still have low quality. The English capacity of Vietnamese people is limited (To, 2010). According to the executive manager of Project 2020, 98% of Vietnamese students study English for seven years (from grade 6 to grade 12, age 11–18), but cannot use it for basic communication (Nhan, 2013).

In order to enhance English language teaching and learning in Vietnam in all school level, Prime Minister has announced Decision No. 1400/QĐ-TTg "Teaching and Learning Foreign Languages in the National Education System, Period 2008 to 2020". The general goal of this project is that "*by the year 2020 most Vietnamese youth whoever graduate from vocational schools, colleges and universities gain the capacity to use a foreign language independently. This will enable them to be more confident in communication, further their chance to study and work in an integrated and multi-cultural environment with variety of languages. This goal also makes language as an advantage for Vietnamese people, serving the cause of industrialization and modernization for the country*" (MOET, 2008).

Nguyen (2015) mentioned in his paper that in order to facilitate the implementation of project, especially in measuring and assessing FL proficiency focusing on both users: teachers and students, Common European Framework of Reference (CEFR) and a Language Proficiency Framework are adopted as support tools. All educational managers hope that CEFR will direct appropriate curriculums, practices in learning and teaching, and evaluations. With a remarkable material resource as well as the widely usage in Europe education systems, CEFR is believed to get credibility in the case of Vietnam.

The project has a total budget of 9,400 billion, of which 2008-2010 is 1,000 billion; the period of 2011-2015 is nearly 4,400 billion, the period of 2016-2020 is around 4,000 billion (MOET, 2008). After 9 years with trillions of dong, the expected achievements have not been reached because of too many shortcomings. In fact, at the conference on the implementation of project in the period of 2016-2020 held on 17/9 by MOET, the new phase of plan do not refer to the achievements as well as limitations in the period of 2008-2015 (PhapluatVietnamnews, 2016).

The 2014 – 2015 Vietnam National High School Graduation Examination Results from Ho Chi Minh City's 180 High Schools

As indicated in the assessment of the past period, Mr. Phung - Minister of Education and Training admitted the quality of project has low effectiveness - that is evident from the 2014 – 2015 national high school graduation examination result (Appendix).

The two maps below are analysed from the result:

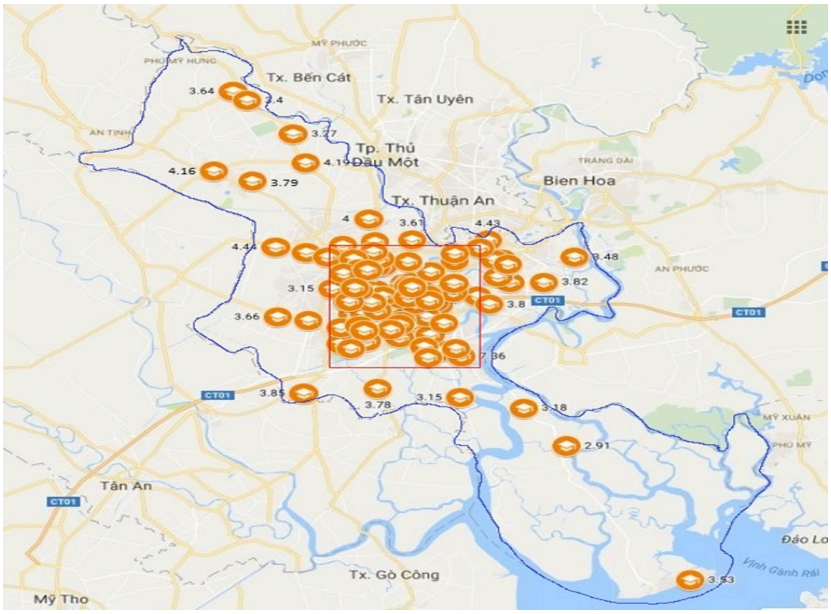

Figure 1: The allocation of 180 high schools in Ho Chi Minh city

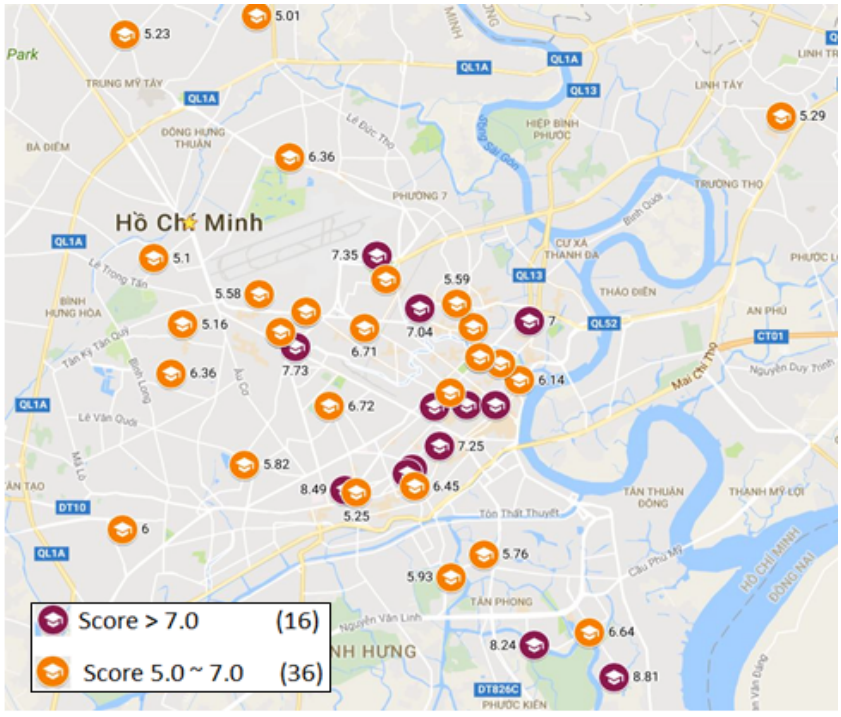

Figure 2: 52 schools with average English score > 5.0 in HCM city

The two maps depict the allocation of one hundred eighty high schools in Ho Chi Minh City and the average English score of fifty two high schools. As you can see on the maps, most schools with the average English score over 7.0 point are located near the center of city, such as district 1, 3 and 5 with nine public schools (5%), five international schools (3%) and two private schools (1%). More importantly, these nine public schools are the long-standing prestige ones in the area, thus the performance of their students is always excellent. Meanwhile, there are thirty six schools (20%) that are almost public having the fluctuation of score from 5.0 to 7.0

point. The rest (71%) is below the score of 5.0 point. Even though the distance among schools is small, the number of schools with very low scores is extremely significant. These results show a certain degree of the un-attainable goals from NFL 2020 scheme. One of the most important reasons might be the low quality of teacher competency in Vietnam:

The shortage of competent teachers in Vietnam

There is a tremendous challenge for educational managers and the Management Board of project because of the supply of proficient teachers for NFL 2020, especially at high school level. When the program is applied with the adoption of the CEFR, the control criteria of teacher competency are being set and teachers need to be retrained to meet these new standards. The problem rapidly recognized is that a large number of teachers are under-qualified to teach English. A survey was conducted in the period of 2011 – 2012 to evaluate teachers' proficiency in English in which there are few upper-secondary school teachers who gain expected quality to teach English (H. N. Nguyen, 2015). In particular, as mentioned in the scheme of foreign language teaching and learning in the national education system from 2008 to 2020, foreign language teachers must guarantee their teaching language proficiency level two degree higher than the general standard of school level. Accordingly, the high school teachers need to gain the level of C2 (CEFR). Nevertheless, the survey shows that upper secondary school teachers with the level of C2 only constitute the low percentage (0.1%) (H. N. Nguyen, 2015). Clearly, these teachers' competency in English is not adequately qualified to the standard of project. There are several reasons on why these teachers' English proficiency does not meet the framework of assessment.

At a conference on the implementation of 2020 national foreign languages schemes held in 2013, some people argued that the program of pedagogical training in higher education was different from the requirements of European standard. Therefore, teachers did not meet the standards is also understandable. Besides, the current teacher training status is a short term training, which is ended right after its practitioners being qualified. There are also lack of advance activities after training for them to put into practice, said Mr. Đỗ Tuấn Minh, Rector of University of Languages and International Studies (Vietnam National University, Ha Noi) (Vnexpress, 2016b). According to Mr. Nguyen Minh Tri, Vice Director of Quang Ngai Education Department, most teachers and high schools rely on training courses organized by the Department and Ministry (Vnexpress, 2016b). Hence, they are not proactive to the teaching plan of this new project. Another problem is that the expense is not used reasonable. Indeed, many localities spent much funds in buying equipment for teaching languages while paying less attention to training and retraining teachers' foreign language ability. There were also prodigal cases resulted from lacking good planning in equipment conditions and their usage in teaching languages (PhapluatVietnamnews, 2016).

The pedagogical approaches

In contrast to discussions above, "Teacher language ability is not as crucial as some authorities seem to think it is" (Ball, Kelly, & Clegg, 2015). In fact, no matter how skillful teacher language ability is, learners with low L2 ability could not understand

them. Therefore, even if teachers have high English proficiency and profound knowledge, they still need to adjust to new pedagogical approaches in this project. Before the announcement of NFL 2020 project, English teaching method is always one way in which teachers introduce lessons and students take notes, and they only focus on gramma without practicing. Additionally, according to Mr. Vu Van Tra - Director of Hai Phong Department of Education, at present, learning English still attaches special importance to reading and writing skills so as to cope with examinations, rather than in practical applications (Vnexpress, 2016b). Clearly, the pedagogical approaches in practice are not sufficient to exploit the potential of the project. If teachers' teaching methods are changed, students might achieve performance objectives proposed in the scheme. Teaching English in high schools should be based on the application of Communicative Language Teaching (CLT) in line with local conditions and psychophysiological characteristics of the student which forwarding from adolescence to the adulthood. Since then, the objective of teaching and learning is to develop the understanding and communication ability in English of students in different real life situations. In order to achieve this goal, teachers should build actively and diversified pedagogical approaches which orientate the study process of students. For example, teachers need to adjust their language so that students can understand the lectures by modifying talking speed, using synonyms or antonyms, taking some pauses, using various question types, strategies for scaffolding, checking and giving feedback. Unfortunately, they do not recognize the methodological changes or they have not experienced these approaches due to setting some objectives of the scheme too high in comparison with teachers' ability or lacking language ability of teachers (Vnexpress, 2016a).

In brief, besides improving language competence, it is necessary to enable teachers to recognize the change of their pedagogical methods. Teachers themselves, thus, can further modify their teaching approaches in order to ensure the effectiveness of project in practice.

Teaching materials

The shortage of appropriate learning materials for English in the period of implementing the 2020 scheme is also considered as a factor which impact on students' achievement. At present, teachers normally use materials from foreign countries or translate Vietnamese textbooks into English for their teaching. This is the most commonly used solution and it might create a drawback for students since materials for native speakers are not suitable for L2 learners. In terms of the language, the lexical items in authentic materials are not suitable for EFL learners because they are not the target group of those materials.

Observation

Participants

I observed an English study hour from three (3) different groups of student in Dao Son Tay high school, namely group A, B and C.

	Group A	Group B	Group C
Instructor's experience	Freshman	2 years	>20 years
No. of students	42	41	44

Table 1: Observation target groups

They were chosen purposely because of some limitations (time and condition). As a result, I could not observe various classes (grade 11 and 12) and I only observed grade 10 owing to the psychophysiological characteristic and capacity of students at high school level. The transition from secondary to high school level, students at this age are on both mentally and intellectually development and they are capable in perfecting the complex cognitive functions. Furthermore, they can recognize the views of others and put ourselves in their position to have a better awareness. Therefore, there would be hopes of observing progresses in their performance. Besides, the observation of these three classes could provide different information or findings on why NFL 2020 project has failed.

Materials & Equipment

In order to clarify the implement of NFL 2020 project, three English classes were chosen to do observation with 1 period per class. The observations are recorded directly for English study session of 3 classes in grade 10 (1 study hour per class). There are three (3) recorded videos in total and a time observation sheet for measuring the work load of teachers and students.
Due to the difference of these three classes, findings for each observation can be variable in order to bring out objective results.

Procedure

These direct observations were naturalistic ones and they involved studying all activities conducted in an English period per class. Firstly, the researcher relied on three observations recorded from Dao Son Tay high school. It should be noted that the observations were carried out as informal ones to help participants feel comfortable. Next, the researcher collected information by taking note into a time observation sheet. Finally, the researcher referred several relevant documents in order to ensure an English period of each class.

Results

The findings of three observations were listed in a table below:

Time Observation Sheet A			
Location: 10A16, Dao Son Tay High School			**Time: 9h05, 2017/01/07**
	Teacher: Le Nguyen Truc Nguyen		**No. of students: 42**
No.	**Task**	**Duration (minute)**	**Points observe**
1	Old lession review	10 **10**	
2	Exercise	9 **19**	- Teacher writes down new exercise for students
3	Exercise instruction	3 **22**	- Explain what and how to do this exercise
4	Students start to do exercise	12 **34**	
5	Teacher corrects exercise	8 **42**	
6	Homework	2 **45**	
Total time for this class		**45min**	

Table 2: Group A time observation sheet result

Time Observation Sheet B			
Location: 10A12, Dao Son Tay High School			**Time: 9h50, 2017/01/07**
	Teacher: Nguyen Phuoc Ton Nu Dai Trang		**No. of Students: 41**
No.	**Task**	**Duration (minute)**	**Points observe**
1	Grammar structure	15 **15**	
2	Exercise	8 **23**	- Let students make correction for 12 sentences in workbook, page 103
3	Creating an iteractive game for 2 groups of students	3 **26**	- separate student into 2 groups - intruct the rules
4	Group 1 starts the game as the main role, follow by Group 2	7 **33**	- 1 group create 10 "If clause" for 10 sentences while the other write the suitable main clauses - Exchange the role between 2 groups
5	Exchange main role for group2,	7 **40**	
6	Final decision by Teacher	4 **44**	- Group 1 won because they have 7/10 If clause and 8/10 main clause correct.
7	Homework	1 **45**	
Total time for this class		**45min**	

Table 3: Group B time observation sheet result

Time Observation Sheet C			
Location: 10A6, Dao Son Tay High School			**Time: 10h45, 2017/01/07**
	Teacher: Cao Thi Quoc Huong		**No. of students: 44**
No.	**Task**	**Duration (minute)**	**Points observe**
1	New vocabulary	10 **10**	- Teacher writes 10 new words, and read out the meaning for students write down
2	Reading exercise 1	12 **22**	- Let students make correction for 12 sentences in workbook, page 103
3	Correction exercise 1	6 **28**	
4	Reading exercise 2	12 **40**	- Let students make correction for 10 sentences in workbook, page 103
5	Correction exercise 2	4 **44**	
6	Homework	1 **45**	
Total time for this class		**45min**	

Table 4: Group C time observation sheet result

Discussion

In spite of following NFL 2020 project, most teachers in three classes generally show their inappropriate teaching method in Vietnamese formal education. According to teaching methods set forth in the project, teaching English in high schools need to focus on the learning-centered direction. This approach emphasizes the process of training and the development of communication skills through methods, and processes of learning activities that appropriate to the condition and circumstance of teaching and the ability of students (MOET, 2012). However, the outcomes of the observations reflect a considerable limit regarding language focus for NFL 2020 in practice. The reason might be that all English classes are currently taught by content teachers only and teachers still consider themselves as content teachers. As a result, they only teach grammar, vocabulary and require their students to do exercises in most of the time in class; and the teaching time of 4 language skills (listening, speaking, reading and writing) is unbalanced. Base on the content of project, the communicative competence is ability to use language knowledge (phonetics, vocabulary, grammar) and one of the important parts that each student need to achieve in order to participate in the process of communication. Needless to say, this ability needs to be reinforced continuously through 4 skills of listening, speaking, reading, and writing. However, lesson plans for these three classes are not assigned equally for 4 skills due to the shortage of teaching equipment.

Regarding teaching equipment, it is one of the important elements for the implementation of the National Foreign Language 2020 project. In spite of the assistance budget from state, the as yet furnishing and usage of teaching equipment still maintain many unexpected problems. This is mentioned in the workshop of

"Consulting and training the usage of using foreign language teaching equipment" issued by the Management Board of National Foreign Language 2020 project, held in Ho Chi Minh City by the Ministry of Education and Training on August 23, 2012 . In fact, there is no equipment supported for three classes at Dao Son Tay high school in teaching English or if they are equipped, they are not used. It might be because Ho Chi Minh city Department of Education has not invested equally teaching equipment for high schools in Ho Chi Minh area or they have completed this furnishing already but the management board of school has not deployed the implementation and usage for teachers. If not, according to one delegate in the Board analysed that it is because we have not checked the capacity of teachers and practical conditions. In addition, one of the current difficulties are some staffs confided in managing and using teaching equipment have been untrained basic skills, thus the effectiveness of using teaching equipment is limited, expressed Mr. Nguyen Nhu Hoa - Deputy Head of the Planning and Finance of Ha Noi Department of Education (DanTri, 2012).

Additionally, there is no interaction between students and teachers, classmates, textbooks and other learning resources, except grade 10A12. The teacher of this class hold a game in terms of the grammar ("If" conditional sentences) that help students in cultivating their knowledge. Although it is a small activity, it promotes the positiveness of students in class's activities. Indeed, the language training activities should be combined to the intensification of fluency, coherence and accuracy in using language. The usage of language is meaningful fundamentals in order to achieve proficiency of any level of communication capability. Unfortunately, this approach is still applied in a limited extent.

In terms of how to increase the effectiveness of teaching and learning English language in high school, MOET suggests that it is necessary to apply the various means of teaching, the use of information technology in designing learning activities. Furthermore, students should be encouraged to the maximum use of English in the classroom and daily communication situations (MOET, 2012). Despite these necessary suggestions, there is no much change in the procedure of lesson delivery. Normally, similar to teaching in Vietnamese language, the most frequently used approach is "teacher asks – students answer" with more teacher talking time. This result is similar to the findings of these three classes observed above. The reason might be that students do not familiar to this new method and/or their English ability is not enough to follow the program, or may be even teacher find it difficult to impart complex ideas in English to students. What is more, because their teacher applies L1 curriculum, then they have no chance to practice as well as cultivate their English. Of course, the quick reflex of those students in listening and speaking English is not improved. Actually, although teachers do provide a list of new vocabulary with its Vietnamese equivalent, teachers deliver the content mainly in L1 and provide a word-list in L2. Therefore, such new vocabulary provision will not improve students' English skill. This activity turns the foreign language, which should be learned in an implicit manner, into explicit knowledge. In addition, explaining new vocabulary by translating into the L1 seems to contradict the cognitive evolvement promoted by project. To cope with this issue, the necessary changes in the teaching method should be encouraged. "*The limited and judicious use of the mother tongue in the English classroom does not reduce students' exposure to English, but rather can assist in the teaching and learning processes*"(Tang, 2002). By this way teachers could clarify some misconceptions that trouble them and students.

In brief, despite efforts to the implementation of a pilot project of foreign language teaching and learning in high school level, which catch a lot of considerable attentions of insiders and analysts, a number of obstacles and limitation in putting NFL 2020 plan for high school into practice are a significant disadvantage for the success of this new approach in high schools.

Limitation of The Paper

This paper has some limitations. First, due to the shortage of empirical studies into the effect of learning and teaching English in Vietnam and unavailable official statistics, some figures presented in this paper are rather informal, declared by the stakeholders in response to social media. Second, the observation of English classes in many high schools is unfeasible, which makes the investigation of students' performance less informative. Third, the lack of comparison of graduation examination results of previous years, which makes findings less objective. Finally, NFL 2020 for high schools cannot be discussed in depth. However, providing detailed insights of NFL 2020 in Vietnam's high schools is beyond the purpose of this paper. Instead, this paper provides a general picture, from which further research can explore various issues of NFL 2020 in Vietnam.

Conclusion

In order to improve effectively the quality of English language teaching and learning across all school levels in Vietnam as well as enhance the capacity of foreign language using for Vietnamese people, several objectives are set out and piloted in upper-secondary schools. This top-down policy draws many attentions from the public and insiders. After the 2014-2015 Vietnam national high school graduation examination in Ho Chi Minh City, the result reflects the low quality of deploying and implementing project. The first reason for this can be the lack of qualified teachers in teaching English language. Owing to the difference between teachers' education programmes and the assessment from European framework; the lack of innovative training methods and techniques for teachers and the irrational expenses in utilizing budget for project, teachers who have had the limited or even high English ability cannot help students improve their performances in learning English. Besides, in spite of reinforcing English competence for teachers is necessary change, teachers in upper-secondary schools for NFL 2020 should consider and become more awareness of advantages from new pedagogical approaches. The last reason is the lack of teaching materials, which leads to contemporary but problematic solutions. In order to provide first-hand evidence for this discussion, an observation was conducted. To some extent, its outcomes offer evidences of why the scheme could not be completed in the defined period.

In a nutshell, there are still uneven in teachers' ability as well as teaching environments among schools. Moreover, the design of teachers' lesson plan is still in an un-improved way.

Appendix

Name of school	Score	Address	Notes
TH-THCS-THPT Quốc tế Canada	8.81		International
Trường phổ thông Năng Khiếu - Đại học Quốc gia TP.HCM	8.49	153, Nguyễn Chí Thanh, Quận 5	Public/top rank
Trường Trung học phổ thông chuyên Lê Hồng Phong	8.30	235, Nguyễn Văn Cừ, Quận 5	Public/top rank
THCS và THPT Đinh Thiện Lý	8.24	Lô P1, Khu A, Khu đô thị mới Nam Thành Phố, Phường Tân Phong, Quận 7, Tp.HCM	Private/top rank
Trường Trung học phổ thông chuyên Trần Đại Nghĩa	8.18	20 Lý Tự Trọng, Q.1	Public/top rank
THPT Việt Úc	8.12		International
Trường Trung học phổ thông Nguyễn Thượng Hiền	7.73	544 Cách mạng Tháng 8, Quận Tân Bình	Public/top rank
THPT Thực hành ĐHSP	7.54	280 An Dương Vương, Quận 5 - TP. HCM	Public
Trường Trung học phổ thông Lê Quý Đôn	7.51	110, Nguyễn Thị Minh Khai, Quận 3	Public/top rank
Trường Trung học phổ thông dân lập Á Châu	7.40	226A Pasteur, Q3	Private
Trường Trung học phổ thông Nguyễn Thị Minh Khai	7.39	275, Điện Biên Phủ, Quận 3	Public
TH-THCS-THPT Quốc tế	7.36		International
TH,THCS và THPT Thái Bình Dương	7.35	125 Bạch Đằng, P2, Quận Tân Bình - Tp.HCM	International/top rank
Trường Trung học phổ thông Bùi Thị Xuân	7.25	73-75 Bùi Thị Xuân, Q1	Public
THCS và THPT Việt Mỹ	7.04		International
Trường trung học phổ thông Gia Định	7.00	195/29 Xô Viết Nghệ Tĩnh, Quận Bình Thạnh	Public/top rank
Trường Trung học phổ thông Văn Lang	6.98	02-04 Tân Thành, Phường 12, Quận 5	Private
Trường Trung học phổ thông Phú Nhuận	6.91	5 Hoàng Minh Giám Q Phú Nhuận	Public
Trường Trung học phổ thông Nguyễn Du	6.72	XX1 Đồng Nai, Cư xá Bắc Hải, Quận 10	Public
Trường Trung học phổ thông Việt Anh	6.71	269A Nguyễn Trọng Tuyển, Phường 10, Quận Phú Nhuận, Tp. Hồ Chí Minh, Việt Nam	International private school
THPT nam Sài Gòn	6.64		Public
THTH ĐH Sài Gòn	6.45		Public

Trường Trung học phổ thông Nguyễn Công Trứ	6.36	97 Quang Trung, P. 8, Q. Gò Vấp	Public
Trường Trung học phổ thông Trần Phú	6.36	18 Lê Thúc Hoạch, P. Phú Thọ Hòa, Tân Phú	Public
Song ngữ quốc tế Horizon	6.31		International school
Trường Trung học phổ thông Nguyễn Hiền	6.27	3 Dương Đình Nghệ, Q11	Public
Trường Trung học phổ thông dân lập Nguyễn Khuyến	6.22	132 Cộng Hòa, Q Tân Bình	Private
Trường Trung học phổ thông Trưng Vương	6.14	Số 3, Nguyễn Bỉnh Khiêm, Quận 1	Public
Trường Trung học phổ thông Lương Thế Vinh	6.11	131, Cô Bắc, Quận 1	Public
Trường Trung học phổ thông Võ Thị Sáu	6.11	95 Đinh Tiên Hoàng, Q Bình Thạnh	Public
Trường Trung học phổ thông dân lập Ngôi Sao	6.00	Đ 18 phường Bình Trị Đông B, quận Bình Tân	Private
THPT Châu Á Thái Bình Dương	5.96		
THPT Bắc Mỹ	5.93		
THCS và THPT Nguyễn Khuyến	5.87	514, Nguyễn Tri Phương, Quận 10	
THPT Việ Mỹ Anh	5.82		
THCS-THPT Sao Việt	5.76		
Trường Trung học phổ thông Hùng Vương	5.74	124, Hùng Vương, Quận 5	
Trường trung học phổ thông Marie Curie	5.71	159, Nam Kỳ Khởi Nghĩa, Quận 3	
Trường Trung học phổ thông dân lập Thái Bình	5.60	236/10 Nguyễn Thái Bình, Q Tân Bình	
THCS-THPT Thái Bình	5.60		
Trường Trung học phổ thông bán công Hoàng Hoa Thám	5.59	6 Hoàng Hoa Thám, Q Bình Thạnh	
Trường Trung học phổ thông Nguyễn Chí Thanh	5.58	189/4 Hoàng Hoa Thám, Q Tân Bình	
Trường Trung học phổ thông dân lập Hưng Đạo	5.45	103 Nguyễn Văn Đậu, Q Bình Thạnh	
Trường Trung học phổ thông Nguyễn Trãi	5.39	364, Nguyễn Tất Thành, Quận 4	
TH-THCS-THPT Úc Châu	5.31		
Trường Trung học phổ thông Nguyễn Hữu Huân	5.29	1 Đoàn Kết, P. Bình Thọ Q Thủ Đức	
Trường Trung học phổ thông Trần Khai Nguyên	5.25	225, Nguyễn Tri Phương, Quận 5	

Trường Trung học phổ thông Nguyễn Hữu Cầu	5.23	HL80 Ng Anh Thủ, Trung Chánh, Hóc Môn	
Trường Trung học phổ thông Tân Bình	5.16	97/11 Nguyễn Cừ Đà,m P. Tân Sơn Nhì, Q Tân Phú	
Trường Trung học phổ thông Tây Thạnh	5.10	40/27,Tây Thạnh, Q Tân Phú	
Trường Trung học Phổ Thông Võ Trường Toản	5.01	KP.1 Phường Hiệp Thành Q.12	
Trường Trung học phổ thông Nguyễn Thái Bình	4.97	913-915 Lý Thường Kiệt, Q Tân Bình	
Trường Trung học phổ thông dân lập Trương Vĩnh Ký	4.97	43 Bành Nguyễn Quốc Ân, Q Tân Bình	
Trường Trung học phổ thông Nguyễn Huệ	4.86	Châu Phúc Cầm, Long Thạnh Mỹ, Quận 9	
Trường Trung học phổ thông Gò Vấp	4.77	90A Nguyễn Thái Sơn, Q Gò Vấp	
Phân hiệu THPT Lê Thị Hồng Gấm	4.75		
Trường Trung học phổ thông Trần Quang Khải	4.74	Lạc Long Quân Q11	
Trường Trung học phổ thông Mạc Đĩnh Chi	4.73	4, Tân Hòa Đông, Quận 6	
Trường Trung học phổ thông Hiệp Bình	4.70	KP6, Hiệp Bình Phước, Q Thủ Đức	
Trường Trung học phổ thông Thủ Đức	4.70	166/24 Đặng Văn Bi, P Bình Thọ, Q. Thủ đức	
Trường Trung học phổ thông Nguyễn Thị Diệu	4.69	12, Trần Quốc Toản, Quận 3	
Trường Trung học phổ thông Bình Phú	4.68	84/47, Lý Chiêu Hoàng, Quận 6	
Trường Trung học phổ thông Phước Long	4.67	Dương Đình Hội, phường Phước Long, Quận 9	
Trường Trung học phổ thông Ngô Quyền	4.65	1360, Huỳnh Tấn Phát, Quận 7	
THPT An Dương Vương	4.60		
THPT Tenlơman	4.48		
Trường Trung học phổ thông Nam Kỳ Khởi Nghĩa	4.45	269/8 Nguyễn Thị Nhỏ, Q11	
Trường Trung học phổ thông Nguễn Văn Cừ	4.44	1981Ng Văn Bứa, xã Xuân Thới Sơn, Hóc môn	
Trường Trung học phổ thông Nguyễn An Ninh	4.43	93, Trần Nhân Tôn, Quận 10	
Trường Trung học phổ thông Trần Văn Giàu	4.43	203/40 đường Trục, P.13, Q.Bình Thạnh	
Trường Trung học phổ thông Tam Phú	4.43	31 Phú Châu, Ấp Phú Châu, Tam Phú Q TĐ	

Trường Trung học phổ thông bán công Trần Hữu Trang	4.41	276, Trần Hưng Đạo B, Quận 5	
Trường Trung học phổ thông dân lập Nguyễn Trãi	4.39	380 Văn Cao, Phú Thọ Hòa, Q Tân phú	
Trường Trung học phổ thông dân lập An Đông	4.35	91 Nguyễn Chí Thanh, Q5	
THPT Nguyễn Tất Thành	4.28		
THPT Thành Nhân	4.23		
Trường Trung học phổ thông Trung Phú	4.19	Ngã tư Tân Quý, Tỉnh Lộ 8, H Củ Chi	
Trường Trung học phổ thông Lương Văn Can	4.18	173, Chánh Hưng, Quận 8	
Trường Trung học phổ thông Nguyễn Trung Trực	4.18	9/168 Đường 26/3, Q Gò Vấp	
Trường Trung học phổ thông tư thục Vạn Hạnh	4.18	781E Lê Hồng Phong nối đài, Q10	
Trường Trung học phổ thông Phan Đăng Lưu	4.17	27 Nguyễn Văn Đậu, Q Bình Thạnh	
Trường Trung học phổ thông Lý Thường Kiệt	4.17	Xã Thới Tam Thôn H Hóc Môn	
Trường Trung học phổ thông Củ Chi	4.16	Khu Phố 1, Thị trấn H Củ Chi	
THPT Phạm Văn sáng	4.14		
Trường Trung học phổ thông bán công Diên Hồng	4.12	553, Nguyễn Tri Phương, Quận 10	
Trường Trung học phổ thông Trường Chinh	4.11	Nguyễn Văn Quá, P.Đông Hưng Thuận, Q12	
Trường Trung học phổ thông Bà Điểm	4.09	Ấp Bắc Lân, Xã Bà Điểm H Hóc Môn	
Trường Trung học phổ thông Tạ Quang Bửu	4.00	909, Tạ Quang Bửu, Quận 8	
Trường Trung học phổ thông Nguyễn Hữu Tiến	4.00	171 Đặng Thúc Vịnh, Xã Thới Tam Thôn, HM	
THPT Nguyễn Hữu Cảnh	4.00		
Trường Trung học phổ thông dân lập Duy Tân	3.92	149/2 Trần Huy Liệu, Q Phú nhuận	
Trường Trung học phổ thông dân lập Nguyễn Bỉnh Khiêm	3.90	140 Lý Chính Thắng, Q3	
Trường Trung học phổ thông tư thục Ngô Thời Nhiệm	3.90	65D Hồ Bá Phấn, P. Phước Long A Q9	
Trường Trung học phổ thông bán công Sương Nguyệt Anh	3.89	249, Hoà Hảo, Quận 10	
THCS-THPT Tân Phú	3.89		

TH-THCS-THPT Nam Mỹ	3.88		
Trường Trung học phổ thông Lê Thánh Tôn	3.86	Đường 17P, Tân Kiểng, Quận 7	
THPT Bình Tân	3.86		
Trường Trung học phổ thông Bình Chánh	3.85	Âp 4 Xã Bình Chánh, H Bình Chánh	
TH-THCS-THPT Quốc Văn Sài Gòn	3.84		
Trường Trung học phổ thông Thủ Thiêm	3.83	Số 2, Khu B, An Phú, Quận 2	
Trường Trung học phổ thông An Lạc	3.83	319 Kinh Dương Vương, P. An Lạc, Bình Tân	
Trường Trung học phổ thông Long Trường	3.82	309, Võ Văn Hát, Khu phố Phước Hiệp, phường Long Trường, Quận 9	
Trường Trung học phổ thông dân lập Đông Đô	3.82	12B Nguyễn Hữu Cảnh, Q Bình Thạnh	
Trường Trung học phổ thông Giồng Ông Tố	3.80	200/10, đường Nguyễn Thị Định, phường Bình Trưng Tây, Quận 2	
THPT Trần Quốc Tuấn	3.80		
Trường Trung học phổ thông Tân Thông Hội	3.79	Âp Bàu Sim, Thông Tân Hội H Củ chi	
Trường Trung học phổ thông dân lập Huỳnh Thúc Kháng	3.79	200-202 Võ Thị Sáu, Q3	
Trường Trung học phổ thông Đa Phước	3.78	A3/99 QL 50 Xã`Đa Phước H Bình Chánh	
THCS-THPT Quang Trung Nguyễn Huệ	3.78		
Trường Trung học phổ thông dân lập Hồng Hà	3.77	2 Trương Quốc Dung P8, Q Phú Nhuận	
Trường Trung học phổ thông bán công Hàn Thuyên	3.76	184/7 Lê Văn Sĩ, Q Phú Nhuận	
THCS-THPT Đức Trí	3.76		
Trường Trung học phổ thông dân lập Thanh Bình	3.75	192 Nguyễn Thái Bình, Q Tân Bình	
Trường Trung học phổ thông Nguyễn Hữu Thọ	3.73	209, Tôn Thất Thuyết, Quận 4	
Trường Trung học phổ thông dân lập Hồng Đức	3.73	20/E15 Hồ Đắc Di, P Tây Thạnh Q Tân Phú	
Trường Trung học phổ thông bán công Lý Tự Trọng	3.69	390 Hoàng Văn Thụ, Q Tân Bình	
Trường Trung học phổ thông dân lập Đăng Khoa	3.68	82A Nguyễn Thái Học, Q1	
THCS-THPT Phan Huy Ích	3.67		

Trường Trung học phổ thông Lê Minh Xuân	3.66	G1/11,Âp 7 Xã Lê Minh Xuân, Bình Chánh	
THPT Đông Dương	3.66		
Trường trung học Chu Văn An	3.64	Số 7, đường số 1, P. Bình Hưng Hòa, Q. Bình Tân	
Trường Trung học phổ thông An Nhơn Tây	3.64	Âp Chợ Cũ, An Nhơn Tây H Củ Chi	
Trường Trung học phổ thông Thanh Đa	3.62	Lô G CX Thanh Đa Q Bình Thạnh	
THPT Nhân Việtq	3.62		
Trường Trung học phổ thông Thạnh Lộc	3.61	KP2 Phường Thạnh Xuân, Q 12	
THPT Trần Quốc Toản	3.57		
Trường Trung học phổ thông Cần Thạnh	3.53	Duyên HảI, TT Cần Thạnh, H Cần Giờ	
Trường Trung học phổ thông dân lập Hermann Gmeiner	3.53	697 Quang Trung,P.12 - Q Gò Vấp	
TH-THCS-THPT Hòa Bình	3.52		
Trường Trung học phổ thông dân lập Thăng Long	3.50	118 Hải Thượng Lãn Ông, Q5	
Trường Trung học phổ thông Quang Trung	3.48	Xã Phước Thạnh, H Củ Chi	
THPT Nguyễn Văn Tăng	3.48		
THCS-THPT Âu Lạc	3.47		
THCS-THPT Đinh Tiên Hoàng	3.45		
Trường Trung học phổ thông dân lập Trí Đức	3.43	1333A Thoại Ngọc Hầu, P Hòa Thạnh Q Tân Phú	
THPT Vĩnh Lộc	3.43		
Trường Trung học phổ thông tư thục Phan Châu Trinh	3.42	12 Đường 23,Bình Trị Đông, Q Bình Tân	
TH-THCS-THPT Mỹ Việt	3.42		
THPT Đông Á	3.42		
Trường Thiếu Sinh Quân	3.40	Ấp Bến đình, Xã Nhuận đức, H Củ chi	
Trường Trung học phổ thông Trần Cao Vân	3.39	Số 1, Đường số 9, P. Phước Bình, Quận 9	
THCS-THPT Khai minh	3.38		
Năng khiếu TDTT	3.37		
Trường Trung học phổ thông Trung Lập	3.29	Xã Trung Lập Thượng, H Củ Chi	
THCS-THPT Bác Ái	3.28		
Trường Trung học phổ thông Phú Hòa	3.27	Âp Phú Lợi, xã Phú Hòa Đông H Củ chi	

Trường Trung học phổ thông Phạm Ngũ Lão	3.27	69/11 Đường Phạm Văn Chiêu, P.14 - Q.Gò Vấp - Thành phố Hồ Chí Minh	
THPT Việt Âu	3.27		
Trường Trung học phổ thông Tân Phong	3.26	19F, KDC Nguyễn Văn Linh, Tân Phong, Quận 7	
Trường Trung học phổ thông Ngô Gia Tự	3.26	360E, Bến Bình Đông, Quận 8	
Trường Trung học phổ thông dân lập Nhân Văn	3.25	16/3 Tân Kỳ, Tân Quý, Q Tân Phú	
THPT Bách Việt	3.25		
Trường Trung học cơ sở & phổ thông dân lập Đào Duy Anh	3.24	134 Lê Minh Xuân, P.7, Q. Tân Bình	
THPT Thủ Khoa Huân	3.23		
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THPT Phú Lâm	3.22		
Trường Trung học cơ sở và Trung học phổ thông Lạc Hồng	3.21	2276/5, Quốc lộ 1A,Trung Mỹ Tây Quận 12	
THCS-THPT Hoàng Diệu	3.21		
THPT Vĩnh Viễn	3.20		
Trường Trung học phổ thông Bình Khánh	3.18	Bình An, Bình Khánh, H Cần Giờ	
THPT Quốc Trí	3.17		
THPT Hoa Sen	3.16		
Trường Trung học phổ thông Nguyễn Thị Định	3.15	Đường 41, Phường 16, Quận 8	
Trường Trung học phổ thông Long Thới	3.15	1B Nguyễn Văn Tạo, Long Thới H Nhà Bè	
THPT Bình Hưng Hòa	3.15		
THPT Trần Nhân Tông	3.09		
THPT Lý Thái Tổ	3.07		
THPT Hưng Đạo	3.03		
THPT Nguyễn Văn Linh	3.01		
THPT Minh Đức	3.00		
Trường Trung học phổ thông dân lập Bắc Sơn	2.97	12 Hoàng Hoa Thám, P12, Q Tân Bình	
Trường Trung học cơ sở và Trung học phổ thông Hoa Lư	2.95	201 Phan Văn Hớn, P. Tân Thới Nhất,Q12	
THPT Lam Sơn	2.93		
THPT An Nghĩa	2.91		
THPT Hàm Nghi	2.88		
THPT Nguyễn Tri Phương	2.82		
THPT Đào Duy Từ	2.70		
THPT Phước Kiến	2.63		

Trường Trung học cơ sở và trung học phổ thông Nam Việt	2.50	25 Dương Đức Hiền, P. Tây Thạnh, Q. Tân Phú	

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Behind the Silence of Japanese International Students in the U.S. Classrooms

Ee Lin Lee, Western Washington University, United States
Kana Sorimachi, Kumagaya City, Saitama Prefecture, Japan

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Abstract
Japanese international students (JIS) in United States universities are often labeled by peers, faculty, and administrators as shy, passive, and silent. This stereotypical image reflects, to a large extent, an outsider's view that does not necessarily capture the understanding of the experience of the JIS. The current study examines JIS' descriptions of themselves as classroom participants and the factors that influence their oral participation in U.S. university classrooms. Semi-structured interviews were conducted in Japanese with 12 JIS who were pursuing four-year college degrees in the humanities and social sciences. The interviewees' average presence in the U.S. was 3.5 years. Although proficient in English by the length of time spent pursuing education on U.S. campuses, all the interviewees reported that they very rarely spoke out in the classroom. Analysis of the data uncovered four main factors that hinder JIS' meaningful oral participation in class: (a) lack of confidence in their English speaking skills, (b) large class sizes that make participation challenging, (c) missing the window of opportunity to speak up due to the fast pace of classroom conversation, and (d) being treated differently by peers and instructors. JIS also revealed four factors that encourage their participation: (a) being asked to speak up, (b) receiving affirmation via others' feedback, (c) having friends in the class, and (d) engaging in discussion topics that are meaningful to them. The study also discusses relevant pedagogical implications for enhancing inclusive classroom instruction in educational settings that involve international students.

Keywords: Japanese, international students, participation, silence, culture, education, English, interviews, conversation, pedagogy

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Introduction

Japanese international students (JIS) in U.S. colleges are often labeled quiet by peers, faculty, and administrators. The JIS concurred with the assertion; they understand that their reticence in the classrooms is considered undesirable from the U.S. perspective (e.g., see Keaten & Kelly, 2000; Mack, 2012; Petress, 2001). Instructors, especially those in language education, attempt to overcome the students' reticence by advancing pedagogical solutions for enhancing classroom participation. Frequently, these solutions are recommended to encourage English-as-a-second-language (ESL) international students to assimilate to the mainstream talk-oriented classroom culture (Ha & Li, 2014; Zhou, Knoke, & Sakamoto, 2005). However, the responsibilities for cultivating a supportive and inclusive classroom climate are, to a large extent, delegated to the international students—the party that is expected to actively engage in classroom participation.

In fact, recommendations aimed at raising the oral performance of ESL international students are not universal across classrooms. For example, the nuances in the mainstream U.S. college classrooms differ from their ESL counterparts. The native English speakers and instructors who populate the mainstream classrooms are not specialized in second language (L2) education, nor do they have vested interests in working with international ESL speakers or addressing intercultural issues in the classroom. Therefore, the JIS may not receive a similar level of attention and support from the instructor and peers in the mainstream classroom. Together with other international students, the JIS occupy very few seats in U.S. classrooms. Consequently, as outsiders and minorities in the classrooms, the JIS likely experience a classroom climate that is different from that of the ESL (e.g., see DiAngelo, 2006; Kanno & Cromley, 2015).

Aside from ESL and cultural adjustment issues, nuances in the mainstream classroom community are seldom interrogated in studies focused on international students in higher education (DiAngelo, 2006). However, the taken-for-granted, mundane dynamics in the classroom that are key to understanding JIS classroom experiences may be overlooked by researchers. In fact, it is in these nuances that the classroom climate is grounded—the setting in which intercultural exchanges between the JIS and natives of the mainstream classroom community take place. Thus, the understanding of inclusive classroom practices is only purposeful when nuances of the classroom dynamics experienced from the nondominant perspective—frequently the students'—is examined (Covarrubias, 2008).

In order to promote genuine intercultural dialogue in the scholarship of teaching and learning, we seek to understand the nuanced experiences of JIS' classroom participation *in situ.* In particular, we examine the JIS' understanding of their lived experiences through oral participation in the mainstream U.S. college classroom. We ask:
RQ_1: How do JIS describe their experiences participating orally in the U.S. college classroom?
Besides language competence issues as suggested by extant literature review, we pay particular attention to issues that the JIS face in interacting with their American counterparts.

RQ$_2$: What are the factors that JIS consider as encouraging their oral participation in the U.S. college classroom?

ESL learning in the Japanese school curriculum

Academic habit fostered through many years of immersion in home country's curriculum informs the students' subsequent academic performance when they sojourn to a different educational system. Therefore, understanding the Japanese curriculum, especially the learning of ESL, is pertinent to understanding JIS' oral participation in U.S. classrooms. In Japan, students in primary and secondary schools take ESL classes in which written grammar is the primary focus, whereas speaking skills secondary (Kayi, 2006; King, 2013; Kobayashi, 2001). Moreover, the ESL classroom instruction is conducted in the Japanese language using the didactic teaching style.

Even with intensive English language training at cram schools, most students are still not well prepared to engage in conversational English.[1] In fact, even high standardized English test scores, such as the TOEFL used to screen international students for U.S. university admission, are often insufficient indicators of the students' conversational English competence. Thus, the English language training in the Japanese school curriculum does not effectively prepare JIS to engage in conversational English—a fundamental but taken-for-granted requirement for meaningful engagement in U.S. classrooms (Frymier & Houser, 2016; Reda, 2009).

The Japanese cultural teaching

In addition to lacking English speaking skills and being conditioned to the didactic Japanese classroom culture, the JIS face challenges adopting the different and highly nuanced cultural assumptions that are ingrained in U.S. classrooms. Speech practices in U.S. classrooms, especially those in the liberal arts, humanities, and social sciences, require students to self-express—to assert, argue, impose, attack, and even self-disclose to an audience that may not share a close relational history. In the Japanese culture, however, the aforementioned oral skills are not to be performed in the presence of outsiders (i.e., people who are not relations or close friends) (Lebra, 1987; Wierzbicka, 1991) or in a public setting such as the classroom. To the Japanese, the sharing of one's private self with outsiders or the imposition of one's cognitive and affective states on others in public is considered the presentation of the self that lacks competence (Lebra, 1987; Wierzbicka, 1991).

The need to not hurt or offend others—a principal teaching in Japanese communication (Rusch, 2004; Wierzbicka, 2003)—further conflicts with the aforementioned oral skills required in U.S. classrooms. Since culture is a habit of the heart (Bellah et al., 2007), the mainstream speech practices in U.S. classrooms challenge the JIS' life-long cultural assumptions and training. Not only are the JIS required to acquire conversational English skills, but also negotiate the tension between American and Japanese classroom cultures. Therefore, it is not surprising

[1]Cram school in Japan houses intensive programs that help students prepare for high school and university entrance examinations.

that when conversing in English, the JIS may revert to the more familiar Japanese communication practices.

Exposure to anxiety and fear

Speaking is the most anxiety-provoking aspect of classroom oral participation when it involves the speaker's L2 (Cheng, 2000; Cheng, Horowitz, & Schallert, 1999; Lee, 2007). While the JIS' silence in the classroom can be attributed to the lack of English speaking skills, L2 speaking anxiety may further inhibit JIS' effective self-expression in conversational English. Fundamentally, anxiety—a psychological stressor—produces a mental block that occurs with heightened cognitive and affective filters during L2 speech production (Fallah, 2016; Horowitz, 2001; Tran & Moni, 2015). As a result, speech output is inhibited. The absence of speech then continually feeds the speaker's heightened awareness (Pritchard & Maki, 2006), and the speaker's self-talk in the moment of silence further provokes anxiety and fear.

The fear of negative consequences further triggers defensive behaviors that reinforce the speaker's retreat into silence (Horowitz, 2001; King, 2013; Lee, 2007). In a way, conversing in English is a high-stakes activity in which the JIS risk exposure to undesirable consequences, such as embarrassment, the need to take corrective actions, or negative evaluation by peers and instructors. Thus, the stakes are much higher for the JIS participating in classroom conversations alongside native English speakers who do not necessarily feel the same pressures or understand the JIS' classroom experience. The instructor evaluating the JIS may lack knowledge in L2 education or intercultural communication, or simply do not understand the challenges L2 speakers face. Taken together, the lack of English speaking skills, the unfamiliar speech practices, and the exposure to anxiety and fear, make the JIS feel vulnerable when they participate in classroom conversations.

Methods

The first researcher—a non-Japanese ESL speaker with extensive experience working with East Asian international students, hence able to relate to the JIS experience in U.S. classrooms—designed and devised a plan for this study. The second researcher, who speaks Japanese with native fluency and has networks in the community, collected the interview data. The pair then collaborated in analyzing data and writing the results of the study.

The interview protocol was designed using Spradley's (1979) ethnographic interview method, which permits the participants' articulation of their experiences through symbolic means that are meaningful to them. Descriptive, structural, and contrast questions, along with probes, were used to explore and understand the participants' mundane oral participation experiences in the classroom, where talk is the taken-for-granted tool used in learning and teaching.[2] The JIS were asked about their typical

[2] Descriptive questions enable the interviewees' use of their native language to label their understanding. Structural questions allow the exploration of domains—the interviewees' cultural knowledge (i.e., how they come to know their perceived reality). Contrast questions permit the discovery of the dimensions of the interviewees' knowledge in distinguishing events in their world (Spradley, 1979).

experience in the classroom, their reflection of their speech behavior in the classroom, and their peers' and instructors' reactions toward their oral participation.

Snowball sampling was used to recruit potential participants. A brief screening interview was conducted via phone with each participant to ensure that the participant had been attending the university for at least two academic quarters and taken classes in which oral participation was required. The interviews were conducted in the Japanese language to build rapport between the interviewee and the interviewer while avoiding L2 speaking anxiety (Lee & Hall, 2009; Spradley, 1979). Each interview lasted 1 to 1.5 hours, and informed consent was obtained from each participant before audio-recording the interview. No compensation was given.

The interviewees (n_{male} = 5; n_{female} = 7; age range = 21-32) were full-time students pursuing courses with academic majors in the humanities and social sciences and liberal arts. All were Japanese nationals who speak ESL. On average, the participants had attended U.S. colleges for at least 17 months and were familiar with the voluntary and involuntary oral participation that is widely practiced and expected in U.S. classrooms.

The oral data were transcribed into English following Wierzbicka's (2003) semantic metalanguage theory.[3] Simple English words were used, and Japanese native words that could not easily be translated into English were left as is. Data collection and analysis occurred iteratively. We separately read all transcripts repeatedly to immerse ourselves in the data. First, we each made a close reading of all the transcriptions using Lindlof and Taylor's (2013) constant-comparative method. Second, we independently separated the data into meaningful segments and coded the emerging themes. In the process, we compared each transcription with another transcription several times before defining categories and identifying distinct themes. Third, we compared our individual coding. Together, we discussed instances of disagreement, including reflecting on and discussing the similarities and differences in personal assumptions and values. Fourth, we refined our coding categories and agreed on the consistent themes to be reported.

Findings

The JIS' experience in oral participation

Lack of Confidence

All the participants described their experience of participating orally in the classroom as challenging and indicated that they rarely spoke in the classroom. The participants indicated being conscious that their English speaking skills was not up to par with that of their American peers. This realization, in turn, induced a feeling of insecurity about their English speaking ability. For example, Ai reported that ". . . I'm worried they may not understand my English, and I'm always thinking of how I'm going to

[3] The natural semantic metalanguage theory maintains that semantic primes—words that are simple and indefinable—are those suitable for analysis (Wierzbicka, 2003). These words are universal in meanings across languages studied by scholars from the school; for example, *I, you, think, want, know, say, feel,* and *people.* This said, translating lexicons with complex conceptualizations into a simplified English word does not help capture the people's rich meanings of understanding their cultural world.

say what I want to say." Similarly, Takashi noted, "When I've to speak without preparation [in class], I listen to what others are saying and then . . . . I think about what to say and then speak up when the chance presents itself." Takashi's hesitancy to speak up spontaneously reveals his uncertainty about his oral English skills.

However, the spontaneity of classroom conversation creates ambiguity for the participants and often renders useless their painstaking preparation to speak up. Similar to being caught off guard and not knowing what to say, Takashi continued, "I feel a lot of stress, especially when I cannot prepare. [It is] really unpleasant." The insecurity felt is compounded by the fear of making mistakes, and the combination works to shatter the participants' confidence to speak up. Takashi observed, "I'm afraid that I will say something wrong. . . when I say the wrong thing, I feel very ashamed. In order not to feel that way, I don't speak up. It's like my instinct for self-defense is activated." In truth, what feels "wrong" in the eyes of the participants, as Rie revealed, is that "I think I made a mistake . . . when their responses are different from mine."

Missing the Window of Opportunity to Speak up

Due to the anxiety and uncertainty, the participant's reaction time is slowed down. However, real-time classroom conversation does not account for the time the JIS need to process the information and prepare a response, which often involves translation and back translation. As Shinichi observed, "The Americans raise their hands really fast. Even if I want to speak up, I'm unable to do so." He added, "First, it takes time to understand [what is being said]. Then it takes time to speak up. In the end I miss the opportunity to speak up." While juggling the multiple cognitive activities, "the topic changes while I'm still deciding what I should do," Shiho lamented.

Large Class Sizes

The participants also reported feeling uncomfortable and vulnerable when speaking up in classes of 20 to 35 students. Rie disclosed, "I talk a lot in small groups or with a peer. But when I'm in a large group, I get frightened." The participants feel intimidated by their audiences' expectant gaze and silence as they struggle to formulate their responses. According to Takuya, "I pause in that situation, and I think it's not good. I. . . panic and think, 'I should not speak up next time' . . . I feel embarrassed . . . I try not to look at others." By avoiding eye contact, Takuya is trying to further disengage from the discomfort and awkwardness.

In fact, small group settings give the participants a sense of comfort and support and thus lessen the fear of speaking. In such a setting, Akiho revealed, "If I don't understand the question for the discussion, I start the conversation with, 'What is the question?' and they usually explain it to me." Shiho explained the sense of security that comes from working with just a few peers, thus:

> I'm able to say the things I want to in small group discussions, but not in big classes. I think, 'I can say this now without feeling nervous,' and I feel that I can finally express my feelings, and that is fun. Ha!

Being Treated Differently by Peers and Instructors

Many participants notice the non-normative treatment they receive in a classroom community that *otherize*s them. They recognize being treated as an outsider—someone different from other classroom community members. Such a status does not give them equal access to the privilege of the group. The resulting feeling of isolation adversely affects the JIS' oral participation. Echoing Rie's comment about not having equal access to speaking turns in class, Yuko explained:

> When they . . . think, "This person is an international student and cannot speak English well, so she might not want to speak up," they've already created an environment that suggests we don't need to speak up.

This kind of treatment manifested when the JIS were asked to speak up in class. Peers and instructors asked questions designed to probe for or reinforce the JIS/ foreignness, seemingly justifying the non-normative treatment. For example, Akiho, Sayuri, Sinichi, and Takuya recounted being asked repeatedly about *go-kon,* a cultural food and drink night out where single men and women meet to find romantic partners; karaoke; sushi; and *ai puchi,* a make-up tool used to create double eyelids. Akiho reflected, "They don't ask me deeply meaningful questions. . . I'm pretty much asked these similar questions repeatedly." Such treatment works to illegitimize JIS' membership in the classroom; it does not engender feelings of acceptance and respect in the classroom community. Rie explained, "I think it's also the Japanese way of thinking . . . I don't want them to think that I'm different. . . [otherwise] they look at me differently or look down on me."

The non-normative treatment also results to lowered expectations, as Hiroto discovered, "I was told, '*Your English is not English*.' . . . The Americans don't care about our pronunciation . . . they don't expect good pronunciation from us because we are foreigners to them." Such biased treatment, especially coming from instructors, further alienates and silences the JIS in the classroom. Sinichi recalled, "His (the instructor's) reaction was like 'Um?' ((tilting his head and looking confused)). I thought it was the worst reaction that I'd ever seen. . . it was like *Um. Okay. Who else?*" Discouraged, Sinichi retreated into silence, hoping that nobody would notice that he was different—a response akin to Takashi's trepidation and discouragement from further oral participation (see the Lack of Confidence Section).

Conclusions

Recommendations by the JIS and Pedagogical Implications

Instead of relying solely on suggestions by scholars, we incorporate the participants' recommendations that are meaningful and specific to their situation in addressing their concerns about oral participation in the classroom. While the learners' suggestions may not necessarily echo the pedagogical expertise of teachers, consideration of the JIS input may provide the following benefits: (a) adoption of classroom teaching strategies that the participants deem useful and comfortable for them, and (b) a culturally inclusive strategy to create genuine intercultural dialogue by incorporating the JIS voice (e.g., see Dallimore, Hertenstein, & Platt, 2004; Harumi, 2010). After all, the JIS as outsiders and minorities may pay attention to the nuances

in U.S. mainstream classrooms are taken for granted by the natives in the community (DiAngelo, 2006; also see Covarrubias, 2008). In general, the participants' recommendations address the need to enhance cultural inclusivity in the classroom—a crucial practice that has been overlooked in numerous past studies aimed at supporting international exchange in higher education. In the following subsections, we also discuss the pedagogical implications of the JIS recommendations.

Being asked to speak up

JIS participants preferred to be asked to speak up by their peers or instructors than to compete for speaking turn, as exemplified by Shiho's revelation that ". . . Raising my hand is the scariest thing to do. If I'm called on, I feel like I've been saved." If not called upon, JIS must skillfully identify the right timing to chime in, such as by cutting off someone else and simultaneously deliver relevant and useful talking points. Doing so successfully requires that the JIS be competent English speakers, a tall order for most of them. Hiroto spoke for many when he explained:

> . . . my brain froze for about a minute. Those situations are scary. . . . They [the class] might have been thinking like "Hey, come on! Answer!". . . . I thought, it's bad. What I was planning [to say] was crushed right in front of me, and I couldn't come up with an alternative.

Rather than helping, Hiroto's self-talk during that moment of silence as he tried to formulate a response only provoked more anxiety, making him lose his confidence and the chance to speak. This finding is consistent with past literature on the complexities of cognitive tasks that ESL speakers face when participating spontaneously (Horowitz, 2001; Lee, 2007; Pritchard & Maki, 2006). However, advanced preparation of talking points reduces cognitive task complexities and helps the participant speak with ease and confidence, as Sayuri discovered when invited by her instructor to talk about the Japanese practice of modesty. Having relevant knowledge of the subject and having been asked beforehand to prepare an answer, Sayuri was happy to share her cultural knowledge with her classmates. She narrated, "It's . . . really valuable. . . . Everyone [in the classroom] seemed not to understand why modesty is a good thing. . ."

At first glance the JIS' preference for being asked to speak up seems like a performance issue they can correct themselves. However, the JIS draw confidence from the classroom community and need their support to speak up with confidence. Therefore, to ensure a balance of input from different students, instructors should facilitate inclusive classroom participation that encourages the silent to speak up. Moreover, all classroom participants should be encouraged to be mindful of others, to reach out to those who are quiet, and to initiate conversations with peers from various backgrounds.

Receiving affirmation via others' feedback

Undoubtedly, positive feedback and reinforcement enhance self-esteem, and affirmation from peers and instructors raises students' academic performance (e.g., see Hufton, Elliott, & Illushin, 2002). The findings of this study support these common academic assertions and further explain why affirmation is crucial to

enhancing the JIS' confidence to speak up. As Sinichi explained, any affirmative feedback he receives acknowledges and legitimizes him as a classroom participant whose contribution is welcome in the classroom discourse:

> When there are more people who nod their heads, I feel that I've said something good. . . when professors say *Good! That's right!* . . . or something they usually don't say to me in many situations, and when their reaction is validating, I feel satisfied, like "I've said something good."

The verbal and nonverbal affirmations that Sinichi yearns for are, unfortunately, hard to come by for JIS. While Sinichi's experience illustrates the immediate reward of affirmation, Nao portrayed its long-term potential, "When someone says 'I agree with you,' I think 'Yes!' and it also give me confidences. It's the motivation for me to take the next step, to speak up [in future]. . . ." Since the JIS fear being out-of-line, instructors should encourage and skillfully guide them to participate in classroom conversations. Affirmations should not be limited to confirmation of students' correct answers, but also acknowledge their effort in participating. Additionally, instructors should be observant and regularly show affirmation to students who appear isolated and quiet during classroom discourse through displays of encouragement, attention, and care (DiAngelo, 2006).

Furthermore, all class participants may also be taught the joint responsibility for validating their peers and co-creating a welcoming and conducive learning atmosphere. In this respect, effective oral participation exceeds just oral expression to encompass leadership skills that help promote inclusivity in the classroom. Even silent, nonverbal confirmation—which, as Sinichi reported, can be as simple as a head nod—can be effective means of affirming the speaker. Therefore, the Eurocentric mode of communication—talk—should not be seen as the only standard for oral participation in genuine intercultural dialogue.

In the findings, the non-normative treatment of the JIS reveal a classroom atmosphere that lacks intercultural sensitivity (also see DiAngelo, 2006; Ha & Li, 2014). While Hiroto and others reported being ridiculed for speaking English with an accent, Rie experienced outright discrimination, ". . . when I asked him, '*Why do you only talk to my friends but not me?'* He said, '*You're not White. You're not American . . . . You are yellow.'* I thought, they treat foreigners harshly." Such overt discrimination forces the JIS to retreat into silence to avoid further negative emotional repercussions (*cf.* Takashi's comparison of his retreat to silence as self-defense in the Lack of Confidence Section). As Rie confessed, "I don't really want to say that I'm an international student." In short, non-affirmations, either overt or covert, discourage the JIS from speaking up in the classrooms.

Having friends in class

The JIS reported that they rarely have friends they can count on for support in class. Sayuri explained, "To start with, we don't even have friends from our home country, especially when we study abroad for a short period of time." Although the JIS frequently initiate conversations with their American peers before and after class, the latter rarely venture beyond small talk with their JIS counterparts. This "superficial thing," as Takashi puts it, hinders the development of meaningful friendships that can

support JIS growth and learning in the classroom. The brief exchanges typically cover class assignments and weekend plans. According to Ryuta, "Rarely, if we get really close, we sometimes go for lunch on campus, but that's it." Having friends, however, encourages JIS classroom participation. In the words of Takuya, having friends in the class is like having "a system that allows me to make mistakes [when speaking up] in the class." Hiroto, too, thought it helps to have a friend in class, "I think it's more comfortable if I've at least a friend in the class or when I give presentations. They understand me."

The finding that American students interact superficially with the JIS agrees with previous reports that the average American college student lacks the intercultural competence to make friends with people from different cultural backgrounds (Hendrix & Wilson, 2014). Despite JIS' initiatives, the American peers were unable to utilize the opportunities available in the classroom to develop meaningful relationships that engender deep intercultural learning. Akiho noted, "The Americans aren't going to be interested in us, even if we can't get along well with them. . ." Thus, common American stereotypes of the Japanese impede their involvement with the JIS, as Sayuri explained:

> The Americans say, like "She is shy, so we can just ignore her." . . . and so there are people [the JIS] who could not join any group. When the Americans were talking about something interesting, they are like, "You are shy. You should just stay here. We will go over there."

In fact, the participants in this study demonstrated that they were highly motivated to participate in classroom discussions and take risks in reaching out to their American peers. However, they found the reciprocity from their hosts wanting.

In many ways, the American students and instructors in higher education are the cultural ambassadors for their country. Therefore, they are ethically obliged to support and expand the efforts to build bridges with global partners. Since diversity is already a feature of American higher education, instructors and students should be encouraged to purposefully tap into and benefit from the available cultural wealth in order to benefit all involved in the learning community. What is more, the skills required to network with people from different cultures should be promoted as important assets in learning. In short, educators should consider promoting interpersonal and intercultural involvement in the globalized higher education system.

Engaging in meaningful dialogue.

Finally, the findings of this study emphasize the necessity of diversifying discussion topics in classroom conversation. The JIS reported that their lack of contextual understanding of local current issues impedes their active engagement in classroom discussions. To compensate, they seek creative outlets to enhance their local knowledge so that they can contribute meaningfully in conversations with their American counterparts. For example, Sinichi described his approach to dealing with mainstream American conversational topics:

> . . . people often talk about movies . . . . That's why I try to watch a lot of movies so that I can expand on the topics to talk about. . . . I'm working hard to make conversations like this.

Sinichi's effort shows he has a highly nuanced understanding of the American classroom discourse. However, without a reciprocal American desire to learn from the JIS, meaningful intercultural exchange is impossible.

Even when classroom discussion could use international perspectives, the opportunity is not pursued consciously and effectively by the American students and instructors (e.g., see Yep, 2014). Ryuta elaborated, ". . . what I'm learning now is ethics in American journalism . . . so it excludes the Japanese perspective. In Japan, I think different organizations establish the ethics codes, and it's way too different [from the American], so they don't really ask about my perspective . . . ." Consequently, the opportunity for meaningful intercultural exchange that could benefit the classroom community is not explored.

In fact, the teaching of any national cultural perspective divorced from other cultural influences should be obsolete in the current internationalized higher education environment. If the pursuit of provincialism remains the focus of the curriculum and class discussion, then current efforts to recruit international scholars to enhance diversity in higher education will come to naught. Therefore, educators should consider incorporating international perspectives in college classroom discussions, since the goal of higher education is to create a globalized learning community.

Although the findings reveal provincialism among American students and instructors (see the Being Treated Differently section), our suggestion that classroom discussion topics include international perspectives is not an endorsement of the JIS as experts representing the Japanese culture. On the contrary, Akiho, Sayuri, Sinichi, and Takuya decried the practice of asking awkward and inappropriate questions meant to confirm the Eurocentric, exotic view of the Japanese culture and people. However, Sinichi acknowledged the tension inherent in wanting to be accepted as an equal member of the U.S. classroom community while refusing to conform to the American stereotype of the JIS:

> I feel like I'm a Japanese representative, haha, or I represent Asia, so if possible . . . when Japanese students are participating in the class, I think they [instructors] want to hear opinions that are different from those of American students, so I try hard to speak up . . .

Generally, engaging participants in meaningful intercultural dialogue requires the effective incorporation of international and intercultural knowledge in the higher education curriculum. Based on the JIS' classroom experience—their desire for greater speaking opportunities and more meaningful friendships with their American counterparts—the results of this study provide a possible path for U.S. higher education to follow to enhance intercultural sensitivity in teaching and learning. In conclusion, the shift in U.S. higher education toward greater intercultural inclusivity and meaningful internationalization is essential. Otherwise, the defense of U.S. higher education as world class becomes an exercise in futility. More importantly, the results of this study urge the American academic community to show reciprocal

respect and cordiality to their international partners in learning to enhance genuine intercultural dialogue (Lee, 2016).

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Contact email: EeLin.Lee@wwu.edu

A Study on the Construction of Vocational High School Principals' Leadership Effectiveness Indicators-Based on Competing Values Framework

Tsai-Feng Cheng, National Kaohsiung Normal University, Taiwan
Huei-Chun Wu, Kaohsiung Medical University, Taiwan

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Abstract
The main purposes of this study were to integrate the theories and researches in leadership effectiveness based on competing values framework, and construct the vocational high school principals' leadership effectiveness indicators; to verify reliability and validity of the indicator questionnaire constructed in this study; and to find out the importance and current situation of vocational high school staff's perception to principals' competing values effectiveness. There were 50 public and private vocational high schools in Taiwan tested by questionnaire in this study. 9 educational staffs were randomly selected in each school, so there are 450 subjects in total. 421 questionnaires were received and 415 of them are valid. The rate of validity is 92.2%. Statistical methods used in this study are descriptive statistic, one-way analysis of variance and linear structural equation model.
The main findings in this study are as follows: 1. vocational high school principals' leadership effectiveness constructed in this study has 4 domains, 12 dimensions and 45 assessing indicators. 2. The internal consistency of the reliability in the questionnaire of this study reaches stability, and has good construct validity. 3. The general performance of principals' leadership effectiveness is above average, and among all of the leadership effectiveness, rational goal has the best performance. Besides, principal's external leadership effectiveness is better than internal leadership effectiveness.

Keywords: competing values framework, leadership effectiveness, competing values leadership effectiveness

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Motive and Purpose

Principal is the soul of the school. The leadership roles which principal play are very important in school development (Bolanle, 2013; Herrera, 2010; Sergiovanni, 1995). As the saying goes, "As is the principal so is the school", and it's also believed that good schools aren't necessarily to have bad principals and bad schools aren't necessarily to have good principals (Davis & Thomas, 1989; DuFour & Mattos, 2013). Fowler (1991) and The Wallance Foundation (2013) also suggested that where there is an effective school, there is an effective principal. So principals should show their leadership effectiveness and pursue exquisite and excellent education to suit the need of schools' reform.

Because of the effect of globalization, knowledge-based economy and sub-replacement fertility, there is a tremendous change in educational environment. This causes not only developing countries to have fewer needs of non-skill employees but also Taiwan to have fewer needs of vocational high school students. So the dramatically decrease of recruitment rate in vocational high schools and the crowding out effect from senior high schools to vocational high schools are testing the ability of vocational high school leaders.

Though the theories and researches of leadership keep bringing forth the new through the old, the definition and assessing indicators which researchers apply in the research of leadership effectiveness assessment are based on their own subjective judgement and select the assessing indicators of effectiveness with the fitness of the researches (Yukl, 2002). There is no full and complete tool of leadership effectiveness assessing indicators which makes many different criteria appear when assessing leadership effectiveness.

There is a paradoxical situation that many opposite viewpoints exist at the same time (Denison, Hooijberg, & Quinn, 1995; Yu & Wu, 2009). Yet, in the research or implementation related to organizational issue, schismogenic thinking, which is not enough to cope with the complicated real situation in organizations, is used. The main function of competing values framework is to get rid of linear thinking and single value, and to show many opposite thinking patterns and ideas (O' Neill & Quinn, 1993). Quinn, Bright, Faerman, Thompson, and McGrath (2015) suggested that competing values framework has some kinds of characteristics to balance different or even opposite values and to deal with every phenomenon in organizations effectively and these make it a suitable theory base for the construction of principals' leadership effectiveness indicators. According to above, competing values framework is applied as a theory base in this study, and related theories and empirical researches are integrated to construct vocational high school principal's leadership effectiveness indicators which are used to assess principals' leadership effectiveness. Then we can understand the current situation of principals' leadership effectiveness and use the indicators as guidelines in self-development and promotion of leadership effectiveness for principals.

Literature Review

1. The basic concept of competing values framework

Competing values framework (CVF) is a meta theory. It originates from competing

values model, and was used to integrate the main indicators in organizational effectiveness at first (Cameron & Quinn, 1999), and as the organizational effectiveness dimension and the test of value. Quinn and Rohrbaugh (1983) integrated the organizational theories and the researchers' viewpoints of effectiveness indicators, then framed a various recognition system and suggested three values of continuous spatial model in organization which includes that the focus of the organization is internal microcosmic or external macroscopic; the focus of organizational structure is stability or flexibility; and organization's methods and purpose. These kinds of competing values are seen as a dilemma in the literature of organizational behavior. Through the competition three values, two orthogonal rotations can be structured. The two ends of horizontal axis are internal-external, while the two ends of vertical axis are flexibility-control. Four models of organizational analyses are integrated and the methods and goals applied in this model are shown in the four quadrants which are formed by these axes integrate. The content and theoretical model of competing values framework are shown in figure 1 (Lavine, 2014; Quinn & McGrath, 1985):

(1) Rational goal model: Situated on lower-right quadrant, it emphasizes task-based leadership effectiveness. The organizational values of this model are competitiveness and productivity.

(2) Open systems model: Situated on upper-right quadrant, it emphasizes adaption-based leadership effectiveness. Its main goals are adaption, growth, external supports and resources acquisition, and it puts emphasis on flexibility and external focus, such as innovation and creativity.

(3) Human relations model: Situated on upper-left quadrant, it emphasizes trust and belonging-based leadership effectiveness. Its main goals are cohesion, participation, morale and communication, and it puts emphasis on flexibility and internal focus.
(4) Internal process model: Situated on lower-left quadrant, it emphasizes stability and control-based leadership effectiveness. The individual is given a certain role and is expected to follow the rules.

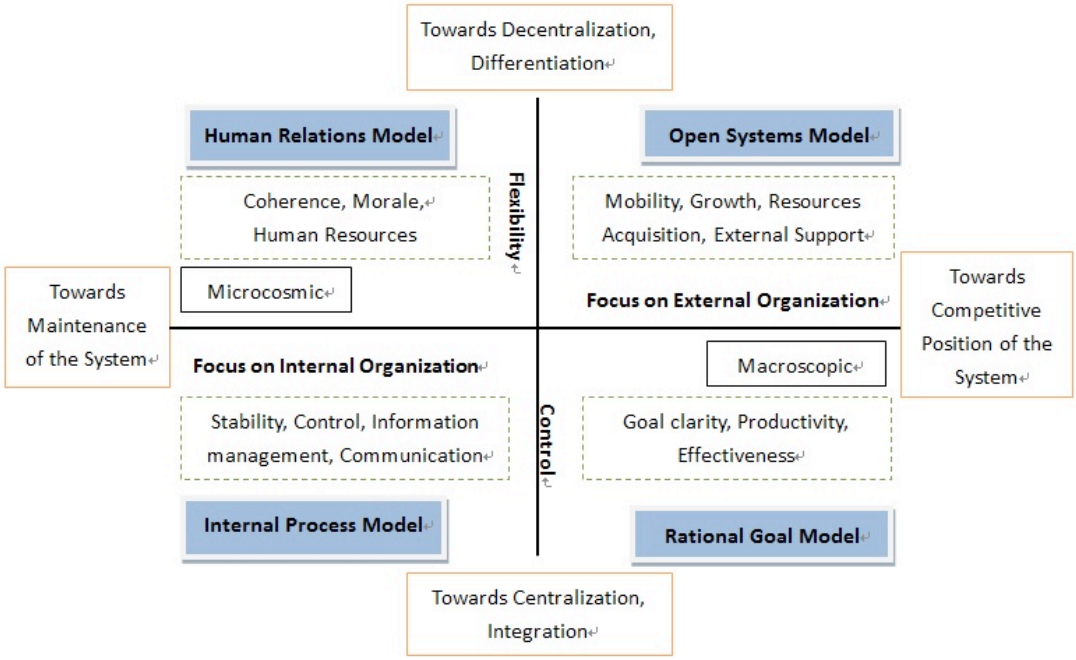

Figure 1: The organization theory model of competing values framework

2. The meaning of leadership effectiveness

Yukl (2009) believed that researchers usually define the meaning of leadership on their personal viewpoints and their interests, so the concept of leadership effectiveness is diverse. Some researchers (Denison, Hooijberg, & Quinn, 1995; Wan, Ghulam, & Muhammad, 2011) suggested that when the environment of organization becomes complicated, it is quite difficult to define the suitable leadership behaviors suitable for all the circumstances. But it's sure that principals' leadership roles and behaviors have close relationship with school effectiveness (Alammar, 2015).

In this study, competing values framework is used as a base to define leadership effectiveness as the process and result of the leader to consider the circumstances of internal and external organization and use the leadership strategy to improve the attainment of the organizational goal and organizational competing advantage (rational goal), to emphasize the adaption of organizational innovation and respond to external needs (open systems), to better the satisfaction of members in the organization and human resources (human relations), and to maintain the stable operation of the organization and good internal integration (internal process).

3. The assessing dimensions of competing values leadership effectiveness

Hooijberg and Denison (2002) used competing values framework as the base and suggested the 4 dimensions of leadership effectiveness, which includes task, adaption, participation and consistency. Lynch (2000) also used competing values framework to deduce the indicators of assessing leadership effectiveness, which is shown in Table 1, based on abilities that every leadership role should require. From the table, we can see that there are16 indicators of leadership effectiveness in 8 functions of leadership roles constructed by competing values framework. The accomplishment of leader's effectiveness can be assessed through these indicators.

Domain	Role	Function of role	Indicators of Effectiveness
Rational Goal	Producer Guide	Productivity Goal Clarity	Goal Accomplishment Work Compliment Giving Direction Accepting Power
Open Systems	Innovator Broker	Adaption Resources Acquisition	Accepting New Task Creativity and Agility Affecting Budget Making Up for Loss
Human Relations	Assistant Mentor	Conflict Solving Human Development	Cohesion Decreasing Complaint Developing Members Openness
Internal Process	Coordinator Supervisor	Stability Assessment and Evaluation	Organizing Control Obedience Analysis

Table 1: The indicators of competing values framework leadership effectiveness

This study completely constructs the indicators of vocational high school principals' leadership effectiveness based on competing values framework. After referring to related literature (Bolanle, 2013; .Management Research Group, 2013; Quinn, et al., 2015; Wan, Ghulam, & Muhammad, 2011), and integrating related studies of leadership effectiveness through 4 organizational models of competing values framework, 4 domains (rational goal, open systems, human relations and internal process) were formed. There are 3 dimensions in each domain, so there are 12 dimensions (confirming direction, rational promotion, goal achievement; external relationship, innovation transcendence, change adaption; taking advice widely, harmonious consensus, stratified morale; internal integration, work assignment, evaluation and feedback). Each dimension has 4 topics, so there are 48 indicators of principals' competing values leadership effectiveness.

Research Method

All 156 public and private vocational high schools in Taiwan are the population in this study. Among them, 50 schools were randomly selected. 9 people, including principal, chief, director, homeroom teacher, full-time teacher and administrative staff, were randomly selected in each school, so there are total 450 school educational staffs that were randomly selected to conduct the questionnaire. 421 questionnaires were received and 415 of them are valid. The rate of validity is 92.2%.

48 topics in this research tool was analyzed, and the critical ratios are all ≧3.00. It shows that the topics in this scale all have good discrimination. After modifying, the correlation coefficient between topics and total score is among .681and .848. And after the topics are deleted, α factor in the scale is among .939 and .959. The overall result shows that this scale has good internal consistency, so everything was retained to have validity analysis. Factor loadings which are more than .70 were retained in this study, so 3 topics (topic number 15, 28, 44) were deleted. The factor loadings, eigenvalue and explained variation of every domain, dimension and topic are shown in table 2. The good validity and high internal consistency of this research tool can be seen in table 2.

Domain	Dimension	Amount of Topic	Factor Loadings	Explained Variation	Cumulative Explained Variation	Cronbach α
A. Rational Goal	Rational Promotion	4	.785~.826	61.505	70.510	.948
	Goal Accomplishment	4	.808~.823	5.416		
	Confirming Direction	3	.706~.978	3.590		
B. Open Systems	External Relationship	4	.781~.916	61.582	72.456	.945
	Innovation Transcendence	4	.770~.896	7.437		
	Change Adaption	4	.742~.880	3.437		
C. Human Relations	Harmonious Consensus	4	.777~.897	65.104	74.449	.954
	Satisfied Morale	4	.824~.914	4.955		
	Taking Advice Widely	3	.760~.846	4.390		

D. Internal Process	Internal Integration	4	.818~.876	68.530	76.591	.961
	Evaluation and Feedback	4	.839~.862	5.082		
	Work Assignment	3	.712~.837	2.980		

Table 2: The list of factor analysis and reliability analysis of vocational high school principal leadership effectiveness questionnaire

Result and Discussion

1. Confirmatory factor analysis of the importance of vocational high school principals' competing values leadership effectiveness indicators

(1) Overall goodness-of-fit test of test model

When goodness-of-fit test of second order confirmatory factor analysis model was conducted on 4 domains in the scale of vocational high school principals' leadership effectiveness indicators, it was found that most of goodness-of-fit indicators of the 4 domains are bigger than or close to 1, but there are few numerals not reaching the standard. So second modification was conducted, and the situations after second modification are shown in figure 2 to figure 5.

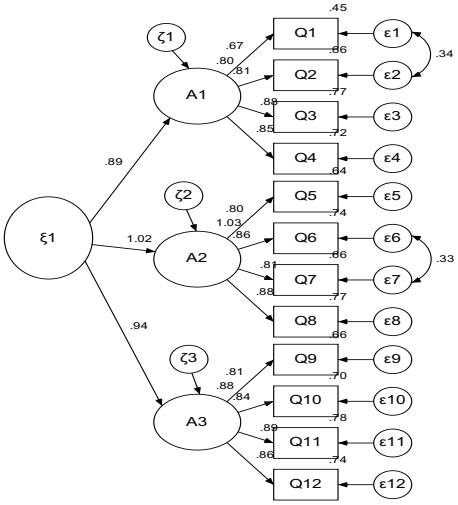

Figure 2: The path diagram and overall goodness-of-fit of open systems indicators modified by second order factor analysi

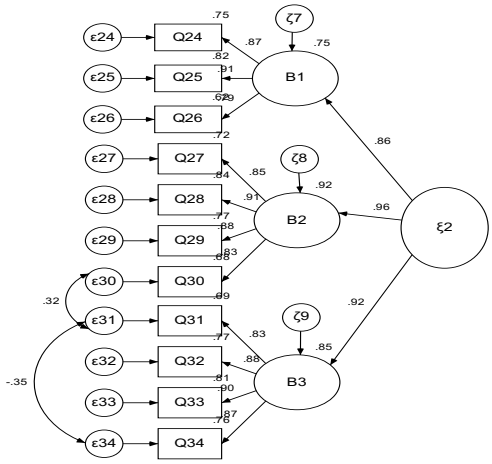

Figure 3: The path diagram and overall goodness-of-fit of human relations indicators modified by second order factor analysis

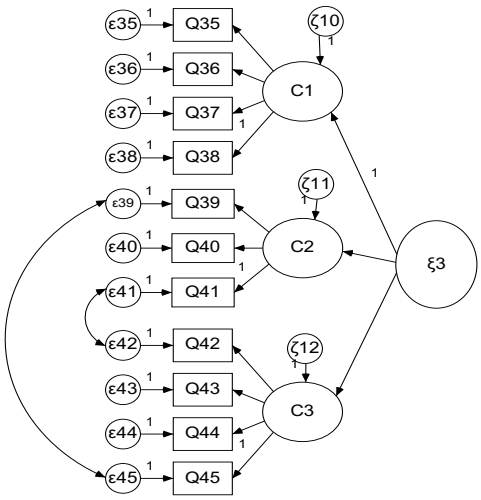

Figure 4: The path diagram and overall goodness-of-fit of internal process indicators modified by second order factor analysis

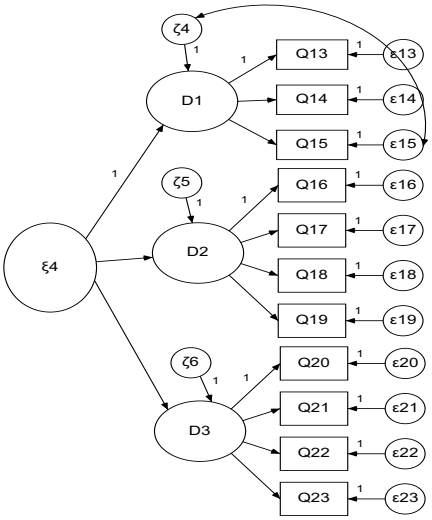

Figure 5: The path diagram and overall goodness-of-fit of rational goal indicators modified by second order factor analysis

From the goodness-of-fit indicators of hypothesis mode shown by the 4 domains in this study, the goodness-of-fit index of open systems, human relations, internal process and rational goal modified by second order factor analysis are shown in table 3. The evaluation of goodness-of-fit is good, and has ideal external quality. Overall, the questionnaire used in this study also has good construct validity.

Fit Index	Goodness-of-fit Index	Result of the Modified Model in This Study				Conclusion
		Open Systems	Human relations	Internal Process	Rational Goal	
X2 (Chi-square)	p＞0.05	177.505 P=.000	169.161 P=.000	167.545 P=.000	155.873 P=.000	It's easily affected by sample size.
GFI	＞0.9	.939	.938	.937	.939	This mode has good goodness-of-fit.
SRMR	≦0.05	.028	.028	.024	.024	This mode has good goodness-of-fit.
RMSEA	≦0.05	.076	.086	.086	.090	This mode has fair goodness-of-fit.
AGFI	＞0.9	.903	.894	.893	.908	This mode has great goodness-of-fit.
CFI	＞0.9	.973	.972	.974	.974	This mode has good goodness-of-fit.
NFI	＞0.9	.963	.964	.966	.965	This mode has good goodness-of-fit.
TLI(NNFI)	＞0.9	.964	.960	.963	.964	This mode has good goodness-of-fit.
PNFI	＞0.5	.715	.684	.685	.702	This mode has good goodness-of-fit.
PGFI	＞0.5	.590	.554	.554	.569	This mode has good goodness-of-fit.

Table 3: The importance of goodness-of-fit for the model of construction of vocational high school principals' competing values leadership effectiveness indicators

(2) Internal goodness-of-fit test of assessing model

The assessing model was evaluated through individual item reliability, composite reliability (CR) of latent variable and variance extracted (VE) of latent variable in this study. All the factor loadings of individual item in the importance of construction of vocational high school principals' leadership effectiveness indicators are between 0.671 and 0.914. All of them are above the standard, 0.5, and have statistical significance. About the CR of latent variable, the CR of the first order latent variable are between 0.872 and 0.971, and reach the standard, 0.6. The CR of the second order latent variables, ξ1, ξ2, ξ3 and ξ4 are 0.927, 0.938, 0.933 and 0.864, and they are all above the standard, 0.6. This shows the internal consistency of the model in this study is good. As for the VE of latent variable, the VE of first order latent variable are between 0.651 and 0.919. The VE of the second latent variables, ξ 1, ξ 2, ξ 3 and ξ 4 are 0.809, 0.835, 0.823 and 0.864, and they are all above the standard, 0.5. This shows that the internal consistency of the model in this study reaches stability. Thus, it is proved that the assessing indicators of vocational high school principals' leadership effectiveness constructed in this study have good reliability and validity.

2. The current situation and the analysis of variances of vocational high school principals' competing values leadership effectiveness

The mean and standard deviation of the whole and every dimension of vocational high school principals' competing values leadership effectiveness are as shown in table 4. As for overall principals' leadership effectiveness, the mean is 4.74 (6-point scale) which shows that vocational high school principals' leadership effectiveness is above average. After the repeated measures analysis of variance test and post hoc comparison were conducted, it was found that the order of the domains form high to low is rational goal, open systems, internal process and human relations. The highest effectiveness of principals' leadership effectiveness is rational goal, while human relations is the lowest, that is, the school staff agree that principals' performances in the effectiveness of school goal achievement is the best, but human interactions between colleagues and satisfaction of members' needs should be improved.

In the rational goal and open systems which are the highest in the 4 leadership effectiveness, "exterior" is the common characteristic that is emphasized in both of them, that is to say, external effectiveness is better than internal effectiveness in the leadership effectiveness shown by vocational principals. Cheng, T. F., & Wu, H. C. (2009) used primary school principals as subjects to conduct the study, and it was found that primary school principals have higher performances in the effectiveness of rational goal and internal process. The reason of it may be the different characteristics of primary school and vocational high school. Vocational high school has heavier stress from performance competition and external resources development, so the performances of rational goal and open systems are higher. However, the result of this study is the same with Cheng, T. F's other study (Cheng, T. F., 2010).

As for each dimension of leadership effectiveness, vocational high school principals has higher performances on confirming school's direction, rational promotion and goal achievement compared with other dimensions of effectiveness. The mean of overall competing values leadership effectiveness is 4.74, and the mean of every

dimension is between 4.66 and 4.80. To sum up, most vocational high school principals can balance with every dimension of leadership effectiveness into consideration and most of them fit the two core beliefs, “altitude” and “balance”, promoted in competing values framework.

Competing Values Leadership Effectiveness	Mean	Standard Deviation	Amount of the Topic	Average Score of Each topic	F	Post Hoc Comparison
A1. External Relationship	19.21	3.75	4	4.80		
A2. Innovation Transcendence	18.88	3.99	4	4.72	19.071***	A1>A3>A2
A3. Change Adaption	19.09	3.86	4	4.77		
B1. Taking Advice Widely	14.00	3.21	3	4.67		
B2. Harmonious Consensus	18.98	4.19	4	4.75	62.637***	B2>B1>B3
B3. Satisfied Morale	18.29	4.37	4	4.57		
C1. Internal Integration	18.65	4.27	4	4.66		
C2. Work Assignment	14.52	2.87	3	4.84	76.001***	C2>C3>C1
C3. Evaluation and Feedback	19.00	4.09	4	4.75		
D1. Confirming Direction	14.58	2.94	4	4.86		
D2. Rational Promotion	19.02	3.93	3	4.75	32.746***	D1>D3>D2
D3. Goal Achievement	19.25	3.86	4	4.81		
A. Overall Open Systems	57.17	11.09	12	4.76		
B. Overall Human Relations	51.28	11.24	11	4.66	21.779***	D>A>C>B
C. Overall Internal Process	52.17	10.76	11	4.74		
D. Overall Rational Goal	52.85	10.30	11	4.80		

Table 4: The summary of mean and standard deviation of the current situation in principals competing values leadership effectiveness (N=1298)

Conclusion and Suggestion

1. Conclusion

(1) The reliability of the competing values leadership effectiveness constructed in this study reaches stability in internal consistency, and has good constructed validity. The research tool “questionnaire of vocational school principals’ competing values leadership effectiveness” was tested by item analysis, exploratory factor analysis and internal consistency α test, and all the original 48 topics reach the level of significant and have good discrimination and internal consistency. After tested by validity analysis, 45 topics have good validity.

Then, the research tool was tested by SEM confirmatory factor analysis. The result of overall goodness-of-fit assessing model shows that the tool has ideal external quality, so it has good constructed validity. And from the result of internal goodness-of-fit test, we can understand that the tool fits evaluation standard, which shows that the internal consistency reaches stability.

(2) Overall vocational principal competing values leadership effectiveness is above average. Rational goal of the leadership effectiveness is the highest and "external leadership effectiveness" is better than "internal leadership effectiveness".
Overall vocational principals' competing values leadership effectiveness is above average. The order of every domain from high to low is rational goal, open systems, internal process and human relations. Because both rational goal and open systems belong to the trend which emphasizes organizational exterior, external effectiveness in the overall leadership effectiveness so they have higher performances compared with others. But, most of them fit the competing values framework characteristics, "altitude" and "balance".

2. Suggestion
(1) The educational administration can provide proper plans of profession development courses for pre or on-the-job principals based on the vocational high school principals' competing values leadership effectiveness indicators constructed in this study.
In the postmodern society, change is common. Thus, the development of profession should be regarded as a continuous process because lifelong education is the permanent basis for professionals. The opportunities and methods of profession development for principals has increased a lot in recent years, but there are few profession development courses which use the leadership roles as the core concept. The indicators of competing values leadership roles constructed in this study are based on ability, so it can refine profession development courses for principals if the indicators are used as the concept.

(2) National high school principals can use the indicators of leadership roles constructed in this study to conduct self-examination.
"Principals' competing values leadership effectiveness indicators" developed in this study are through the integration and test of important theories and empirical researches and they are the perception response of vocational high school educational staff. Principals can use this tool to conduct self-examination of leadership roles. Then it will assist principals to understand their performances in each leadership effectiveness and provide the help of modifying or strengthening the performances of leadership.

(3) Keep strengthening vocational high school principals' leadership effectiveness, especially in improvement of human relations.
It was found in this study that the performances of vocational high school principals' leadership effectiveness are above average, but there's still a space for improvement, especially in "human relations". To improve every dimension of the vocational high school principals' competing values leadership effectiveness, principals should notice that the members in the school are supposed to be encouraged not controlled. Members' encouragement of challenge and cohesion of morale should be paid attention to and they should be encouraged to share and to participate in the decision.

(4) Vocational high school principals should improve conclusive leadership effectiveness, and apply diverse content actively.
It was found in this study that the current vocational high school leadership effectiveness has the most performances on “exterior”, which belongs to the trend of external school and control in rational goal. Thus, in order to promote leadership effectiveness and improve schools’ organizational effectiveness, principals should modify the traditional unified leadership roles, understand the paradoxical needs in the organization, and apply the leadership behaviors that can balance with every dimension with an inclusive idea and action.

(5) Vocational high school principals can select which leadership effectiveness indicators to improve based on schools’ situation and characteristics.
There are 45 vocational high school competing values leadership effectiveness indicators constructed in this study. If vocational high school principals can’t apply every indicator at once, the characteristics of principals, the needs of school and the situation of school development can be taken into consideration to select the needed indicators to fit the practical application.

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Contact email: t2151@nknucc.nknu.edu.tw

The Role of Indonesian School in Singapore in Developing Students' Patriotic Character

Novitasari, Indonesia University of Education, Indonesia
Iim Siti Masyitoh, Indonesia University of Education, Indonesia

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Abstract
Globalization brings changes in many aspects of Indonesian life including some Indonesian residents' life who lived in foreign countries such as Singapore and Malaysia. Singapore is a meeting place of various foreign cultures directly or indirectly. The clash because the globalization and the foreign cultures are feared would affect the nationalism of Indonesian in Singapore, especially the school children. The school is one of the parties which plays a role in implementing character education so that children have strong patriotic spirit. Therefore, this study aimed at identifying the role of Indonesian School in Singapore in developing students' patriotism. The method used in this research was a qualitative method. Data obtained through observation, interviews, and documentation. The findings indicate that Indonesian School in Singapore had a role in cultivating the patriotic soul of students through some methods—the integration of the school culture, the integration of subjects, and various self-development activities. The study recommending that: 1) The methods applied by the school in improving the students' patriotic character can be used as a positive example in the implementation of character education; 2) The role of the school needs to be supported by the cooperation of the student's family and the government because its succeed can bring some positive impacts for both Indonesia and Singapore.

Keywords: Indonesian School in Singapore, Patriotism, Character Education

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Introduction

Globalization has been accompanied by some advances in science and technology. The uncontrolled influences of the global culture can make the Indonesian people drowned in the globalization process, especially for those who live abroad. They confront many foreign cultures, either directly or indirectly. They face a variety of foreign cultures indirectly through telecommunications media. Various foreign cultures are directly faced in the abroad communities such as some communities faced in Singapore.

Singapore is a multicultural country that has diverse ethnics, among others: Chinese, Indonesian people, Indian people, Europeans, and other ethnic immigrants (Sawega, 2010). Various foreign cultures affect Indonesian people living in Singapore through a crisis identity if they do not have a strong patriotism. The crisis tends to affect the young Indonesian. Froebel in Syaodih (2005, p. 3) suggests that childhood is often seen as a golden age for education. Childhood is a fundamental phase of the development of an individual. In the phase of children development, there are enormous opportunities for the creation and the personal development. Therefore, it is necessary to develop a child's character to have the patriotism character.

According to Latif, the character is "a basic personality that consists of moral integrity, toughness, and unique potentials shaped by habits and culture where it is originated from" (Djiwandono, 2016, p. 154). A good character includes three psychological processes—knowing the good, desiring the good, and doing the good (Lickona, 2015, p. 82). The substance of the three psychological processes leads to the moral life and moral maturity of an individual (Winataputra, 2012, p. 46). McCain (2009, p. 78) explains that loyalty is deeper than the flag or singing the song of Heroism at sporting events. Partisanship is known that each of us is a small part of a greater struggle than ourselves—a small part, but the part that is given to us to show off. Thus, character development needs efforts.

The efforts to develop patriotism involve the role of the family, the community, and the school. However, the education in the family is less than optimal because of several reasons, among others: the bustle and the activity of parents are relatively high; some parents do not have to understand for educating children with character; some parents are less able to control their children from the effects of interaction with the surrounding environment and the influence of the electronic media (Zubaedi, 2011). In addition, non-formal education involving community participation is less than optimal because Singapore has some different cultures from Indonesia. Moeis (2008) suggests that in the process of contact among the elements of the cultures occurs the interplay effort (interaction) for each other. This interaction weakens their own culture if they do not have the strong patriotic character. Therefore, the school's role is indispensable in developing students' patriotism.

Character development can be conducted in schools in two-item ways, namely: school curriculum development and integration in the school culture. *First*, character development through integration into the school curriculum is shown in Table 1.

No.	Implementation of Character Education	Forms of Implementation Activities
1.	Integration into existing subjects	Develop syllabi and lesson plans on the existing competence in accordance with the value applied.
2.	Subjects in the local content (*Muatan lokal / Mulok*)	Defined by schools/areas. Competencies are developed by the school/area.
3.	Self-development activities	a. Civilizing and habituation 1) Conditioning 2) Routine 3) The spontaneity 4) Modelling 5) Programmed Activity b. Extracurricular Scout; red Cross teen; Honesty canteen; school health Unit; teenager's scientific paper; Sports; Art; intra-school students organization and so on. c. Counseling is the provision of services for children who are having problems.

Table 1. Character development through integration into the school curriculum
Source: MONE (2011, p. 14; Wibowo, 2012, p. 72).

Second, the character development through the integration of the school culture is described by Wibowo. He suggests that the values development of the character education in the school culture is conducted by principals, teachers, counselors, and administrative staff when they communicate with students and uses the school facilities (2012, p. 93). Thus, Indonesian schools are built in some countries for any reason. The Indonesian government builds some schools in several countries to facilitate the children of Indonesia. Indonesian schools, which are located abroad, are known as the Indonesian School of Foreign Affairs *(Sekolah Indonesia Luar Negeri / SILN)*. The schools are devoted to Indonesian children who are abroad. SILN uses teaching system that follows the curriculum applied in Indonesia and combine with the curriculum applied in the respective countries (Disdikpora, 2015). Indonesian School in Singapore is known as the Indonesian School in Singapore *(Sekolah Indonesia Singapura / SIS)*. Therefore, the role of SIS is required to develop Indonesian students' patriotism who live in Singapore.

Method

The research conducted at the Indonesian School in Singapore (SIS), located in 20A Siglap Road, Singapore. The study used a qualitative approach. Creswell (2014) says that a qualitative approach is the best way if there is a concept or phenomenon that needs to be understood but not much research talks about it. This study aimed to analyze a detailed comprehension of the SIS condition in developing students' patriotic spirit. The issue is a phenomenon that has not been investigated yet by many researchers before. The researcher observed a single phenomenon that appealed to researcher and stated the phenomenon in a purposed statement.

The research used the case study method because it is only focused on a unit—the role of Indonesian School in Singapore. Data were obtained through observation, interviews, and documentation. The researcher observed the role of SIS in developing students' patriotic character. Besides, interviews were conducted with some participants—the principle, the vice-principals, the Civics teachers, the Social Science teachers and the students. In addition, documentation obtained from the official school documents which relate to the development of students patriotism. Moreover, Miles and Huberman's analysis model was used as the data analysis technique in the research. The technique includes data collection, data reduction, data display and the drawing conclusion/verification.

Findings and Discussions

The Objectives of the SIS Construction

According to the history of SIS described on the SIS website (2015), there are four purposes of the SIS construction. First, SIS is a school that is of, by, and for the children of Indonesia. SIS aims to provide a national education to Indonesian children who are residing in Singapore. The learning is a part of the national education system which is held in Indonesia. Second, SIS aims to foster a sense of belonging to one's country. National education provision is intended that all Indonesian children in Singapore are not unleashed senses of their nationality, their soul, and their personality as a nation of Indonesia. Third, SIS becomes a place of education for the national children. SIS functions to be a place of education for the sons/daughters of the Indonesian Embassy staff, corporate institutions, and Private Corporation in Singapore. SIS provides education to them to be sustained if they return to Indonesia or vice versa. Fourth, SIS is to be a forum for the creation and dissemination of the culture of Indonesia. SIS is a tool to introduce, distribute and enrich the Indonesian culture in Singapore. Therefore, SIS has to develop students' patriotic character based on the objectives.

The Role of SIS in Developing Students' Patriotism

Indonesian School in Singapore has a role in cultivating the patriotic soul of students through two methods—the integration of the school culture and the integration of the school curriculum. *First*, developing students' patriotic character in SIS is conducted by integrating into the school culture. Although each school has a school culture respectively, SIS carries out its own school culture. According to the MONE (2010, p. 19; Wibowo, 2012, p. 93), "a school culture is the atmosphere of the school where learners interact well with peers, teachers cooperate with teachers, counsellors interrelate each other, administrative clerks interact with each other, and between members of the group. The school culture is bound by various rules, norms, morals and ethics that applied in the school". An example of a school culture in SIS is a traditional oriental culture to interact, communicate and behave. Teachers, students, and employees as the school community, are accustomed to using Indonesian in conversation at school. In addition, the students are also accustomed to dressing in accordance with oriental custom.

Second, the students' patriotic character is developed through the integration of the school curriculum. There are two types of the integration of the school curriculum at SIS—integrating into subjects and integrating into self-development activities. The first type is done by integrating character education into subjects without creating a

new subject. Kurniawan (2013, p. 110) says that the values of the characters which are to be developed are included in the syllabus and the lesson plans. Civics teachers and art and culture teachers in the school integrate the value of patriotism into the learning activities in the classroom. Similarly, teachers of other subjects such as social studies, history, and counseling, the Indonesian language indirectly integrate the value of patriotism in learning activities in the classroom. Therefore, every teacher is expected to become a competent teacher to educate their students' character. Kurniawan (2013, p. 110) explains that teaching character values is not only in the cognitive aspects but also in the affective aspect so that learners can internalize and connect with the real experience in everyday life. Thus, principally, the development of patriotic character is not only the subject of learning but it is also integrated into the subjects.

The second type of the integration of the school curriculum is achieved by integrating into the various activities of the self-development activities. The program of self-development activities in the school consists of routine activities, spontaneous activities, exemplary, and conditioning. The routine includes a flag-raising ceremony every Monday and every big day ceremony, singing the national anthem, and the flag rising in the morning. In addition, the school also held the cultural recognition with some countries through cooperating with local schools or foreign schools. The introduction of the culture is carried out by displaying their own culture. The Indonesian culture displayed by students including traditional music and traditional dances. Furthermore, spontaneous activities are carried out by teachers, such as giving advice to students. For example, teachers advise students who speak Indonesian incorrectly. In addition, teachers teach the students in order to have the capability to speak Indonesian fluently. Besides, exemplary is conducted through the attitudes of teachers. For instance, a teacher actively attends the flag ceremony with wisdom so that students could follow the teachers' behavior. Then, conditioning activities are conducted by the school so that it reflects life filled with values and national characters. SIS has been naming the classroom with the names of regions in Indonesia, for example, one class for learning activities named Central Java. Moreover, every classroom has assembled the pairs of pictures of the president and vice president as well as the eagle as a symbol of the Indonesian state. Besides, there is another conditioning activity such as the red and white flag always fly in the school. In addition, school uniforms used by the students are conditioned so that students are always proud to be the Indonesian. Students will feel that they wear the same school uniform with students in Indonesia generally. Every Monday, they wear white-white. On Wednesday, they wear batik uniforms. On Friday, they wear uniforms of scouts. Thus, the provisions are arranged as forms of self-development activities so that the students' patriotic character can be developed.

In short, SIS involves students' patriotism through two ways. The first way is by integrating the patriotic character into the school culture. The second way is by integrating the value into the school curriculum. Therefore, students' patriotism can be cultivated as expected.

Conclusion

Indonesian School in Singapore has a role in developing the character of patriotism in the students that are realized through two methods, namely integration in the school culture and the integration of the school curriculum. The integration in the school culture is conducted by the school community. Meanwhile, the integration of school curriculum of SIS consists of two types—the integration of the existing subjects and some self-development activities. The existence of Indonesian School in Singapore is to be a school culture. The other Indonesian school overseas also serves as the school's culture. Therefore, the main task of the schools is to strengthening to restore patriotism of the Indonesian students.

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Contact email: bbqenak@gmail.com

Technology and Distance Learning in Higher Education: Making Distance Learning Work for Your Students

Queen Ogbomo, Tennessee Technological University, United States
Rufaro Chitiyo, Tennessee Technological University, United States

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Abstract
The field of distance learning in higher education is experiencing a new paradigm shift in the methods used by instructors and distance learning administrators to interact and communicate with their students online. As millennials and other traditional students continue to grapple with how to balance work, school and other extracurricular activities, many institutions of higher education are looking for ways to bring the learning to students. Distance learning is thus, providing access and new opportunities for instructor to students as well as students to students' active interaction even when they are physically apart. In this research synthesis, we explore existing literature for the current trends in distance education in higher education.
A research synthesis is defined as the scientific process of integrating empirical research in order to be able to make generalizations concerning a particular topic (Cooper & Hedges, 1993). We will explore the need for distance education as well as the current trends in its implementation. In addition to current trends, we will provide examples of technologies and platforms that are available as options in the delivery of distance education. Technologies and platforms that place students in the heart of distance learning and give instructors the opportunity to customize learning to meet students' needs as well as technologies that also provide flexibility without compromising the quality of education being offered. Furthermore, the authors will identify the advantages and disadvantages of distance learning as a credible educational method of delivery. Implications and recommendations for future research will also be discussed.

Keywords: distance learning, distance education, higher education

Introduction

The final decades of the 20th century saw the burgeoning of distance learning (Garrison, 2000). While education has traditionally been conducted face-to-face, there has also been some distance education in the form of correspondence courses that originated in Europe where by students received packages of educational materials in the mail and worked at their own pace (Priyanka, D'costa, & Nayak, 2014). This remained the major form of distance education for the greater part of the 20th century until the emergence of video and audio taped lectures, educational radio, instructional television, and videoconferencing (Means, Toyama, Murphy, & Baki, 2013, Priyanka et al., 2014). Before further discussion, it is worth mentioning that teaching is changing and part of that change largely involves technology. According to Amirault (2012), innovations in technology indicate major changes in the way in which education will be delivered to a majority of the students in the 21st century. The use of the Internet to deliver education is another example of distance education. This is typically known as online education and in this case, students have to be connected to the World Wide Web in order for them to participate in the learning process.

So, what is online distance learning? With the different types of distance learning mentioned previously, it is obvious that the meaning of distance learning has evolved over time depending on what technologies were the most recent at any given time in history. For the purpose of this paper we are going with the definition by Allen and Seaman (2013) based on a survey of online learners who said, "online courses are those in which at least 80% of the course content is delivered online and typically have no face to face meetings" (p. 5). The bottom-line is that there is a separation between the instructor and the student (Priyanka et al., 2014) The beauty of distance education is that it doesn't restrict students to a specific place and time and that may be one of the reasons why we should expect distance education to be appealing in the long run, and to last for a long time (Dixson, 2010). According to Garrison and Anderson (2003), distance education has the ability to efficiently deliver information (if done well, for example, if the courses are designed well and also evaluated in a meaningful way).

Trends in distance education

Distance education has been in existence for more than a century and current trends in the implementation of distance education show some exponential growth in not only such educational programs and course, but also in the sheer number of students opting for online classes in higher education (Means et al., 2013; Meyer, 2014, Priyanka et al., 2014). Scholars suggest, it has become the norm as a course delivery method as many institutions of higher learning face the challenges of low student enrollment due to rising cost of getting quality education (Boettcher & Conrad, 2010; Graham, Woodfield & Harrison, 2013; Keengwe & Kidd, 2010). Distance learning is therefore, increasing access while reducing cost for a wide range of students (Bowen, Chingos, Lack, & Nygren, 2014).

Teaching and learning online, has also become a new area of research among higher education researchers. In addition, there has been an increase in the number of professionals receiving/getting/seeking either new or additional training in order to help build their confidence in efficiently and effectively delivery education on an

online platform (Means et al., 2013). In order to support distance education, colleges and universities have also been creating resources for easy access of information online e.g. our university has stared subscribing to online journals and procuring electronic versions of textbooks, thereby creating a "virtual" library for students.

Professionals in higher education are looking to distance education as a solution to some of the problems/issues prevalent in colleges and universities (Meyer, 2014). For example, more students are enrolling in colleges and universities, but there is not enough physical space to hold that many students and as a result, online courses can solve that problem (Meyer, 2014). Another problem being solved by distance education is the fact that more and more students are looking for flexibility due to a host of other commitments (like work and home) vying for the students' time (Priyanka et al., 2014) and distance education solves that problem (Means et al., 2013; Meyer, 2014). Consequently, it is advisable that professionals not only keep up with developments and advancements in online technologies (Meyer, 2002), but that the delivery of distance education is done with excellence (Dixson, 2010; Meyer, 2014). Once that's done, distance education helps institutions of higher education to make their courses accessible to anyone who may be interested in them.

This paper also seeks to share best practices that would lead to successful implementation of distance education. With the invention of new technologies, more and more generation X students rely on these technologies in their everyday lives. In order to provide a more flexible learning environment for working learners or students from different locations, many institutions of higher learning are now providing more online courses. This is aimed at reaching a larger student population and to increase enrollment (Ally & Prieto-Blazquez, 2014, Tsinakos & Ally, 2013). Distance learning environments are also changing the way students access course materials, interact and communicate with instructors and their peers.

Examples of Online Technologies and Platforms

Distance learning is becoming more and more appealing because of the existence and availability of a plethora of resources that anyone can use in the delivery of distance education. Some of these resources have a fee attached to their use while others are openly available at no charge. Below is a list of a few popular learning management systems or online platforms that professionals can use to deliver education remotely using technology:

- Moodle (https://moodle.org/)
- Edmodo (https://www.edmodo.com/)
- Instructure (https://www.instructure.com/)
- Blackboard (http://www.blackboard.com/)
- Chamilo (https://chamilo.org/)
- Schoology (https://www.schoology.com/)
- Canvas (https://www.canvaslms.com/)
- Sakai (https://www.sakaiproject.org/)
- Kornukopia (http://kornukopia.com/)
- Youtube (https://www.youtube.com/)
- Google for education (https://edu.google.com/)

Advantages and Disadvantages of Distance Education

Nothing is without a fair share of its pros and cons. The following is an exposition of some of the advantages and disadvantages of delivering education via online platforms. Starting with advantages; first and foremost, since universities thrive based on the number of students in school, the availability of distance education brings with it increases in the numbers of those students (Annetta, Folta, & Klesath, 2010). So, distance education is definitely a plus for institutions with established distance education programs. Aligned to this is the fact that distance learning increases or widens such institutions' reach (Annetta et al., 2010).

Today's students are looking for flexibility in their education and distance education delivers in that arena (Means et al., 2013; Meyer, 2014). In addition to flexibility, distance education is convenient for some students and provides a comfortable learning environment compared to having to show up to class at a certain time during the day and meeting with people they may otherwise not feel comfortable with. Related to convenience and a comfortable environment is the fact that students will learn best when they use their learning style (Eom, Wen, & Ashill, 2006). In a face-to-face lecture, it is highly unlikely that the teacher will accommodate all learning styles. Interestingly, many students' learning styles seem to have been reshaped into a learning style known as multitasking because of distance learning and instructors need to adapt (Annetta et al., 2010).

Distance education is appealing because it does not foster the mere transference of information from the teacher to the student (Meyer, 2002). According to Annetta et al. (2010), if designed well, distance education has the potential to prepare students with the skills needed to engage in lifelong learning. It becomes the institution and instructor's responsibilities to endure meaningful learning. Another benefit of distance education is that it is self-paced and the course materials are always available. We consider this an advantage because in a face-to-face class if you miss the lecture then there are no materials available to help you as a student. Yet another advantage identified is that distance learning promotes and fosters relationship between students from different cultures, thus creating intercultural experiences (Ally & Prieto-Blázquez, 2014). Furthermore, distance learning can teach some students self-discipline, self-direction, and time management skills since it is self-paced. This is a good thing because the reality is that students need to have developed these characteristics by the time they graduate in order for them to be productive, efficient team members in their professions. Additional advantages associated with distance education that is designed well include enhanced class discussions and innovative virtual teamwork (Eom et al., 2006). Distance learning in essence provides opportunities for students to learn in their own environment as they become more actively involved in the learning process.

With regards to disadvantages of distance education, the major issue seems to be the fact that there is no commonly established set of standards that distance education should follow This is problematic because this breeds risks related to a lack of accountability related to student success on the part of institutions investing in distance education that relies on technology and the Internet for delivery (Annetta et al., 2010). Also, even though distance learning may raise enrolment figures in

institutions of higher education it brings with it hidden costs in the form of training instructors, furnishing libraries with necessary technological devices, and maintenance fees (Annetta et al., 2010). The biggest complaint from professionals who are used to delivering content the traditional way is that there is little to no face-to-face interaction and closely related to this is the fact there is usually less instructional support from colleges and universities (Means et al., 2013). Also, developing a good online course requires more work and is time-consuming compared to designing a traditional course (Annetta et al., 2010). However, we should mention that for most professionals, more work and time are usually invested on the front end. Once course development is complete the amount of bot work and time eases.

Another challenge associated with distance learning is that teachers risk overloading their students with unnecessary 'busy' work in the name of making the course as rigorous as a traditional one. From a student perspective, distance education can be painful if there is information overload. Since distance learning requires intense self-discipline and good time management skills, it still encourages procrastination in those who struggle in those two areas. According to Priyanka et al. (2014), other drawbacks related to distance education involve higher rates of students dropping out and lack of meaningful assessments of students' progress. Finally, distance education may encourage academic misconduct in the form of cheating. This is because it is almost impossible to monitor what and how students do when they are taking a course from venues comfortable and convenient for them. With benefits outweighing the drawbacks, we feel that it is a worthwhile endeavor for not only instructors, but also institutions as well to explore the possibility of offering distance education.

Making distance learning work for your students

Research in student support in distance learning according to Simpson (2013) has not received much attention. As institutions of higher learning look to distance education as a way to increase retention rates as well as solve low enrollment, there is an increased attention in supporting students participating in distance education in higher education. Words such as guidance, advice and counselling have been used to describe forms of student support. For the purpose of this paper, support is being described as academic and non-academic support provided to students in distance learning to help fully negotiate their way through the course (Simpson, 2013). This is especially important for those non-traditional/adult students who have not been in the classroom environment for a long time. Academic support might involve the thorough explanation of course materials and concepts by instructors or faculty, giving students immediate feedback and tracking students' progress. On the other hand, Simpson again suggested non-academic support involves advising students with suggested directions for progress.

Another way to make distance learning work for your students is by building social connections in the online environment. In their research about what students tell of their best learning experiences Dunlap and Lowenthal (2014) concluded that in cases where faculty had substantial relationships with students, there was significant effect in students' engagement in the course. The authors suggest that having a social presence in the distance learning course environment goes a long way to having a successful course. These forms of establishing connections include but not limited to providing orientation videos aimed at walking students through what they will be expected to do in the course; an introductory video sharing information about yourself; weekly announcements on assignments; giving personalized feedback; keeping in touch with students through weekly emails and participating in discussions.

Yet, another area to support students' learning experience is dealing with the issue of accessibility. Being able to access course materials and making the technology available for all students is a challenge. King and Thompson (2016) posited that one of the indicators for student success in an online environment is the ability to access and understand the technology. Some suggestions given by the authors include the usage of different multimedia in the formatting of course materials to make it accessible to auditory and visual learners. They added that screen readers and magnifiers can be utilized to help all special needs students. These recommended supports will make learning more engaging and fruitful for all students in your online course.

Implementations and Recommendations for Future Research

The literature reveals that in an online teaching environment the role if the instructor changes from lecturing which is more common in face-face teaching environment to that of a facilitator or guide as posited by Boettcher and Conrad (2010). The authors noted that this is a better approach, as it allows the instructor more time to create community-building experiences. A community, where the instructor or teacher share the teaching roles with their students, thereby allowing the students more opportunity to actively engage with their peers in meaningful dialogue (Baran, Correia, & Thompson, 2013). It is also suggested that the online learner also have new roles. The online learner need to be a more self-directed as he/she takes more responsibility for their own learning (Conrad & Donaldson, 2011).

As research into distance learning continues to increase, scholars wonder if distance learning will be of the same quality as face-face classroom learning. It is therefore, imperative that online instructors create a learning environment that would afford students the opportunity to be actively engaged in course resources and assignments (Bowen, Chingos, Lack & Nygren, 2014). In order to hold students accountable in the online environment, instructors should design thoughtful discussion questions that will encourage students to be more active rather than passive—questions that will require students to think deeply about the content and in turn make them better prepared for the course (Boettcher & Conrad, 2010).

Based on a synthesis of existing literature on this topic, we assembled some recommendations for adapting to distance learning offered via online platforms as listed below:

1. Since distance education is growing, colleges and must financially invest in supporting their faculty to design effective online courses (Dixson, 2010),
2. Professionals and institutions alike need to adapt to the vast amounts of easily accessible information available online and use that to their advantage,
3. Once a professional chooses to use technology to deliver course content, it becomes critical for the course to push students to engage in critical thinking skills (Meyer, 2002),
4. There is need for professions to help students filter through publicly available information so they (students) can identify meaningful material that can be useful to help them succeed (Garrison & Anderson, 2003),
5. Distance education should not be focused on the memorization of facts; instead, it should be aimed at creating lifelong learners (Garrison & Anderson, 2003),
6. Professionals delivering their content online need to continue learning ways of engaging students e.g. being present without being overly present (Rourke, Anderson, Garrison, & Archer, 2001, as cited in Garrison & Anderson, 2003), creating active learning opportunities among students, creating engaging, collaborative assignments for students (Means et al., 2013; Meyer, 2014), and motivating students (Eom et al., 2006),
7. Professionals also need to avoid giving unnecessary work and focus on the important stuff,
8. Instructors must strive to provide structure in an online course, and also give meaningful feedback in a timely manner (Eom et al., 2006).

We strongly believe that implementing some of the suggestions mentioned above is a way to make distance learning work for your students if you are a professional actively engaging in the provision of education online.

Conclusion

Distance education has been in existence for more than 100 years and the meanings attached to it have evolved as much as technological advancements have changed. There is an increase in the implementation of distance education in institutions of higher education and research related to that field has also been advancing. The provision of distance learning seems to be a solution to some problems being experienced in higher education, but it is without its perks and challenges. There is an abundance of resources to use in the delivery of distance educ

aimed at helping students engage in

ass and distance education should be designed to foster both meaningful and lifelong learning. Building an online community where students feel supported makes for a successful learning experience. It is therefore of utmost importance for instructors or faculty of distance learning to develop courses that are student-friendly. We believe that distance education is one way to help students become actively engaged in the construction of knowledge only if the programs and courses are designed well.

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Contact email: qogbomo@tntech.edu

Silent Exclusion and Child Schooling: A Case Study of India

Pankaj Das, University of Delhi, India

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Abstract
The current educational policy discourse in India has largely focused on the issues of access to basic education. While increasing access is clearly important, the issue of significantly to sustained access is more important in the present context when the fifty per cent of child population in India in the age group of 6-14 years leave the school before completing the elementary education (GoI, 2009). Despite many attempts and improvements have been made by the several states and central governments, a major chunk of our school students in the elementary grades are silently excluded and putting in the category of 'potential dropouts'. The magnitude of the problem is very acute in government schools in rural parts of India. By taking a cluster of 11 villages comprising of 23 government schools were randomly selected in the present study, this paper attempts to provide an in-depth understanding about the magnitude and process of the silent exclusion in the sample schools of Madhya Pradesh in India, and also poses a big challenge to Right to Education (RTE) Act which guarantees the completion of elementary education to all children in the age group of 6-14 years. A survey method was done with the tools of structured questionnaire, informal discussions and school roster data. Major findings point out that silent exclusion was very high in all the existing primary and upper primary government schools irrespective of caste, class and gender. Moreover, children in primary schools and belong to socially backward communities exhibited with low self-esteem were more vulnerable. The implications of the study suggest the introduction of attractive programmes which are more joyful and child-friendly at the institutional level.

Keywords: Silent Exclusion, Right to Education Act, Elementary Grades, Government Schools

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Introduction

Along with recent international declarations and conventions on education India has made a significant contribution towards the development of elementary education in our country. In the last few decades, our country has witnessed an unprecedented growth in elementary education both in quantitative and qualitative scales in terms of educational access, enrolment, achievement and quality education. However, survival and completion of a particular cycle of elementary education for children always poses a major challenge for the country, despite this phenomenal increase in school education in India. The comprehensive analysis of recent DISE data from 581 districts revealed that a majority of the children in Andhra Pradesh, Karnataka, Kerala, Pondicherry, Tamil Nadu, Chandigarh, Himachal Pradesh, and Punjab survived up to class V. On the other hand, a majority of the children in Arunachal Pradesh, Bihar, and Rajasthan dropped out before reaching class V (Mehta 2006; 126-28). However the process of dropping out is more serious concern at the present context when children are silently excluded from the school and are at the risk of dropping out, due to certain contributing factors and the processes making this phenomenon acute one. The problem of survival of these children up to the completion of elementary grades becomes more acute when the factors like poor performance, irregular attendance, grade repetition and overage intermingled with socio-economic factors of these children. Thus keeping in mind, the present study was conducted to comprehensive analysis of the children in the zone of silent exclusion which includes those children who are physically present in the class but going through the schooling experiences of repetition, long absenteeism and poor performance consistently over the period of times and are considered the risk children of dropping out in the government primary, upper primary and middle schools and high schools which having the section of elementary grades in the socio-economic contexts of Madhya Pradesh.

Methodology

The present study was conducted in two clusters of Madhya Pradesh. Based on the developmental characteristics of the districts, both Rewa (developed rural area) and Dindori districts (highly under developed area) have been selected, however, the cluster of 11 villages of Huzur block of Rewa district and cluster of 14 villages of Karanjia and Baijag blocks of Dindori district have been included in the present study. Karanjia and Baijag predominantly inhabited by scheduled tribes and are part of 'Baiga Chak'. Similarly, the majority of population in Huzur block are from OBC and SC category. Out of these blocks, 31 schools of Huzur block and 18 schools from Karanjia and Baijag blocks were selected. For the present study, household and school roster data of 2008 and 2009 of CREATE[1] Project, NUEPA were used.

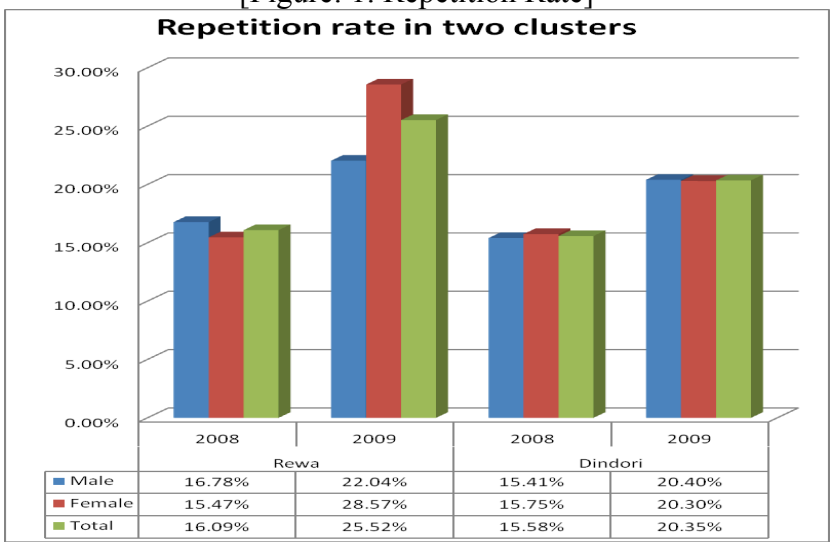
Analysis of Data and Major Findings

Incidence of Repetition in two clusters

It is widely acknowledged that repetition or failure has tremendous negative impact on mind and confidence level of children. This results in developing of disliking for school and that in turn pushing him out of the school as early as possible. With respect to the two areas studied under the present study, it is found that the incidence

of repetition in Rewa and Dindori has changed over the period of times. Fig.1 gives the total picture of repeaters in two clusters in 2008 and 2009.

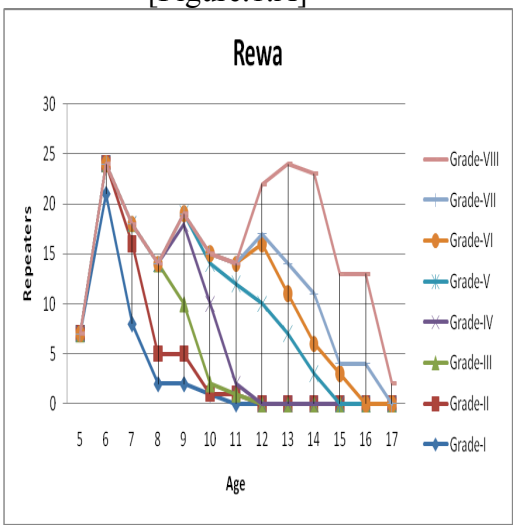
[Figure: 1: Repetition Rate]

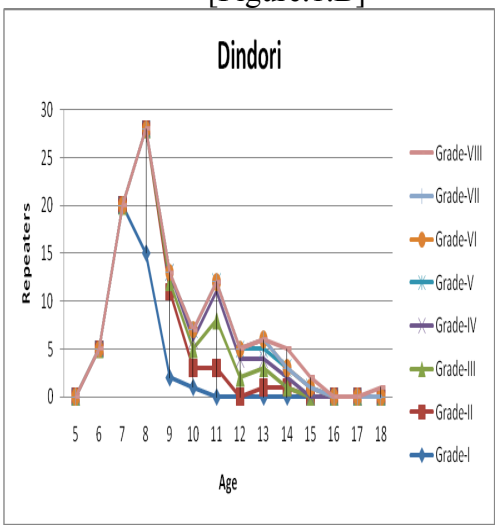


The percentage of female repeaters was higher than the percentage of male repeaters in Rewa, whereas the percentages of males and female repeaters were almost same and equally vulnerable in Dindori in 2009. In Rewa females children are more at the threat of repetition and thus at the risk of dropping out, whereas in Dindori both male and female children are at the risk of dropping out.

The situation of repetition rate in the primary and upper primary schools has changed over a period of times in Rewa in 2009 whereas the situation has remained unchanged in primary schools in Dindori in 2009. The repetition rate was found higher at the middle schools than the primary schools in Rewa cluster in 2009. This clearly indicates that the state of government middle schools is in a very dismal condition and it has a long journey to overcome this situation. Similarly, the primary schools in Dindori cluster are in very worst condition due to the prevalence of high repetition rate within the primary schools. Moreover, the 1st and 8th grades in Rewa and Dindori clusters of Madhya Pradesh are found to be the more risk grades for dropping out. At grade-I, more number of females repeated the grade in Dindori. Similarly females are more in numbers in repeating the grade-VIII in Rewa cluster. The analysis of age-grade combination of repeaters, it was found that the majority of the repeaters were "*substantial overage children*[2]" in the two clusters (See Fig.1.A and 1.B.).

[Figure.1.A] [Figure.1.B]



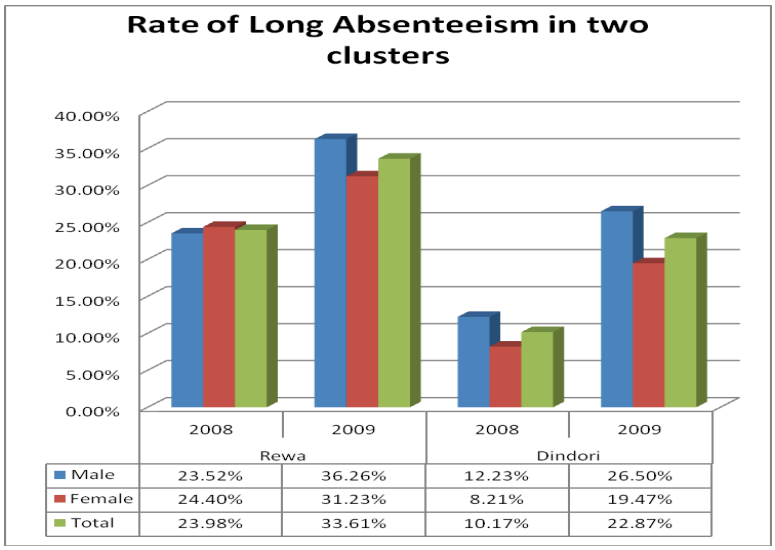


The grade-I considered to be the most critical stage with substantial number of overage children in Dindori. The village-wise[3] analysis indicates that the villages like Amiliki (35%) and Raura (27%) in Rewa; and Tantar (26%), and Dadartola (16%) in Dindori have the highest numbers of repeaters. Further the results reveal that the high rated risk schools of repetition, it was found that majority of schools have had adequate physical facilities but did not have adequate academic facilities in the selected areas of Rewa and Dindori districts.

Incidence of Long absenteeism

The tendency of absenteeism among the children is one of the factors strongly associated with of early dropout from the schools. Long absenteeism is considered a major predictor of dropping out in many instances. The figure-2 indicates the incidence of long absenteeism > 7 days in the previous month of data collection in both the years in both the clusters.

[Figure: 2: Long Absenteeism Rate]



The results of the figure-2 indicates that the incidence of long absenteeism (>7 days) in the present study has increased in Rewa as well as Dindori over a period of one year. The highest percentages of absentees were females (24.40. percent) in 2008 and males i.e. 36.26 pecent in 2009 in Rewa cluster, whereas in Dindori cluster the highest percentages of absentees were males (12.23 percent) in 2008 and were females (22.87 percent) in 2009. In school-wise, the overall rate of long absenteeism in the middle or upper primary schools of Rewa cluster increased over a period of time (within one year) but the rate was still higher in middle schools than the primary schools in the year of 2009. The rate of long absenteeism has found consistently higher in all the middle schools than the primary schools in Rewa cluster. However, in Dindori-cluster the rate of long absenteeism was found higher in the primary schools than middle schools in 2009. This clearly indicates that the state of government middle schools are in a very pitiable condition in facing the incidence of long absenteeism in Rewa and whereas the primary schools in Dindori are very dismal conditions in checking the high rate of long absenteeism. Moreover, in Rewa cluster, grade-I and grade-VI are considered to be risk grades for the male children and female children respectively who were remained long absent in the month of their schools registers in both years. In Dindori cluster, the highest percentages of long absenteeism occurred at grade III in primary level and VI grade in upper primary level in 2009. In both the grades male children account to highest proportion of absentees.

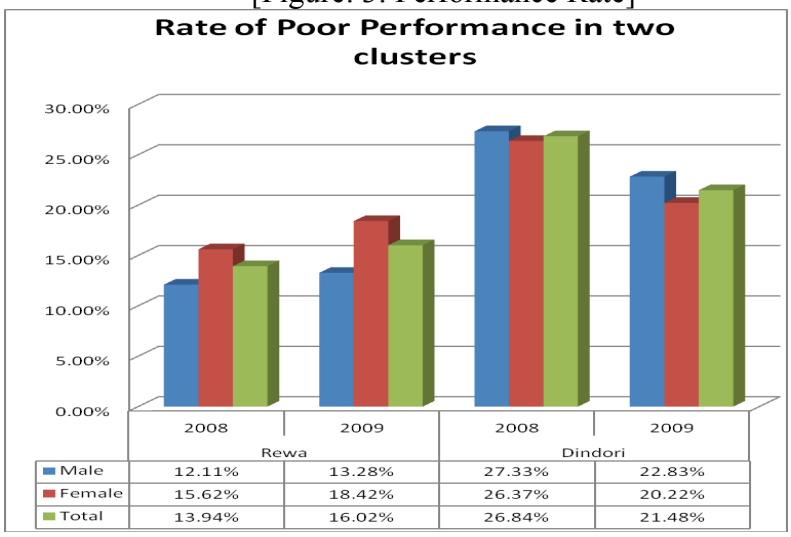
Incidence of Poor Performance

There is plenty of research evidences show that children with poor performance or low achievement more likely to drop out than those with higher achievement (Boyle et al, 2002; Hunter and May, 2003). In one of the study, it is found that one third of high school dropouts cite their poor grades as a reason for dropping out. (McDill et al., 1985). Thus poor academic achievement in turn, predicts dropping out of school (Eckstrom et al. 1986).

The findings of the present study reveals that situation of poor performance is strongly persisted in the two clusters and putting a major proportion of school going children at the risk of dropping out from the selected government schools in the above two clusters.

The figure-3 indicates the total picture of poor performance (below average and very poor) according to teachers' perception in both the years in both clusters.

[Figure: 3: Performance Rate]



It was found that females accounted for higher proportion to poor performers in both the years in Rewa cluster. Therefore the conditions of the females were relatively at the most risk in Rewa cluster. In Dindori males were at the most risk because in both the years their proportions were higher in the category of poor performance. The school-wise analysis indicates that the rate of poor performance is found higher in all the primary schools in Dindori cluster in 2009. Nevertheless, the rate of poor performance is found higher in all the middle schools of Rewa cluster in the same year. Moreover, the highest percentage of poor performance occurred at grade I, and VIII in Rewa and grade I, II and VI grade in Dindori cluster. Similarly, in respect to the analysis of school academic and physical facilities in the high rated poor performance schools , it was found that majority of schools have had inadequate physical as well as academic facilities in the selected areas of Rewa and Dindori districts.

Analysis of Net Effects of Risk Factors on Vulnerability of Dropping Out

For the purpose of our analysis I have selected some risk indicators (repetition, poor performance and long absenteeism) and in order to examine their net effects or impact on vulnerability of dropping out from the elementary schools in the above three clusters, the statistically appropriate method of logistic regression is employed in the study. Moreover, there are three logistic models like model-1, model-2, and model-3 are employed in order to examine the effects of risk factors on three different dependent variables in the study. Along with the basic frameworks of the three logistic models, the net effects of the risk factors on the vulnerability of dropping out are analyzed in the following order:

The results of regression analysis of Model-1, indicates that there a positive and significant relationship exists between repetition and poor performers in both the clusters. The children who are poor performers are more than twenty five times in Rewa and more than eight times in Dindori are likely to repeat in the same grades as compared to the other children who are not poor performers. The significant relationship is also found between repetition and long absenteeism in both the clusters. This clearly indicates that children who are having long absenteeism in the schools are more likely to repeat the grades than the children who are not having long

absenteeism both in Rewa and Dindori clusters. Moreover, repetition rate is also directly related to the sex particularly with the female sex in Rewa and not in Dindori.

And the results of Model-2, implies that poor performance rate is directly related to long absenteeism in both the clusters. The children who remain long absent in the schools more than three times in Rewa and more than eight times in Dindori are likely to perform poor as compared to children who don't remain long absent. It is also found the significant relationship between sex of the child and poor performance in Rewa cluster. Thus, the results indicate that after controlling absenteeism, female children are more likely to perform poor than the male children in Rewa only.

The Model-3 of the regression analysis results demonstrated that there is a positive and significant relationship exists between long absenteeism and poor performance in the two clusters. The children who are poor performers are nearly two times in Rewa and more than seven times in Dindori are likely to remain long absent as compared to other children who are not poor performers after controlling other factors remain constant. Similarly, the positive and significant relationship is found between repetition and long absenteeism. The children who repeated the grades are more likely to remain long absent in schools than the children who not repeated any grades both in Rewa and Dindori clusters. Moreover the positive and significant relationship is also found between sex of the child particularly the female sex and long absenteeism in these two clusters. After controlling repetition female children are more likely to remain long absent than the male children both in Rewa and Dindori.

Conclusion

The aim and purpose of the present study was to analyze the situation of the phenomenon of silent exclusion in the government schools in respect to two clusters in Rewa and Dindori districts of Madhya Pradesh. While selecting the two areas it was kept in mind the socio-demographic factor as well as the developmental characteristics of the areas as one district was developed area and another district was underdeveloped area of the state. Similarly, also the two clusters of this study were selected by applying the same criteria. The general perception gives the hints that comparatively the schooling of the children in government schools in developed areas must be in a better situations due to the availability of many developmental characteristics of the area than the children schooling in underdeveloped areas of the state. However the findings of the present study demystify this general perception by showing the truth that the children schooling in both clusters are not good. As in both clusters of Rewa (developed) and Dindori (underdeveloped) the phenomenon of silent exclusion in the government schools is very acute. The situations of the repetition, long absenteeism and poor performance are rampant in both middle and primary government schools in two districts of Madhya Pradesh. A good chunk of child population at the elementary levels is struggling every day to get the basic rights to get education and to complete the specific cycle of elementary education. It is the high time for the state government to take alternative strategies to counter the phenomenon of silent exclusion in the existing government schools of the state. The state should play the active role by improving physical as well as the academic infrastructure of the government schools for providing a conducive school atmosphere to all the children to get complete the basic cycle of elementary education.

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Contact email: daspankaj4@gmail.com

End Notes:

[1] Consortium for Research on Educational Access, Transions and Equity. For details see the website- www.create-rpc.org.

[2] Substantially overage children are those children who have despite of giving the relaxation of one or two years than the actual age of theirs and if they detained/repeated in the respective grades, then these children are called substantial overage. This substantial overage children indicate that either they entered the school in late of their age or they were detained/repeated the grades more than one times in their schooling career, thus they are at the risk zone of silent exclusion.

[3] While analyzing the village-wise data repetition in primary & middle schools both were taken into account.

Academic and Technical Vocabulary in the Corpus of Chemistry Research Articles

Pinrada Nuamjapho, Khon Kaen University, Thailand
Kornwipa Poonpon, Khon Kaen University, Thailand

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Abstract
Many researchers have mentioned the importance of vocabulary in language learning , in particular, vocabulary for specific disciplines. However, there are some problems with the vocabulary selected to teach students because some teachers strongly believe in their intuition for choosing word families to teach. Therefore, Schmitt and Schmitt (2005) claimed that the best way to determine vocabulary frequency is by using frequency lists compiled from vocabulary databases called a corpus or corpora**.** This study is a corpus-based study which aims to develop lists of high frequency words and to identify the proportions of words from the General Service List (GSL), the academic word list (AWL), and technical words in a chemistry research articles corpus in order to know the proportion of each word types compared with previous studies**.** A corpus of about 1.2 million token words was compiled from 210 chemistry research articles, derived equally from seven sub fields of chemistry. The RANGE Program was used in this study to identify the first 1000 and second 1000 GSL, AWL, and rare words. Then**, a** Rating Scale adapted from Chung and Nation (2003) was used to identify technical vocabulary. From the analysis, it was found that the proportion of GSL, AWL, technical words, and other words found in the present study were 62.5, 9.2, 7.0 and 21.3, respectively**.**

Keywords: Academic vocabulary, Technical Vocabulary, Corpus

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Introduction

Vocabulary plays an important role for learning a language because it is always viewed as a crucial tool for language learners to achieve successful communication. Many researchers have mentioned the importance of vocabulary in language learning. Wilkins (1972) said that "while without grammar very little can be conveyed, without vocabulary *nothing* can be conveyed" (pp. 111–112). Moreover, Lewis (1993) claimed that vocabulary is the core or heart of language. He also mentioned that "language consists of grammaticalised lexis, not lexicalized grammar" (p. 51). Nation (2001) suggested that knowing vocabulary is considered useful for language learners. Meara (1996) also stated that learners who know more vocabulary are proficient in language skills than those who know a smaller amount of vocabulary. Therefore, it can be said that vocabulary is an essential factor for teaching and learning a language.

Due to the significant role of vocabulary, many approaches have been used and investigated for teaching and learning vocabulary. To answer a question about how vocabulary should be taught and learned, Schmitt and Schmitt (2005) suggested that the major approach for English vocabulary teaching is a *frequency* perspective due to the large amount of English vocabulary (Schmitt & Marsden, 2006). However, some teachers trustin their own intuition for choosing word families to teach. Therefore, Schmitt and Schmitt (2005) claimed that the best way to determine vocabulary frequency is by using frequency lists compiled from vocabulary databases called a corpus or corpora. From this perspective, Nation (2001) and others divided the entirety of vocabulary into four levels based on frequency. Firstly, the general service list or GSL (West, 1953) is the list of the highest frequency words. The GSL list contains the 2,000 most frequently used word families (70-80% of texts) including function words. Secondly, the academic word list or AWL (Coxhead, 2000), and the university word list or UWL (Xue and Nation, 1984) are the common academic vocabularies in academic texts and context. The third level, technical or specialized vocabulary, is distinct in each discipline. Finally, the fourth level is the list of low frequency words or unusual words that may not occur in general texts, such as certain symbols, abbreviations etc. Based on the high coverage of the GSL in different texts, some researchers suggest that GSL words are significant for all English language learners and that students should primarily pay attention to GSL words when studing a second language (Coxhead & Nation, 2001; Nation & Kyongho, 1995; Nation & Waring, 1997). For academic contexts, such as university education, academic words and technical words are very important. Students should know academic and technical vocabulary because they will need to employ them during their academic courses or disciplines.

Due to the importance of academic vocabulary, there have been a number of studies focusing on academic words in different disciplines. Coxhead (2000) made an attempt to create the academic word list (AWL) by collecting words comprising texts in law, arts, commerce, and science. The total size of her corpus was 3.5 million. The AWL consists of 570 word families in total. The AWL in Coxhead's study accounted for about 10% of the total words in that corpus. According to Coxhead (2011), the aim of the academic word list is to help teacher of English for Academic Purposes (EAP) "set goals for their student's vocabulary learning" (p.357). The study by Coxhead (2000) was an important innovation in several fields of vocabulary learning and teaching. Based on her study, several other vocabulary studies investigated academic

words in specific perspectives from different disciplines such as engineering by Mudraya (2006), electrical engineering by Wasuntarasophit (2008), medicine by Wang, Liang, and Ge (2008), agriculture by Martinez, Beack, and Panza (2009), applied linguistics by Vongpumivitch, Huang, and Chang (2009), finance by Li & Qian (2010), chemistry by Valipouri & Nassaji (2013), education by Mozaffari & Moini (2014), nursing by Yang (2015), environmental science by Liu & Han (2015), and medical science by Lei & Liu (2016). As exemplified by previous studies, the AWL can be regarded as the most widely cited academic word list from different fields (Yang, 2015). Although Nation (2001, p.12) mentioned that Coxhead's AWL was "the best list", more recently, some researchers have focused on the development of AWLs found in a specific discipline and some other specific vocabularies appeared in each field called *technical vocabulary*.

Apart from GSL and AWL, technical words occurring across different disciplines are also beneficial for learners, as these types of words can help them understand discipline- specific texts. Nation (2001) and Strevens (1973) suggested that students who study in the scientific area may have problems with technical terms. This means knowledge of the specific terms is essential in learning the technical language of that field. However, a few studieshave been conducted regarding technical vocabulary and the criteria for deciding which words are technical words and which are not, depending on different disciplines of vocabulary. There have also been some previous studies focusing on technical vocabulary. Chung and Nation (2003) investigated technical vocabulary from anatomy textbooks with a corpus of 450,000 words and linguistics textbooks with a corpus of 93,445 words. Wasuntarasophit (2008) explored technical vocabulary from electrical engineering textbooks with a corpus of 120,000 words, and Lessard-Clouston (2010) studied technical vocabulary from theology lectures with a corpus of 10,470 words. The results of these studies show the proportion of vocabulary. Nation (2001), claimed that academic vocabulary covers 10% and technical vocabulary covers 5 % of running words in academic texts, whereas other researchers discovered different vocabulary group proportions in their corpus. Chung and Nation (2004) found that technical vocabulary appears with higher frequency in anatomy texts, at 37.6 % and only 16.3 % in applied linguistics texts. Wasuntarasophit (2008) argues that technical vocabulary should not be abandoned because it covers 20.6% of all words in electrical engineering texts. However, several of the studies above focused on vocabulary in textbooks from that field. Therefore, another way to identify technical vocabulary is through research articles themselves, as they are authentic written texts from several writers around the word.

As mentioned earlier, Nation (2001) and Strevens (1973) suggested that students in scientific areas may have difficulty in technical terms. One challenge among learners who study particular disciplines especially chemistry, is the difficulty to read and understand chemistry research articles that regularly consist of many types of vocabulary. Varipouri & Nessaji (2013) made an attempt to compile a large chemistry research articles corpus in order to investigate the frequency of academic words and general words based on AWL of Coxhead (2000) and GSL of West (1953). However, the study of Varipouri and Nessaji (2013) did not mention technical vocabulary which is one of the most important word types for students who study in very specific discipline such as chemistry. The researcher in this present study is well- qualified with a bachelors degree in chemistry, and experience with research in inorganic

chemistry, which may raise the researcher's passion to study and conduct research about different kinds of vocabulary from the chemistry corpus.
To increase the reliability of the method used in this study, the researcher hope that the present study can address some limitations found in the studies mentioned above, particularly the study about technical vocabulary in chemistry based on the framework of Chung and Nation (2003). The present study aims to identify and classify vocabulary types from the chemistry research articles corpus and hope that the vocabulary list from the study will provide guidelines or materials to help students develop greater vocabulary knowledge in order to improve comprehension of chemistry research papers.

(1) There are three research questions in this study: What are the proportions of GSL and AWL in the chemistry research articles corpus based on the RANGE program?
(2) What are the high-frequency academic words in the chemistry research articles corpus?
(3) To what extent are the chemistry technical words used in the chemistry research articles corpus?

Methodology

This corpus was a collection of 210 research articles in chemistry. Based on the SCIMAGO Institutions Ranking (SJR) the chemistry research articles were divided into seven subject areas: analytical chemistry, chemistry (miscellaneous), electrochemistry, inorganic chemistry, organic chemistry, physical and theoretical chemistry, and spectroscopy**.** Therefore, the research articles were selected equally from seven sub fields of chemistry.

After the chemistry research articles were downloaded, each article was prepared in the IMRaD research paper format, Swales (1990). The IMRaD format is a common organization structure of scientific research articles formatted to consist of four parts as follows: introduction, methodology, results and discussion. Then, the data was saved into a text file (*.txt) and analyzed by the RANGE program. The RANGE program (Nation and Heatley, 2002) was the software used in this study for basic classification of three main vocabulary groups: 1) GSL 2) AWL and off lists. However, it was found that some of GSL and AWL can be technical word, therefore the Rating Scale was used in order to identify technical vocabulary and it is presented below.

Group 1 Function words that have meanings with no particular relation to the field of chemistry. This group also includes grammatical words such as articles, preposition, modal verbs, auxiliary verbs, conjunction, pronoun, and some adverbs. Examples are: *the, is, and, between, always, become, its, with* and so on. The vocabulary of this group appears in GSL (West, 1953).
Group 2 Content words including nouns, verbs, adjective and adverbs that are used in the academic field, but whose meanings have minimal relation to the field of chemistry. Examples are: *storage, complete, major, enormous, cycle, similar* and so on. The

vocabulary from group 2 is not considered technical chemistry vocabulary.
Group 3 Content words that have two different meanings. They contain meaning both in the field of chemistry and in other, non-related fields. These words are found in the GSL (West, 1953) and AWL (Coxhead, 2000). This group of words is considered technical chemistry words when they are used or appear in chemistry research articles. Examples are: *absolute, abundance, lake, daughter, habit, lead* and so on.
Group 4 Content words or specific words used to explain results or, principle of theory related to the field of chemistry. They can be units, materials, equipment, derivatives, process technique, machines, theory names or chemist names. They are used to describe the experiment and theory. The vocabulary in this group is considered technical vocabulary. Examples are: *quartz, radiation, isomer, octahedral, spectroscopy, unsaturation, reagent, Fahrenheit*, and so on.
Group 5 Content words or very specific words that are used in chemistry field and rarely found in other fields. These words are the name of chemical elements, chemical substances and chemical materials used in the laboratory experiments. Examples are: *cadmium, palladium, pyruvic, sulfuric, methanol* and so on.

The rating scale in the present study was trained before being used and it was used by three experts in Chemistry, as well as one researcher. The purpose of this is so that four raters can identify words with the same criteria. Furthermore, a Chemistry Dictionary was used in this study in order to double check the words that have specific meanings in the field of chemistry. The vocabulary in groups three, four and five according to the Rating Scale were considered technical vocabulary.

Results and Discussion

This corpus was a collection of 210 chemistry research articles from seven sub fields of chemistry (30 articles from each sub-field). These sub-fields included analytical chemistry, chemistry (miscellaneous), electrochemistry, inorganic chemistry, organic chemistry, physical theoretical chemistry and spectroscopy. The total number of running words in the Chemistry Research Articles Corpus used in this study was around 1,129,000 words.

Table 1 Proportion of four kinds of words list in the Corpus of Chemistry Research Articles

Word List	Running Words (Tokens)	Types
1st GSL	655,705 (58.09%)	2,574 (6.13%)
2nd GSL	54,010 (4.78%)	1,374 (3.27%)
AWL	118,056 (10.47%)	1,965 (4.69%)
Off list	300,910 (26.66%)	36,065 (85.91%)
TOTAL	**1,128,681 (100.00%)**	**41,987 (100.0%)**

From Table 1, we can see that GSL (1st GSL and 2nd GSL) has the highest proportion of words in the corpus, covering approximately 62.9% of the words in the corpus, AWL covers around 10.5% and the last group, which contained both technical and rare words, cover around 26.7% of the total words in the corpus. It is clear that words in the GSL makeup the biggest part of the corpus. In other words, on average, for every 100 running words in the corpus, we will see words from the GSL approximately 60 times. Furthermore, it can be inferred that, for every 100 words of the text in the corpus, we will see around 10 AWL word appearances.

Research question 2: *What are the high-frequency academic words in the chemistry research articles corpus?*

The analysis of high-frequency academic words shows that there were 162 academic words found in the corpus of chemistry research articles. They are shown in Table 2.

Table 2 High-frequency used AWL words in the corpus of Chemistry Research Articles

Rank	Word	Frequency	Rank	Word	Frequency
1	Structure	1,725	16	Section	569
2	Data	1,655	17	Ratio	547
3	Chemical	1,616	18	Via	511
4	Method	1,075	19	Potential	506
5	Complex	1,015	20	Shift	498
6	Energy	996	21	Bond	484
7	Range	814	22	Site	447
8	Transfer	804	23	Source	899
9	Function	759	24	Significant	445
10	Approach	749	25	Mechanism	444
11	Phase	721	26	Specific	433
12	Nuclear	678	27	Scheme	416
13	Sequence	676	28	Region	399
14	Similar	596	29	Available	395
15	Process	593	30	Constant	370
Rank	**Word**	**Frequency**	**Rank**	**Word**	**Frequency**
31	Mode	340	62	Primary	210
32	Research	340	63	Role	205
33	Compound	334	64	Design	200
34	Domain	328	65	Furthermore	198
35	Initial	324	66	Core	196
36	Target	310	67	Final	192
37	Technique	291	68	Image	191
38	Factor	290	69	Occur	190
39	Overall	274	70	Error	188
40	Area	272	71	Theory	181
41	Transport	272	72	Environment	178
42	Layer	268	73	Indicate	178
43	Major	263	74	Subsequent	177
44	Obtain	260	75	Achieve	176

45	Internal	255	76	Prior	172
46	Individual	252	77	Identify	168
47	Whereas	248	78	Require	164
48	Previous	246	79	Detect	163
49	Network	245	80	Medium	163
50	Volume	245	81	Device	162
51	Component	241	82	Stress	158
52	Constants	239	83	Cycle	155
53	Dynamic	238	84	Alternative	152
54	Period	231	85	Appropriate	146
55	Stable	224	86	Strategy	141
56	Hence	222	87	Unique	136
57	Series	219	88	Focus	134
58	Dimension	213	89	Generate	133
59	Positive	213	90	Sufficient	129
60	Parameter	212	91	Feature	125
61	Access	211	92	Rigid	120
Rank	**Word**	**Frequency**	**Rank**	**Word**	**Frequency**
93	Exhibit	119	124	Distinct	71
94	Investigate	115	125	Sphere	70
95	Despite	113	126	Element	69
96	Demonstrate	112	127	Obvious	69
97	Technology	111	128	Apparent	68
98	Affect	103	129	Locate	68
99	Estimate	103	130	Construct	67
100	Principal	103	131	Author	64
101	Uniform	103	132	Induce	63
102	Issue	102	133	Interact	63
103	Correspond	97	134	React	61
104	Identical	96	135	Summary	61
105	Bulk	95	136	Monitor	60
106	Thereby	94	137	Code	60
107	Minimum	93	138	Concept	59
108	Normal	93	139	Confirm	59
109	Index	92	140	Capable	58
110	Random	92	141	Extract	58
111	Enhance	91	142	Facilitate	55
112	Challenge	89	143	Compatible	54
113	Contact	88	144	Intense	54
114	Remove	87	145	Visible	54
115	Enable	85	146	Convert	52
116	Media	84	147	Create	51
117	Crucial	81	148	Assess	50
118	Label	79	149	Evident	50
119	Evaluate	78	150	Approximate	48
120	Transform	78	151	Maintain	48
121	Ensure	76	152	Formula	47
122	Intrinsic	74	153	Framework	47
123	Reveal	72	154	Display	45

Rank	Word	Frequency	Rank	Word	Frequency
155	Reverse	45	159	Select	40
156	Proportion	44	160	Media	40
157	Vary	44	161	Contribute	40
158	Rely	43	162	Phenomenon	40

From the word selection criteria of high-frequency used AWL words in this study, the framework of Coxhead (2000) was applied. The words have to occur at least 40 times in the entire corpus and occur at least 4 times in each sub field.

From table 2, it is clear that there are 162 academic words in the corpus of chemistry research articles that meet the word selection criteria. The words that occur with the highest frequency are “structure”, “data”, “chemical”, “method”, “complex”, and “energy”, respectively.

However, there were some words that did not meet the word selection criteria because they were not covered in the seven sub fields of chemistry but they should not be ignored because they occurred with high frequency in the corpus. These were words such as “sensitivity”, “progress”, “space”, “plant” and so on.

Research Question 3: to what extent are the technical chemistry words used in the chemistry research articles corpus?

From the analysis, it was found that the technical vocabulary was derived from three group of words (GSL, AWL, and Off lists). It is surprising that some general word such as “exciting” can have specific meaning in chemistry field. The word “exciting” can be found in contexts such as this example from the chemistry corpus, “are relatively inefficient in *exciting* the vibrational and rotational modes.” Moreover, this word, when it occurs with other words, can have different meanings and contain more detail about chemistry, such as “photo exciting”.

The results revealed that there were 649 technical chemistry words that can be classified into two main groups by meaning: 1) academic chemistry words, or words used to describe results, principle of theory, machines or techniques related to chemistry and 2) technical words used in the field of chemistry, such as chemical substance or compoundsThese words are rarely found in other fields.

Examples of the first group of technical vocabulary are “spectral”, “magnetics”, “spectroscopy”, and “resonance” which both appeared with high frequency in the corpus and appeared in more than four out of seven sub fields of chemistry research articles. Eamples of the second groups of technical vocabulary are “carbon”, “oxygen”, “butanol”, “oxide”, and“sodium”.

Furthermore, it was found that about 96% of technical words were academic chemistry words used to describe things like results, principle of theory, machine or techniques related to chemistry. The results describing the proportions of words confirmed that teachers should focus on teaching these types of vocabulary more than

focusing only on chemical substances. These words may not appear with high frequency and students may not have ample chances to encounter them.

Moreover, the study of technical vocabulary reveals that the real proportion of technical vocabulary in the corpus of chemistry research articles is about 7%, whereas the percentage of other words or words with low frequency in the corpus is about 21.3%. The reason for this high number is that there are many words that appear with low frequency or it can be assumed that it depends on the nature of the research articles, the reason being this data was brought from several chemistry research articles with various topics of study.

Examples of low frequency words found in the corpus include “B-hydroxysteroid”, “terphynyl”, “B-cyclodextrin” and other specific jargon used only in research articles.

To summarize, it can be said that the research instrument used to identify technical vocabulary or rating scale can still reliably validate different field of technical vocabulary.

Conclusion

In this study, it is clear that some general words can be considered technical chemistry vocabulary. As mentioned before, the proportion of GSL words in this study is 62.5% which is lower than the first results, which were identified by only using the RANGE program.

Moreover, it was found that the number of high frequency AWL words in the whole corpus is 162. After the analysis of Academic words bythe RANGE Program, the results of the study revealed that the proportion of academic words is around 10.5%. After this, the process to identify technical vocabulary showed that the proportion of AWL in this corpus was just 9.2%.

The total technical vocabulary in the chemistry research articles corpus was 649 distinct words or 78,641 running words which is approximately 7% of the entire corpus.

Implication of the Study

According to an analysis of vocabulary in the corpus of chemistry research articles bythe RANGE program, words were shown as “type” forms, for example, state, states, yielded, and yielding. However, more attention should be paid to the collapse of types into concerned word families when applying vocabulary for pedagogical purposes.

In addition, the results of the present study of the chemistry research articles corpus can be used for ESP pedagogy in the field of chemistry. The present study provided vocabulary of high frequency used in the chemistry corpus. Apart from knowing the popular vocabulary lists, teachers should raise awareness of vocabulary from the GSL and AWLwhich have more than one meaning in their specific field.

There are two main limitations in this study: the limitation of research articles and the limitation of single words. The data was drawn from chemistry research articles, so

results can vary from different sub fields of chemistry because of the research trends in each sub field during the given time period. One suggestion for future research about analyzing the vocabulary in a chemistry corpus is that researchers should collect the data from textbooks from which students learn so that the data can provide different results.

As mentioned earlier, this study is mainly focused on single words. However, it may have overlooked some technical words formed by more than one word, AKA compound words. A suggestion for further study is to study collocations of technical words or noun phrases to help students attain a more dynamic sort of knowledge and to help students have more advanced comprehension of academic texts.

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Contact email: camera_14@hotmail.com

How Does a Speaker Maintain Her Local Language in A Multilingual Speech Society? A Case Study of a Sasak Girl Staying in Central Java

Nurun Hidayati, Sebelas Maret University, Indonesia Endowment Fund for Education, Indonesia

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Abstract
It is generally known that some people can live in one place in their entire life while some others are not. In line with this condition, moving to a new place affects their life including their language. In regard to this situation, this paper aims to find out how a *Sasak* girl maintains her local language in a multilingual society. This study was conducted by using qualitative study in the form of case study. The data were collected through observation, recording, and interview while interactive model (data reduction, data display, and drawing conclusion or verification) were used to analyze the data. At the end, the findings and discussions were also reviewed.

Keywords: language shift, language maintenance, multilingual speech society

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Introduction

Some people may enjoy living in one place but some others are not. There are some reasons why people need to move to a new place such as getting married, taking a job, wanting a new environment, continuing study, being migrants, or even natural disaster. In line with the moving with any reason, the language use in the new speech society will also different and adjust the new environment. Holmes (1992) mentions that economic, social, and political reasons are the factors which contribute to language shifts.

Paauw (2009), Cohn and Ravindranath (2014), Musgrave (n.d) mention that Indonesia is the fourth most populous nation in the world, with the estimated population of nearly 250 million. Besides, Indonesia consists of hundred islands, various races; ethnic groups so that it causes various languages. Regarding that case, Indonesia has a challenging step to apply Indonesian as the national language. Thanks to the 2nd Indonesian Youth Congress in 1928 for conducting *"sumpah pemuda"* or "youth pledge" which acknowledged "one motherland" and "one nation" and to uphold one "language of unity, the Indonesian language among many languages spoken in Indonesia.

Years after "youth pledge", Indonesian language uses throughout Indonesia as the language unity. Recently, the use of Indonesian language causes the declining use of some local languages such as the Javanese language. It has been explored by Musgrave (n.d) who states that "First language speakers of languages such as Javanese are declining as a proportion of the total population, but this is a slow process and no one would consider these languages as endangered by any accepted measure"

In line with Musgrave (n.d), Cohn and Ravindranath (2014) predicted in their paper that the increasing number of Indonesian speakers lead to the decreasing number of speakers for local languages. They added that the case mentioned will affect Indonesia from multilingual nation to a monolingual nation. What they suggest to avoid endanger language is by documenting the existing language. In this case, it can also be done to *Sasak* language.

Furthermore, David at.al (2009:158) state that "one crucial factor that can either help language maintenance or lead to language shift and eventually language death are the language policies of individual nations". The 2nd Indonesian Youth Congress in 1928 for establishing "youth pledge" can also be called as ‘language policy since from that time, the Indonesian language is considered as the national language of Indonesia. Meanwhile, regarding to the local language endanger, David at.al (2009) found that the existing program that the selected countries applied to maintain the endanger language are school-based program in which the endanger language as the subject, children's programs outside the school, adult language programs, and the last is documentation and material development.

In line with the mentioned case, the case of a *Sasak* girl who is staying in Central Java, Indonesia, also need to shift her language since her language and the language use where she lives is different. The language use is Indonesian as lingua franca. Holmes (1992:78) defines "Lingua franca is a language serving as a regular means of

communication between different linguistics groups in a multilingual speech community". Thanks to the Indonesian language as lingua franca because the language spoken in central Java is the Javanese language. Because she attends a master study, she meets not only Javanese speakers but also speakers of other places such as speakers from Kalimantan Island, Sumatra Island, East Nusa Tenggara province and almost the entire Indonesia. Thus, she does not need to master the Javanese language because the Indonesian language is the alternative.

The need to continue her study in a city far from home leads her to shift her language into Indonesian. In 1991, Fillmore states that the continuing use of foreign language may cause lost to the first language; this is also happening to students who learn the second language. It is a common case in *Sasak* when migrant coming back from abroad, they may use the language they often use abroad such as Malaysian Language and forget some terms in their local language. Related to Malaysian language, it is often produced in Lombok island since many *Sasaknese* going to Malaysia for working as labour and coming back to Indonesia together with the influence of Malaysian language. This case related to the psychologist of the speaker.

In addition, although most of the time she uses Indonesian to her all friends, she still maintains her local language when she speaks to her friends who are also coming from Lombok island, a place where her first language spoken. She still uses pronoun *"tiang"* (I am [in polite language] in *Sasaknese)* and *"side"* (you [in polite language] in *Sasaknese*) when speaks to her friend from Lombok. In regards to this case, this paper is intended to answer a question "how she can maintain her local language by using *"tiang"* and *"side"* only when speaking to her friends from Lombok?

Review of Related Studies

In this part, it firstly looks at the studies has been done on the inter-ethnic interactions around the world related to maintaining the local language.
Cohn and Ravindranath (2014) state that the development of Indonesian language as a lingua franca leads Indonesian people to be whether highly multilingual society or move toward monolinguals. It is a confusing term whether Indonesian people shift their language of maintaining their language since even a language with over 80 million speakers can be at risk it the language is no longer use.

Nawaz, at.al. (2012) conducted a study about factors involved in language shift in Pakistan. The findings reveal that historical, cultural, economic, social and psychological factors are a complex and affected phenomenon which motivating and stimulating the language shift from the Punjabi language into the English Language.

Jagodic (2011) studied the processes of language maintenance and shift among the Slovenian community in north-eastern Italy. The findings reveal that if a community wants to maintain their language, not only language planning activities aimed at maintaining the language among the members of the community, but also specific attention to the strategies for the acquisition of new potential speakers within the wider society is needed.

Maya (2009) wrote in the dissertation about language shift and the speech community in Belize. By focusing on the causes and effect of the relationship between social and

linguistic especially focusing on age-based variation in the speech community, the findings show that: first, an externally-motivated change in the status of the sociolinguistic variable (ch) for a shift in the dominant language in the community. Second, variable deletion of intervocalic r is described for the first time as an internally motivated change, albeit progressing alongside contact-induced changes. Third, the behavior of the transitional generation (speakers aged 30-49) shows interesting characteristics with regard to these two variables as a result of shifting language ideologies in the village.

The study conducted by Maya (2009) has the similarity toward the current study in the form of dynamic language to be analyzed but has the difference in the form of a setting of the study and focus on the language shift and maintaining the language.

David, at.al (2009) studied the impact on language maintenance and teaching: focus on Malaysia, Singapore, Brunei and the Philippines. The study focused on the language policy especially on language maintenance in some selected countries in ASEAN region. The findings indicate that some countries have language policies that benefit some of the minority languages; while others do not seem to be doing enough to stop the shift to the majority languages. This current study is closely related to the current study except in the setting of the study.

Method

This paper utilizes the qualitative method in the form of case study. It is a study of an issue explored by one or more cases by using a bounded system (Creswell: 2007). The subject of the study is a *Sasak* girl initiated K.A.H.I who is originally coming from Lombok Island, West Nusa Tenggara Province. In Lombok Island, there is an ethnic called *Sasak.* K.A.H.I is a *Sasaknese* because she lives and grows in Lombok. However, right now she is staying in central java, Java Island to continue her master study in Sebelas Maret University which lies is the Surakarta city, central java. It is known as the city of *Javanese* heritage.

Furthermore, the methods of collecting the data were observation, note taking and interview. Meanwhile, the model adopted for analyzing the data was an interactive model from Miles and Huberman (1984). The components of the interactive model are data reduction, data display, and drawing conclusion or verification.

Findings and Discussions

Sociolinguistics situation in Surakarta, Central Java

Surakarta is the name of a city in Central Java, Java Island where Sebelas Maret University lies. K.A.H.I is studying in this university right now. Same as other places in Indonesia, living in Surakarta also use not only local language (*Javanese* Language) but also Indonesia language. Besides, many other local languages are also spoken by the newcomers who are staying in Surakarta for studying or working. However, it is a good preference for newcomers because not all newcomers understand *Javanese*. The interactions of native *Javanese* are dominated by the *Javanese* language. Besides, the interaction among *Javanese* and *non-Javanese* such as *Sasak* comers sometimes used *Javanese* mixed with Indonesian language but more often using Indonesian language. The use of Indonesian Language as lingua franca is according to one of the three acknowledgement of the 2nd youth pledge.

Some terms of *Javanese* such as the expression of surprising are often spoken by the native *Javanese* mixed with the Indonesian language. However, those terms are familiar and understood by non-Javanese since they are often spoken. The living of non-Javanese such as *Sasaknese* in Surakarta seems to be easy since Indonesian can be used and understood everywhere in Surakarta city. As has been mention, Indonesian language as lingua franca eases the communication.

Description of Sasak language being maintained

K.A.H.I is the initial name of a girl being investigated since her language is unique. Every person may bring her language wherever she goes at least the dialect but K.A.H.I has the special one. She just maintains her *Sasak* Language when she speaks to her friends from Lombok who also understand Sasaknese by speak pronoun *"tiang"* and *"side"*. For example: *tiang sudah datang, side dimana?* "I already come, where are you". The words *"tiang"* and *"side"* are *Sasak* Language, meaning that "I" and "you". The entire language *"sudah datang, ...dimana"* are the Indonesian language.
The unique case of K.A.H.I is when she speaks; the use of *"tiang"* and *"side"* that she uses to her *Sasak* friends only will be automatically changed into full Indonesian language in the sentence above when she spoke to non-*Sasak* friends. The pronoun of *"tiang"* and *"side"* is the language that she maintains when she lives in multilingual speech society.

How to maintain the Sasak Language in multilingual setting

After being together in one university for a year and a half, the researcher who is also a *Sasak* person observes, takes notes, and casually interviews K.A.H.I about the language that K.A.H.I. used. The interesting fact is revealed that the use of pronoun *"tiang"* and *"side"* are the *Sasak* language use which dominating the conversation every K.A.H.I, the researcher, and other *Sasak* friends meet. The other language use is Indonesian.

When K.A.H.I being asked the reasons why she uses the only pronoun *"tiang"* and *"side"* of her *Sasak* language while the rest are Indonesian language, she said that it is because of the reflection, habit, respectful, and knowing the interlocutor who is also the *Sasak* speakers. She never thinks the pronoun that she will use before speak but is a reflection in her mental lexicon to use that pronoun. It is also because of the habit she often used since she fully uses *Sasak* language in her motherland. The mental lexicon, the habit, the reflection that K.A.H.I has is in contrast to Fillmore (1991) who states that the continuing use of foreign or another language may cause loss to the first language.

On the other hand, the use of pronouns *"tiang"* and *"side"* are polite pronouns because there are also the similarities between Sasak language and Indonesian language. *"tiang"* and *"side"* in Indonesian language are *"Aku"* and *"kamu"* which are also found in *Sasak* language but in impolite pronoun. That is why K.A.H.I said that using pronoun *"tiang"* and *"side"* are to respect the interlocutor who also understands the meaning of that pronoun, especially the native of *Sasak.*

Furthermore, K.A.H.I states that the use of pronoun *"tiang"* and *"side"* is one of the ways to maintain her local language in the multilingual speech community she is

living right now. She often said that she is very glad when meeting the *Sasak* friend in and outside the university. Even she cannot speak full *sasaknese* because *none-Sasaknese* cannot understand, she is very glad to use those pronouns when meeting her *Sasak* friends. *"It is like home to speak using my own local language"* she often said. *"There are some expressions that can only be making senses in my own local language"* she added. In short, local, national, and foreign languages are important to be mastered but the feeling of using each language is different.
Although K.A.H.I does not apply the ways to maintain certain language as David at.al (2009) mention, the use of the polite pronoun represents the effort to maintain her local language among many languages use. It can be called as the living documentation because of every pronoun mentioned, she always uses her local language.

Conclusions

Multilingual society is identic in this modern era since the moving people are very easy recently. Regarding the case of K.A.H.I, some points can be concluded such as the local language can be maintained although by using just pronouns of her local language. The local respectful to our interlocutor and maintain our own habit to be polite can lead us to use a polite reflection as K.A.H.I does. The unity of language is important but give honour to our local language is also needed since every place has their own ancient who brings our place as good as where we are living today.

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Contact email: nurun.hidayati@gmail.com

Ultimate or Alternate?
Enhancing the E-Learning Experience for Creative Media Students: Hong Kong and Singapore Perspective

OH Jae-Eun, The Hong Kong Polytechnic University, Hong Kong

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Abstract
Online learning (E-learning) platforms such as Blackboard, Moodle, and MOOCs have been widely used in various higher educational institutions. These E-learning platforms have been designed and developed for students to enhance their learning experiences by promoting blended learning. Current research in this area has demonstrated the effectiveness of online learning for distance education and as an online resources tool for students' benefit.
Conversely, the potential of E-learning platforms for art, design, and creative media students' learning experience have not been adequately explored extensively for the full benefit of it; for instance, courses that are meant to provide tutorial sessions, peer reviews, and project-based learning practices are not favorable to be delivered through general E-learning portals.
Hence, this paper aspires to bridge the knowledge gap by providing insights into how the E-learning approach can be harnessed to facilitate the teaching process in art, design, and creative media courses. Through an analysis of sixty(60) face-to-face in-depth interviews and online surveys with current students and educators in tertiary creative media courses in Hong Kong and Singapore, this study seeks to examine the current E-learning model and makes recommendations to generate better understanding in order to build an enhanced conceptual model. Furthermore, the findings of this study will indicate that customized and improved E-learning experiences are much needed for creative media students which could be catered to their specific pedagogical needs of the discipline.

Keywords: E-learning, Online learning, Web-based learning, Creative Media students, Online learning experience

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Introduction

Online learning has rapidly increased and improved regarding its usage in higher education over the last 20 years. Different platforms have been created for various goals, and the expectations for e-learning have changed. The resources are dynamic, and they can come from any online platforms. E-learning has been promoted and generalized in the educational sectors, regardless of different disciplines' characteristics, because of its versatility, flexibility, and personalization potential (Saadé, R.G., Xin, H., & Kira, D., 2005). Many schools are eager to provide students with numerous online learning platforms with learning management systems (LMS) to support both learning and teaching. However, online learning has not been utilized effectively in design/creative media courses, which require more practice-based learning and development. (Park, 2011). Lim (2004) has argued that tools including hardware, software, and infrastructure only provide the necessary conditions for online learning. According to general knowledge about e-learning, the platforms can be useful for distributing text-based information and managing students' assessment practice. However, creative media courses, such as art and design courses, are required to provide teacher-student interactivity for high-quality tutorial sessions because they focus heavily on technical skills (Oh, 2015), and these skills are catered to by educators who perform demos during class. The nature of these courses, which involves face-to-face consultation for project-based learning, is rather inappropriate for the e-learning environment.

The priority of creative media courses is to nurture students to be creative content creators by harnessing and honing their skill sets. Hence, interactivity and engagement in the classroom are considered essential characteristics of this discipline. Therefore, fixed online learning tools and LMSs should be customized for the unique learning context. This could benefit creative media courses, especially for Hong Kong and Singaporean students who utilize online tools for a blended learning experience, which is usually reinforced by schools. Singapore and Hong Kong are known to have the infrastructure, advanced IT sectors, and international profiles necessary to support rapid e-learning growth (Lee, 2005) (McNaught, 2011).

Aims and Objectives

This paper seeks to examine the impacts of e-learning on students' learning experience and to figure out how to customize the current e-learning practices to maximize the educational benefits for students. The nature of creative media courses is to nurture students to be content creators by training them with different technical skills and reinforcing their motivation to keep them creative. Therefore, studio-based learning is essential, with continuous tutorial sessions between teachers and students. However, e-learning platforms are not fully supportive of the studio environment, and the majority of design faculty members don't tend to use e-learning platforms often because they don't find them useful. This phenomenon causes a low usage rate of e-learning platforms in the classroom among design professors. Hence, the blended learning approach might be appropriate for creative media students. Some e-learning systems can function as tools such as bulletin boards or forums, but e-learning platforms run by a learning management system at a higher education institution have one distinctive characteristic: they are internal, and this means that there is no chance for the students to align themselves with industry professionals or to collaborate with

people from outside the institution. This amateurish characteristic limits the opportunities of students who would love to explore and broaden their horizons by showcasing their artwork or having discussions with peers from other institutions. Therefore, this study aims to examine the current e-learning model that the participants of this study use and to propose a customized online learning model for creative media students to enhance their learning experience.

Hence, this study aims to investigate students' enhanced learning experience using customized e-learning approaches. The key research questions are as follows:

1) How do students perceive e-learning for their coursework?
2) What factors affect students' learning experience when using e-learning platforms?
3) How do students perceive e-learning in terms of enhancing the learning experience in creative media courses?

Literature Review

Characteristics of Creative Media courses

Studio practice is the key to teaching art, design, and creative media today (Park, 2011). During studio hours, students carry out practical exercises, as well as conceptual and critical thinking exercises, and share their work with their classmates and teachers. Park (2011) has also claimed that the studio is where students and teachers interact with each other based on traditional principles of supervision, consultation, and discussion. Students usually are given a long-term project, and they try to hit different milestones as they progress with their projects to the end product. Along the way, students encounter problems in completing each different milestone, most of which are practical and technical, and they learn to solve the problems by assessing their learning and working to fix them. Thus, creative media and design education share the similar practice of project-based learning, and Lee (2009) pointed out that project-based learning is considered "a common feature in practice-based design education," where it is "rarely defined in practical curriculum development terms." Creative media students learn from scratch to set up a project pipeline, conceptualize and produce artwork, do post-production, and participate in dialogue sessions. Dialogues foster reflective practice, (Schön, 1983) and this is a fundamental component of design-related education, because through dialogues and consultations, students will become more skilled and gain a deeper understanding of their projects. (Schön, 1987) Through dialogue sessions, students can identify and solve authentic problems, which allows them to assess their learning and bridge the gap between what they have learned and how it can be used in practice (Park, 2011). Waks (2001) argued that regular communication and demonstration enables students to holistically approach the problem or task by integrating societal values and design elements into problem-based learning. By participating in a dialogue, students can develop and sharpen their reasoning skills. It is essential to engage students in interactive pedagogy so as to transform them from simple recipients of information into original contributors of insightful, quality responses (Auyeung, 2004). Students encounter various problems when they work on their projects, and therefore, constant supervision, consultation, and discussion are required in and are essential characteristics of creative media courses.

Creative media students' perception of e-learning

Recently, researchers have shown that students generally perceive e-learning positively. Students nowadays can be described as "digital natives" or "millennials" who have spent their entire lives surrounded by and using computers, video games, digital music players, smart devices, and all sorts of other toys and tools of the digital age (Prenksy, 2001). They use different digital gadgets with extensive features on a daily basis, for things such as communication (email, messengers, etc) or social networking (Facebook, blogs, etc.) (Lam et.al., 2011).

Just because most students nowadays are digital natives, however, does not guarantee that they enjoy e-learning for their coursework. The learning management systems adopted by universities provide students with electronic support and functions, working as centralized tools to provide materials (Vovides et al., 2007; Conole et al., 2006). However, most creative media students perceive them only as information distribution platforms. As studio-based practice is the core teaching method for creative media courses, students still consider the traditional training that provides face-to-face teaching to be the proper method for their learning. Students believe that receiving prompt feedback from teachers can provide a better learning experience.

Students also perceive e-learning as a formal, interactive activity; therefore, they are not enthusiastic about using it. LMSs include online pop quizzes and assignment submission as a part of their learning approach, and students consider the learning experience to be very limited (McNaught et.al., 2011). According to the students who were interviewed for this study, students need more a communicative and interactive e-learning approach for a better learning experience. They consider LMSs to be rigid and inflexible systems for learning.

E-learning in creative media courses in Hong Kong and Singapore

Pedagogy is changing rapidly with the growth of online technologies (Auyeung, 2004), particularly in Asia. Higher education institutions have started adopting various online learning management systems, such as Blackboard, Administrate, Moodle, Canvas, among others. Technology has changed the outlook of learning for both traditional and distance education, and these different platforms offer teachers and students more interactivity.

Broadfoot and Bennett (2003) argue that online learning can generate creativity, high-order thinking, reflection-in-action, and proficiency in design skills. Moreover, it fosters educational values by providing an active and engaging learning experience to students and educators alike. However, it is not immediately apparent how technologies can be employed to develop and deliver high-level interactive learning content for students without a thorough investigation (Milton, 2001), especially for design or creative media students. Although technology has advanced far enough to enable educators to embody many features of face-to-face learning in an online learning environment, researchers continue to argue that it still has restrictions in its functional capabilities to replace traditional learning (Clark 2003; Ho 2002; Quinsee & Hurst 2004).

As the "Intelligent Island," Singapore had become the first fully connected country with a hybrid fiber-optic cable network for almost all homes and businesses in the Central Business District (CBD) by the dawn of new millennium, the year 2000 (Lee, 2005). It had built the most networked society in the world. Therefore, the education

sector was equipped with e-learning activities. Singapore believed that the Internet had been designed as a key tool for transforming the nation into an innovative and creative society (George, 2002), so it was unavoidable that e-learning would be integrated and embedded in the curriculum of higher education, as education plays a critical role in Singapore. Universities and higher education institutions mostly engage in e-learning activities through LMSs. However, creative media, art, and design students see e-learning as less beneficial than students in other disciplines, as they prefer face-to-face tutorial sessions with their teachers in a studio-based learning environment.

The same thing is happening in Hong Kong regarding e-learning activities in higher education institutions. McNaught (2011) discovered that education officials are conservative about the use of technology for teaching and learning in Hong Kong. Nowadays, schools use the term "hybrid learning" to refer to a combination of technology-based and face-to-face learning activities (McNaught, 2011). However, students still lack an understanding of online learning, and they see LMSs mainly as tools for distributing information about their coursework. They appreciate the diversity of the functionality of technology but are also cautious about changing old habits, especially if this might impact their grades (McNaught, 2011). In the case of creative media students, they are more aware that they might not learn as much through online learning platforms than through their traditional tutorial sessions with teachers. These students are usually familiar with the technologies because they have to use different software and internet resources to create their work. However, they perceive an insufficiency in online learning materials, and some mentioned in their interview sessions that they wished e-learning platforms could adopt some more functions from social media. They use social networking services such Facebook, Instagram, WeChat, and many others actively for communication and reference collection on a daily basis.

Research Methodology

Qualitative research was employed as the main methodology to carry out this study. The purpose of this study was to identify how the current attributes of e-learning affect creative media students' learning experience and to provide suggestions for a better understanding of e-learning.

For this study, students and educators who represent creative media courses from Hong Kong and Singapore were chosen because these are countries where a relatively high percentage of higher education institutions use Internet networks, have good educational infrastructure, and incorporate LMSs compared to the rest of Asia.

Both face-to-face and email interviews were conducted with a total of 60 interviewees. For a better understanding of students' perceptions of the current e-learning systems and students' needs, the interview questions were based on research questions and the groups were segregated: the first group consisted of students and faculty members who had experience using LMSs, and the second group was comprised of students and educators who had no experience with e-learning platforms.

Albert Bandura (1977) discovered that people learn by observing the consequences of other people's behavior in his "social learning theory" (which later he renamed to

"social cognitive theory"). It is often described as the "bridge" between traditional learning theory and the cognitive approach. This is because it focuses on how mental (cognitive) factors are involved in learning (McLeod, 2016). He referred to "other people" or the "mass media" as models for people to observe and imitate. Observers (learners) learn by observing the consequences of the models' behavior—if the models get rewarded, the tendency of the observer to imitate the behavior increases. Bandura's theory was used for this study to suggest a conceptual framework.

<Conceptual Framework>

Bandura's Social Learning Theory	Phenomenon in E-learning
Attention	- Students notice that their school uses an e-learning system. - Students see their peers using e-learning systems to retrieve their course material. - Students see their peers submitting their assignments through the e-learning platform.
Retention	- Students mainly use the e-learning platform to retrieve their course materials and submit assignments. - Students perceive that e-learning systems are rigid and difficult to use. - Students don't consider e-learning a learning experience.
Reproduction	- Students see their peers using SNSs for their e-learning experience. - Students see the benefits that SNS features could bring to LMSs. - Students are open to innovation.
Motivation	- Students are willing to engage in e-learning with more innovative and customized platforms. - They can see the benefits of enhanced e-learning platforms.

Results

Finding 1: Most of the students did not consider e-learning platforms to enhance their learning experience.

Based on the results of the interviews, both students and educators in creative media courses mentioned that using LMSs are not highly favorable for the courses. Interviewees stated that they use e-learning platforms to retrieve information and teaching material, such as lecture notes or assignment briefs with a submission schedule, as well as to submit their assignments to the system. They consider and utilize them as information distributing platforms, so they do not give further experimentation with the platforms a second thought.

They also mentioned that not knowing much about the platform hinders using it to its full extent.

Most of the students also thought that simply using specific platforms was not e-learning. However, it still is a good way to distribute the information they need to know for their assignments.

Finding 2: The students mentioned the rigidness of e-learning platforms and that they generally have some technical inflexibilities.

The interviewees indicated that the functions of e-learning platforms could be enhanced. E-learning platforms are still limited when it comes to interactive communication. There is no interactivity—one cannot reply or leave comments on announcements or in the assignment section to get feedback or an answer from the tutor. This makes the platforms one-way channels for students. The lack of such functions does not encourage students to use the platforms more proactively. Moreover, some of them mentioned that the user interfaces are boring and not user friendly, making the platforms even less attractive.

Both groups of interviewees use SNSs (social networking service) to either supplement their specific e-learning platforms or as their main e-learning approach. The group of students and educators who use SNSs as a supplement platform claimed that useful functions of SNSs have helped them a lot to communicate with each other. As the most unattractive feature of e-learning is the lack of interactivity, students feel that a "reply" or "comment" function should be integrated into e-learning platforms.

Creative media students are familiar with brainstorming, sharing ideas using sketchbooks, taking notes, and checking numerous references online, so they require platforms that can give them a more open, flexible, and interactive experience. They also mentioned that if e-learning platforms adopted some tools from SNSs, they would be willing to visit and use the platforms more often.

Findings 3: Interviewees do not consider LMSs e-learning platforms.

Most of the students asserted that LMSs have no effect on their learning; in other words, they do not feel that using LMSs enhances their learning experience in any way. They do not value the experience as part of their learning process because the platforms are merely used for administrative purposes—to distribute course-related information. Moreover, because of the characteristics of creative media courses, students prefer traditional, face-to-face tutorial sessions.

The group of students and educators who did not use e-learning platforms were satisfied with using SNSs as alternative e-learning platforms. They utilize them as information distributing boards as well, but the interactivity between teachers and students or between students and their peers actively happens all the time on SNSs. They share their ideas with images or videos of their references and upload their artwork to the platform for feedback from their teachers and peers. The most beneficial experience they get is that they receive notifications on their smart devices and computers immediately. This immediacy motivates them and connects them to the learning mode, and this atmosphere carries over to the physical classroom because they are always connected. They are more encouraged to participate because the platforms are more interactive than typical e-learning systems. They are not one-way communication channels but two-way communicative networks.

Some examples from interview sessions:

> *"I think LMS can be similar to SNS which provides interactivity. I want to reply my teacher's announcements or want to share some useful information with my peer but system doesn't allow us to do so. It is, in a way, very restrictive and passive to be a learning platform."*

> *"We have used school's e-learning platform to download course materials (PPT slides), and upload our assignments. That is it."*

> *"I love using our batch's Facebook group to check my teachers' announcements, and share the useful reference with my classmates. Platform is very open for us to do sharing and having discussion sessions."*

Conclusion

This study aims to investigate the perceptions of using e-learning platforms among creative media students and to identify how to make teachers and students more willing to use e-learning platforms.

The findings suggest that e-learning platforms should be more innovative and flexible. Students do not sufficiently know about or understand e-learning, and they believe that the purpose of e-learning platforms is only to retrieve course materials and submit assignments. Moreover, they mentioned that most e-learning platforms have rigid systems, so students encounter technical difficulties when they try to edit their submissions.

The interviewees suggested that e-learning platforms could be enhanced by adopting functions from SNSs, such as a "reply" function or other interactive tools that foster two-way communication between teachers and students. The current generation of students is familiar with the advancements of technology, and they are keen on taking opportunities to improve their learning experience through e-learning. From the findings, we can see that the participants are open to innovation and change to create a positive learning experience.
Since every discipline has different expectations and styles of learning, students think that e-learning platforms should be customized for different fields. To create an e-learning platform that students perceive as beneficial, schools and educators should pay more attention to a design that can be adapted for different disciplines. This effort will gradually change students' perception of e-learning and allow them to appreciate the advantages of the e-learning experience.

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Contact email: jae.oh@polyu.edu.hk

Implementing Inquiry-based STEM Learning in Tenth Grade Students

Nattapong Maneerot, Mahasarakham University, Thailand
Prasart Nuangchalerm, Mahasarakham University, Thailand

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Abstract
Inquiry-based STEM learning (iSTEM) is now familiar with science education and active learning for 21st century learners. This study aims to investigate learning achievement in biology in 10th grade students. Eight lesson plans with 12 hrs of iSTEM and achievement test were used for implementation. Inquiry-based STEM learning consisted of engagement, exploration, explanation, elaboration, and evaluation which support by creative activities. Data were analyzed by percentage, mean, and standard deviation. Students had 93.32 % of their mean score after learn with iSTEM. They also had learning behavior into science classroom in actively.

Keywords: STEM education, inquiry-based learning, achievement

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Introduction

Science, Technology, Engineering, and Mathematics (STEM) literacy is an important element in science related programs of 21st century (Daugherty, 2013). The decisions related to individuals and societies in the 21st century, which demand scientific and technological understanding more and more to sustain daily life. If life without technology and engineering is unimaginable, then society has less innovation. The engineering component of STEM education doesn't just stand on the solutions but emphasizes process and design of solutions. In this way, students can discover mathematics and science in a more personal way and adopt critical thinking skills that can be used throughout their academic lives and works. Students can use engineering to explore, discover and to solve problems. One part of STEM Education can really help understanding the others (Ceylan and Ozdilek, 2015).

STEM refers to (1) obtain scientific, technological, engineering and mathematical knowledge and using it to identify issues, get new knowledge, and use it for issues about STEM, (2) comprehend the characteristics of STEM disciplines as forms of human efforts including inquiry, design, and analysis processes, (3) understand how STEM disciplines give shape to our material, intellectual and cultural world, and (4) engage in issues about STEM by using ideas related to science, technology, engineering, and mathematics as thoughtful, sentimental and contributed citizens (Bybee, 2010). STEM education is needed to keep up with today's developments. For that purpose, it is essential to investigate the scope, theory, and practices of STEM education in all educational levels and reorganize the instructional programs in compliance with the approach (Turkish Ministry of National Education, 2009).

To engage students in science and technology, various reports include scientific inquiry in their courses (Rocard et al, 2006). So, in this research we integrate inquiry-based with STEM education to inquiry-based STEM (iSTEM) to motivate more young people to choose science and engineering as their future career path to keep our future economy competitive. However, we need to improve example of lesson plans in 10th grade students. It will be an example for our science teaching program in STEM education.

Method

One-group posttest only design was used in this study. The participants were 45 of 10th grade students in Sarakhampittayakhom school, Mahasarakham, Thailand. Eight lesson plans with 12 hrs. of Inquiry-based STEM learning (iSTEM) were developed for the topic of digestive system in biology subject. iSTEM consisted of engagement "the aim is to motivate of students' prior knowledge to engage in learning the topic", exploration "the students in each group share the theory and knowledge with others. Then they create the innovation from their ideas", explanation "the students explain the concept to how their innovation can work", elaboration "students use their new knowledge in a different situation", and evaluation "after the implementation, an achievement test that assesses the students' learning". Twenty-five item of multiple choices achievement test on digestive system in biology subject was used to collecting the data. The quantitative data were analyzed by percentage, mean, and standard deviation.

Result

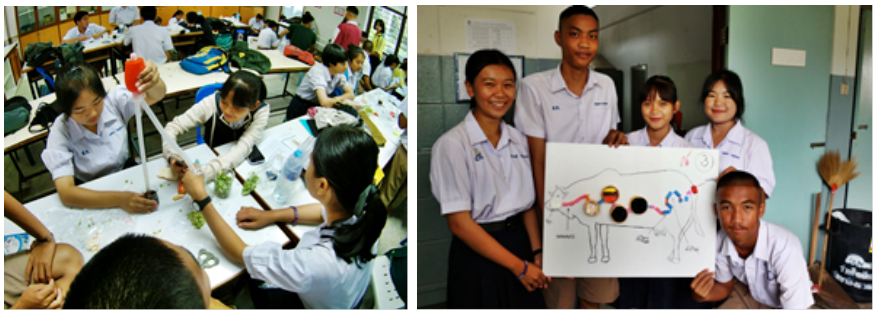
Descriptive statistics involving percentage, mean, and standard deviation were used to determine the students' achievement test. The results of quantitative data of students' achievement is presented in Table 1.

	N	*Full Score*	$(\bar{x})$	*SD*	*Percentage*
Achievement test	45	25	23.33	2.55	93.32

Table 1. Students' achievement test results on digestive system

Forty-five students had mean score is 23.33 from 25, standard deviation is 2.55 and 93.32 % of their mean score after learn with iSTEM.

From the learning activity record form of each lesson plan we found that, the students were actively, communicative, and collaboratively in classroom. They are present of ideas to create the innovation with confident and shared their knowledge to others learning groups in Figures 1. From students interview of implementation we found the students happy with iSTEM activity because they inquiry the theory and knowledge implicate to the learning topic and brainstorming to design and create the innovation in their style without pressure in the classroom.



A B

Figures 1. A. Students created innovation to solve problem.
B. Students present of ideas to create the innovation with confident.

Discussion and Conclusions

The Inquiry-based STEM learning (iSTEM) lesson plan that was developed by the researcher on 10th grade students can help students to reach high score on digestive system in biology subject (93.32% of mean score) after the implementation. They gain to sufficient level of learning score, that mean is iSTEM improved the students' knowledge to competitive in the real-world to more opportunity of good career. The results of this study are consistent with the study conducted by Ceylan and Ozdilek (2015) There are developed the lesson plan by using 5E learning intergrade with STEM education. Their study showed that students' achievement on post- test were higher than the pre- test. Moreover, the qualitative data show that, iSTEM activity engage student's learning behavior into science classroom in actively. Furthermore, STEM enable students to transfer their knowledge and skills to real-world problems,

to be motivated to learn, and to improve their math and science scores (Diana, 2012) and/or a capstone projects to fulfill graduation requirements (Scott, 2012).

In conclusion, we can say that, iSTEM is the alternative to use in the science classroom in 21st century because iSTEM help students to reach high score in achievement. Moreover, iSTEM enable learning activity. Students were actively, communicative, and collaboratively in classroom. The iSTEM will create knowledge and skills to real-world problems and motivate more young people to choose science and engineering as their future career path to keep our future economy competitive in the real-world. That is why, iSTEM important in 21st century to implementation in classroom.

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Contact email: tong-doc@hotmail.com

A survey of Mathematics Reasoning Ability of grade 10th students in Thailand

Teerawat Loonsakaewong, Mahasarakham University, Thailand
Montri Thongmoon, Mahasarakham University, Thailand

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Abstract
The purpose of this study was to survey the Mathematics reasoning ability of grade 10th students. The participants were 47, grade 10th students in Sarakhampittayakhom a school in Maha Sarakham, Thailand, 2nd semester of 2016 that selected by purposive sampling. The instrument was Mathematics reasoning ability test that include inductive and deductive reasoning ability, multiple choice, 15 articles. The data was analyzed by using mean, percentage and standard deviation. It was found that the mean score of Mathematics reasoning ability test was 8.62 of 15. The scores of inductive and deductive reasoning abilities were not different. In addition, the results indicated that the number of students in percentage with good, middle and poor level were 27.66, 36.17 and 36.17, respectively.

Keywords: Mathematics reasoning ability

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Introduction

The aim of learning in the 21st century is the students succeed both in living and working such as the decision, solution, manage emotion, stress management and critical thinking and so on. For every ability that relevance to mathematics. For reasoning is the ability to think logically and to solve problems in various situations by applying the knowledge. It's a heart component of development, as a reasoning ability will support in other abilities. Childhood with strong reasoning ability can predict a performance of learners. In mathematics education, reasoning ability is one of the high-level thinking skills that should be owned by students. So, teaching by understanding the law and principle enables learners to succeed in their studies. The ability to reason is also one factor that helps students succeed in their career. By reasoning, it expresses the concept of relational principles and rational conclusions. It is based on analytical thinking combined with mathematical solutions. From Trends in International Mathematics and Science Study 2015 (TIMSS 2015) show that the average score of ability in mathematics of Thai's students was 431, it was 26th of 39 country. It indicated that Thai's student has low level of mathematical ability as compared with international students. The mathematical reasoning consists of inductive reasoning and deductive reasoning.

As above, reasoning ability in mathematic is an important factor that will enable students an improved chance of having a successful life. Consequently, the researchers want to survey the mathematical reasoning ability of grade 10th students' in Sarakhampittayakhom School, Thailand.

Research Purposes

The purpose of this research was to survey the level of Mathematical reasoning ability of grade 10th students.

Procedures

1. The researcher had studied the level of mathematical reasoning ability of grade 10th students.
2. The basic data was collected not only from the literature review but also from Mathematics reasoning ability test that include inductive and deductive reasoning ability, multiple choice, 15 articles.
3. The data was analyzed by using mean, percentage and standard deviation.

Participants

The participants of this study consisted of 47 students of grade 10th students, 2nd semester of 2016 that selected by purposive sampling. which have the different levels of the achievement.

Research Instruments

The research instrument of this study was the 15 items of mathematical reasoning ability test. It measured in 2 aspects including Inductive and deductive ability.

Results

According to 47 students of grade 10th students who study in 2nd semester of 2016 from Sarakhampittayakhom School, Thailand. There were 12 males (25.53%) and 35 females (74.47%).

sex	mean	SD
Male	7.42	2.429
Female	9.03	3.267
Total	8.62	3.132

Table 1: The comparisons of the mean score.

The table above shows mean score of mathematics reasoning ability in male, female and total was 7.42, 9.03 and 8.62. Standard division was 2.429, 3.267 and 3.132, respectively. Regarding the results, it indicated that female and total mean score were in middle level. The other was in poor level.
The data was interpreted by using the interpretation of score which was categorized to 3 levels including good, meddle and poor. The criteria of interpretation of score showed in Table

Score		Level
(>70%)	11.00 – 15.00	good
	8.00 – 10.99	middle
(<40%)	0.00 - 7.99	poor

Table 2: The criteria of interpretation of score.

level	N	percentage	Mean	SD.
good	13	27.66	12.46	1.05
Middle	17	36.17	9.05	0.90
poor	17	36.17	5.24	1.48

Table 3: The comparisons of the level mathematics reasoning ability.

The results indicated that the student's mathematics reasoning ability mean scores in good group, Middle group, and poor group were 12.46, 9.05, and 5.24, respectively. The number of level that divided into 3 groups were 13, 17 and 17, respectively.

Mathematics reasoning ability include inductive and deductive. The mean score show that inductive and deductive reasoning ability were not different.

Reasoning Ability	mean	SD.
inductive	4.15	1.865
deductive	4.47	1.804

Table 4. the comparisons of the mean between inductive and deductive reasoning ability.

Conclusions and Discussions

From the study, Mathematical Reasoning ability of 10^{th} grade students in Thailand shows that the mean scores of Mathematical Reasoning ability of the students are different. Male has a reasoning ability lower than female. In other words, male has poor proficiency, and female is in medium. When we consider about inductive reasoning and deductive reasoning ability that shows they are not different. In consideration of learning methods and opportunities found that the learning activity of the students in each group is different. Male students who learn in science-math program are not interested in learning. They do not like searching for knowledge and do not try to solve problems when compared to females. The ability must rely on other mathematical abilities such as the capability to solve problems, analyze systematic thinking, etc. The improvement of the ability to reason could occur due to continuous training. This statement was supported by NCTM (1989) has also identified that communication, reasoning, and problem solving are important processes in learning mathematics in an effort to solve mathematical problems. The ability to reason must be developed consistently using a variety of contexts. Moreover, the training will be the result of instruction and teaching from the teacher. Teachers need to change the way they teach their students to self-justification. This statement was supported by Akkus (2007) shift from traditional teaching to teaching with self-discovery and mathematical reasoning. According to the studies, we found that students who have learned in new ways have significantly higher reasoning abilities than traditional ones. Therefore, students are encouraged to search increasingly by teachers helps. New activities “Finding the answer by yourself” help students to reason and the ability in other important areas followed. Wongdoen Jaiaoon (2009), she claimed that learning by doing projects provided the students to think. In case that thinking process was practiced when they have an opportunity to talking, thinking, and working with their friends. Additionally, the process in doing project let the students to think logically. Turmudi (2009) stated that in order to develop reasoning skills, teachers should let students discuss and brainstorm. Ability to express the argument is important to understand mathematics. Thus, teachers must help students to develop the ability to argue through the disclosure of ideas, explore phenomena, justify results, and use conjecture in all branches of mathematics with different expectations.

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Contact email: l.teerawat@hotmail.com

Education for Urban Refugee Children in Malaysia: Pathway to Peace

Leong Shook Yee, International Christian University, Japan

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Abstract
This research focuses on the educational experiences of urban refugee children in Malaysia, examining the expectations of parents, NGO of educational projects for urban refugee children in Malaysia and investigating if the education space contribute to peace through intergroup contact. The conceptual framework for the study is based on intergroup contact theory which is based on the belief that interaction between individuals belonging to different groups will reduce ethnic prejudice and intergroup tension which could contribute to peace and conciliation. Although literature does provide for how education contributes to building peace, the lack of reporting by the media in Malaysia on refugee issues, the situation of refugees in Malaysia is not widely explored and this is especially true in relation to the education of refugee children in Malaysia. As such, this research intends to fill the research gap in literature by providing a more in depth studies on the educational experiences of urban refugee children, exploring the expectations of parents and key NGO of education projects and examining if indeed education for urban refugee children in Malaysia does fulfill these expectations and contribute to reduced ethnic prejudice and intergroup tension.

Keywords: Intergroup contact, education, friendship

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Introduction

According to UNHCR Malaysia, as of the end of April 2016, there are 154,140 refugees and asylum seekers in Malaysia out of which, 34,600 are refugee children below the age of 18.[1] The majority of the refugee population are from Myanmar, most of them ethnic Chin and Rohingya.[2] Despite being one of the main destination countries for new asylum seeker, it does not have any mechanism to process asylum seekers and refugees when they arrive in the territory. The absence of a legal or administrative framework in place to address the refugee situation in Malaysia causes the education provision and support for these urban refugee children to be limited. Despite the fact that the Government of Malaysia is a signatory to the Convention on the Rights of the Child[3] which requires the Government to take action in ensuring education for all primary aged-children in Malaysia[4], urban refugee children do not have access to free or formal national education programmes in Malaysia[5] [6] The only access the urban refugee children have in Malaysia is through education projects run by UNHCR in partnership with Non-Governmental Organizations or community-based education schools, organized by the refugee communities with support from non refugee groups such as faith based groups. Despite the National League for Democracy's landslide election victory in the recent general election 2015, with more than two thirds of the contested seat calls for an end to decades of military backed rule[7] there is possibility that Myanmar ethnic minorities to be marginalized more if there is little or no representation of ethnic minority in the country's political institutions.[8] Apart from the conflict between the Burmese and the ethnic minority group, there is also the religious conflict in Myanmar between the Muslims and Buddhist community which led to communal violence especially in the Rakhine state.[9]

Considering the educational space provided by the education projects in Malaysia maybe the a rare opportunity for children from different ethnic groups from Myanmar to assemble in the same space, it is essential to examine if the intergroup contact can promote reduction of ethnic prejudice and intergroup tension that is prevalent in their country of origin.

[1] UNHCR Malaysia, Figures at a Glance, available at http://www.unhcr.org.my/About_Us-@-Figures_At_A_Glance.aspx

[2] ibid

[3] UN General Assembly, *Convention on the Rights of the Child*, 20 November 1989, United Nations, Treaty Series, vol. 1577, p. 3, available at: http://www.refworld.org/docid/3ae6b38f0.htm.

[4] Ibid Article 28 of the Convention on the Rights of the Child

States Parties recognize the right of the child to education, and with a view to achieving this right progressively and on the basis of equal opportunity, they shall, in particular:

(a) Make primary education compulsory and available free to all;

[5] Bar Council Malaysia, 'Developing a Comprehensive Framework for Refugees and Asylum- Seekers in Malaysia (2011 June)

[6] UN Human Rights Council, *Report of the Special Rapporteur on the Right to Education, Vernor Muñoz Villalobos: addendum : mission to Malaysia*, 20 March 2009, A/HRC/11/8/Add.2, available at: http://www.refworld.org/docid/49f06efd2.html

[7] BBC (13 November 2015) Myanmar election: Suu Kyi's NLD wins landslide victory, Retrieved from http://www.bbc.com/news/world-asia-34805806

[8] Nilsen, Marte, and Stein Tønnesen. "Political parties and peacebuilding in Myanmar." *Peace Research Institute Oslo Policy Brief 5 (2013): 2013.*

[9] BBC (3 July 2014) Why is there communal violence in Myanmar, Retrieved from http://www.bbc.com/news/world-asia-18395788

Research Question

1. What are the key expectations of parents, NGOs of education projects, teachers and refugee children of the educational space for urban refugee children in Malaysia?
2. What are the educational experiences of urban refugee children in their country of asylum, Malaysia in relation to their interaction with their fellow students?
3. Does education for urban refugee children in Malaysia contribute to reduction of intergroup tension?

Prejudice & Intergroup Contact Theory

As the research question examines if the education for urban refugee children in Malaysia contribute to reduction of ethnic prejudice and intergroup tension, it is important to first define prejudice and intergroup contact theory. The definition of prejudice is a negative attitude towards a social group.[10] According Samson, 'prejudice involves an unjustified, usually negative attitude towards others because of their social category or group membership[11] In discussing theories of prejudice and its application to the case study of refugee school in Malaysia, two particular theories namely, the social identity theory and integrated threat theory appear relevant to the discussion as it is applicable to multiethnic schools especially in the case of the existence of a predominantly minority group student bodies.[12] Social identity theory is based on the aspect of self-identity that is based on group membership[13], whereby the stronger the members of a group identify with the group the more the perception that the outgroup is homogenous and an increased in group favoritism.[14] This process allows for the group to view the in group as distinctively positive. [15] The second theory, integrated threat theory highlights an important cause of prejudice, which is feeling of threat and fear and there are 4 basic types of threat which could lead to prejudice, namely, realistic threat, symbolic threats, intergroup anxiety and negative stereotype.[16] There are also 7 factors which identified which could increase these threats namely, level of prior intergroup conflict, contact, status and lastly the knowledge of the outgroup[17].

In discussing whether the contact that the refugee children of different ethnic group would reduce intergroup conflict, we will look into the intergroup contact theory. In relation to intergroup contact, Allport[18] proposed that contact between members of different group leads to more positive intergroup attitudes. This is supported by

[10] Newcomb, T., Turner, R., & Converse E(1965) Social Psychology. New York: Holt, Rinehart, & Winston.

[11] Sampson, E. E. (1999). *Dealing with differences: An introduction to the social psychology of prejudice*. Harcourt College Pub as cited in Brown, R. (2011). *Prejudice: Its social psychology*. John Wiley & Sons pg.4

[12] Stephan, W. (1999). *Reducing prejudice and stereotyping in schools*. Teachers College Press.pg 39

[13] Turner, John C., Hogg, Michael A., Oakes, Penelope J., Reicher, Stephen D., & Wetherell, Margaret S. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford: Blackwell.

[14] Stephan, W. (1999). *Reducing prejudice and stereotyping in schools*. Teachers College Press pg 29

[15] ibid

[16] Stephan, Op cit, pg 30

[17] Stephan, Op cit, pg 32

[18] Allport, G. W. (1958). *The nature of prejudice: Abridged*. Doubleday.

Pettigrew and Troops[19] comprehensive meta-analysis supports the verification of Allport's proposed theory. It is noted that Allport's intergroup contact hypothesis is a key development in the field of social psychological research on intergroup relations as he specified, among other things, the critical situational conditions for intergroup contact to reduce prejudice[20]. Allport held that in order for positive effects of intergroup contact to occur, the four key condition are ; equal status; common goals; intergroup cooperation; and the support of authorities, law or custom. On the other hand Amir[21] provided that some of the conditions which could strengthen prejudice would involve a) when contact situation produce competition between groups b) when the contact is unpleasant, involuntary, tension laden c) when the prestige or status of one group is lowered as a result of the contact situation d) when members of a group or the groups as a whole are in a state of frustration e) when the groups in contact have moral or ethnic standards which are objectionable to the other f) in the case of contact between a majority and minority group, when the members of the minority group are of lower status or are lower in any relevant characteristics than the members of the majority group.

Preliminary Findings

Key expectations on educational space for urban refugee children in Malaysia Interviews with the teachers

It is seen from the interviews with the teachers and principal that their perceptions of the key expectations of educational space for urban refugee children in Malaysia can be divided in 4 main expectations:

a) Ensuring that the students have a safe place to go spend time whilst in Malaysia
b) Providing the students with the basic knowledge necessary for resettlement
c) Providing a place for spiritual, emotional and moral support.
d) Preservation of the Burmese language

a) Safe place

The teachers indicates that from the teacher's perception that the learning center provides a space to keep the refugee children off the streets and provide a safe space for them to go to while they are in Malaysia. This is contrary to reports[2223] which indicate that parental concern that their children would harassed, arrested and arrested by authorities due to their lack of identification had contributed to low participation of refugee children in receiving education, causing the refugee children to spend their

[19] Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of personality and social psychology*, *90*(5), 751-783.

[20] Allport, G. (1962). W. 1954. The nature of prejudice. *Reading: Addison-Wesley*.

[21] Amir, Y. (1969). Contact hypothesis in ethnic relations. *Psychological bulletin*, *71*(5), 339

[22] UN High Commissioner for Refugees (UNHCR), *But when will our turn come? A review of the implementation of UNHCR's urban refugee policy in Malaysia*, May 2012, PDES/2012/02, available at: http://www.refworld.org/docid/5142ed802.html

[23] Aljazeera (20 June 2016) Rohingya children in Malaysia, an undocumented life, Retrieved from http://www.aljazeera.com/indepth/inpictures/2016/06/rohingya-children-malaysia-undocumented-life-160620042659161.htm

childhood in their neighborhood not leaving their community. This might be explained by the fact that most of the students live in the nearby vicinity to the school and during an undocumented conversation with the principal, the researcher was informed that there is fear that the older children could be stopped by authorities but the younger children does not face any issue. Apart from that, during the researcher's period of research at the learning centre, a new development had taken place whereby there are opportunities for the students to further their education to university level which previously was not available. As such, the learning centre provides a space where they can strive for a further education instead of venturing into the work place where they are forced to take up low paying work and would vulnerable to exploitation from the employers.

b) Basic knowledge necessary for resettlement

In all the interviews with the teachers, reference were made to resettlement of the students to a third country. The teachers viewed their role as teachers to prepare the students for their further education and integration when they are resettled to a third country. As such subjects such as English and other basic academic subjects are deemed with upmost importance. This is consistent with reports indicating that the education provided through the education projects are mainly English, Math, Science and Malay language which is consistent with the aim of the community based schools to equip the refugee children with basic reading, writing and arithmetic skills[24].

c) Spiritual, emotional and moral support

Considering the traumatic experiences of refugee children having to leave their homeland and their tumultuous journey of escape to their country of asylum where they have to adapt to a new environment, this can contribute to complex psychological, emotional, resettlement process. [25] Having to adapt to their new environment in Malaysia can result in development of learning difficulties, behavioral problems and psychological distress. [26] Therefore, it would appear that the provision of spiritual, emotional and moral support that the students are able to depend on is a key expectation that the teachers have on the educational space for urban refugee children in Malaysia.

e) Preservation of the Burmese language

It is observed during the research that not all the students from Myanmar are fluent in Burmese and most of the students speak in their own dialect. In fact some of the students are more fluent in English than Burmese. The introduction of Burmese is seen as a valuable asset for the refugee children if they return to Myanmar or for their assimilation with the refugee community in their country of resettlement but it is also a common language which can be a unifying factors for the refugee children studying in the school.

[24] New Straits Times, 24 May 2012, Spotlight: Refugees' struggle for education available at http://www2.nst.com.my/nation/general/spotlight-refugees-struggle-for-education-1.87056

[25] Hamilton, R. J., & Moore, D. (2004). *Educational interventions for refugee children: Theoretical perspectives and implementing best practice*. Psychology Press.

[26] Ibid.

Interviews with parents

There is a common thread of expectation of the teachers which are shared with the parents who were interviewed. Firstly two of the parents expects that their children will learn English well and that they will be able to communicate with others and help their family in assimilate in the country of resettlement in the event that they are resettled. Whereas a parent mentioned that he is glad that his child is learning Burmese in the school. Two parents who were interviewed were not educated themselves, their wish that their children will be educated and gain knowledge in the school and a parent hope that after his child complete his education in the school he would join another school or degree or diploma.

Interview with students

The main expectation of the students who were interviewed on why they go to school was to learn English. It can be seen that 13 out of 17 students had mentioned that they wanted to learn English. The students believe that learning English would be essential for their future in getting a job and when they get resettled to a third country. Besides that the school also gives them hope to aspire for a better future and it is a place where they can find positive role models.

Education experiences of the refugee children in relation to their interaction with their fellow student

Interviews with the students

The researcher found that the results from the interviews with the student can be divided into 3 broad categories namely a) positive interaction, b) positive interaction with occasional fights and quarrels and c) less than positive interaction due to religious and language difference. The results will be discussed in more detail below:-

a) Positive interaction

It is noted that majority of the students interviewed had positive interaction with their classmates. Most of them revealed that they were happy in school because they have friends who they can study and play with. The school provide them with a space where the children can learn to socialize with the other children. This is true even for children who had expressed that they face difficulties in learning in school, they had stated that they enjoy going to school because it is a place where they can meet and spend time with their friends.

b) Positive interaction with occasional fights and quarrels

In the interviews, 4 of the 17 students interviewed had revealed that although they had good interaction with their friends in school, they would sometimes fight and quarrel with their friends. Some of the students stated that they will quarrel with their friends and that their friends would use bad language. When asked about the content the students were not able to specify any particular reasons that they will fight with their friends.

c) Less than positive interaction due to religious and language difference

Out of all the students interviewed only 3 students had specifically stated that they had less than positive interactions with their classmates due to the difference in religion and language. 2 of the students had indicated that they did not have good interactions with their friends as they were from different religion. Although both the students had stated that they had good friends in the class, they were not happy that their religion was insulted by their classmates. One of the student had expressed difficulties in interacting with her classmate due to the different dialects however, it is noted that the student has a good friend in class and was able to converse with her classmate in English.

Interviews with the teachers

When asked about the teacher's observation of the education experiences of refugee children in relation to their interaction with their classmates from different religious and ethnic background, some teachers had expressed their opinions of what they perceived to be the hindrance to the interaction between the children whilst some teachers think that the there is no difference in the way they interact with one another despite the difference in religion and ethnicity.

a) Linguistics hindrance to interaction

From the interviews with the teacher with regards to the interaction between the children from different ethnic and religious backgrounds, two of the teachers noted that the difference in the dialects spoken by different ethnic groups is a hindrance to the interaction between the students. However, the teachers added that once the children are able to language barrier and are able to communicate with one another they are able to be friends with one another.

b) Difference in religion

Only 3 teachers had expressed that they had observe the presence of tension in the interaction between the children from different religious background in the class. The teachers were also quick to point out that they have consciously attempted to correct the behavior of the children whenever such tension arises.

c) Difference in Culture and Ethnicity

It is interesting to note that one teacher believe misunderstanding between the student from different religion could also be caused by a difference in culture between different ethnic group.

d) Positive interaction

The remaining 3 teachers interviewed had stated that there is good interaction between the children. Two of the teachers simply stated that there is good interaction and one of the teacher who stated that she did not notice much difference in the interaction between children from different religious or ethnic background.

Interviews with parents

All 3 parents who were interviewed does not know much about the interaction between their child and their classmates. However, they had stated that the friends of their children are of Christian religion.

Reduction of intergroup tension

Taking into consideration firstly, the religious conflict in Myanmar between the Muslim and Buddhist community which led to communal violence in the Rakhine state[27] and secondly, the sectarian violence against the Myanmar Muslim and Rohingya community in Myanmar, the educational space provided by the education projects in Malaysia maybe the rare opportunity for children from different religious groups from Myanmar to assemble in the same space. As such, the research would examine if the intergroup contact can promote reduction of ethnic prejudice and intergroup tension that is prevalent in their country of origin.

Interview with Students

During the interviews, the students were asked who their best friends are and why these friends were chosen as their best friends, in order to determine if religion or ethnicity are factors taken into account when deciding who they are friends with. The result shows that none of the students expressed that religion or ethnicity as a determining factor. Instead, the determining factors includes the characteristics of their friends, the way the students were treated by their best friends, the fact that they spend time with each other, the proximity of the students and their friends in class and place of residence.

With regards to the interviews with Buddhist and Muslim students who are the minority in the class, it is interesting to note that when both the Buddhist student and Rohingya Muslim student from Rakhine state were interviewed, both of them does not appear to know much about the other's religion despite the communal violence which were reported between the Buddhist and Muslim in Rakhine state.

When the Rakhine student was asked about her experience with people from different religion from herself she stated that she was initially afraid but indicated that when she got to know her classmates they are fine. The following is the excerpt from her interview:-

"The first time I came here I was afraid because I have never friends with chin people and non Buddhist I was afraid now I am happy…we become friendly and we know more so I am happy now. I know about Muslim religion before coming to school..I don't know very much about them what I know that they don't eat pork that is what I know. After we know them we are fine. We discuss and we talk but we don't discuss other than learning and subjects when we study and play."

27 BBC (3 July 2014) Why is there communal violence in Myanmar, Retrieved from http://world-asia-18395788 I

When the Rohingya Muslim student from Rakhine state was asked about his experiences with his classmates who are from a different religious background from himself at class he stated that his friends who call him by a derogatory term which he did not like. Despite the fact that he appear to be close friends with two other boys in class, he identified more with his friends whom he made in his former school which is a Muslim school. The following is the excerpt from his interview:-

" I don't have good friends in the class. They are very naughty they play around. They call me kala. Kala because we are Muslim I don't like it. I am not their friends, we don't meet them every day but my friends outside we meet up every day..Here we don't meet during the holidays. I haven't heard anything about Buddhist or Christian before I came here... but I think we are all the same"

Meanwhile the interaction in class seems to have create a positive effect on the Buddhist Shan student who had expressly stated that his best friend from class was from Muslim background. Although he was initially afraid of the Muslim due to hearsay information from his friends he said that he is not afraid anymore after he knew his friend who is Muslim from school. However, he did mention that being in Malaysia which is a country with Muslim majority has also helped him get over his fear. The following is the excerpt from his interview:-

"Before I came to this class I know about Muslim.. Before that my friend in Myanmar told me that Muslim will chop off people's head…because I didn't know and we were young. I am afraid of them but now I am ok now I am in their world I am used to it..now I am with Muslim daily in Malaysia is also Muslim but that time I didn't know. The first time I quarreled with him I was afraid that he will tell his parent.. but I don't think they will chop of my head. I am afraid when I thought about what my friend said in Myanmar. But I know how he is now I am not scared."

Finally, it is noted that the Myanmar Muslim student from Yangon was able to communicate better with his friend who is Buddhist as he is from a bigger city and has had contact with friends who are Buddhist in Myanmar. When asked about his interaction with his friends in class he mentioned that he has a Buddhist friend in class and although he stated that his mother had asked him not to be friends with some boys who were Buddhist he clarified that it is more due to their character and not based on their religion. The following is the excerpt from his interview:-

"I have Buddhist friend in the class and other class. I am good friend with him… he is he is a good monitor he is our monitor. He is not like other students.

"In Myanmar the Buddhist every morning at 5am they pray and I heard their prayers and I know a bit about their prayers…after I know them I think they are aggressive. Every time I saw them I see they are fighting with each other that is why I think they are aggressive and they don't listen to their parents. My mother asked me not to be friends with them. My mother and their mothers are friends so my mother know about them and my mother asked not to be friends with them"

Interviews with teachers

"They are starting to integrate there is more conversation and more acceptance. Sometimes it is due to personality and not necessary related to different ethnic background and religions. Some of them can be more defensive and is aware of thechallenges due to his religion. To a large extent it stops him from being accepted in the class than his friend who is from the same religion as him but is far more accepted. He feels more targeted, my heart goes out to him. With time he certainly improved and not as abrasive as he was initially and he is more accepting and it is because the rest of the children become more accepting.

When the teacher were asked if they had notice any changes in the way the children from different ethnic and religious background interact with one another in school, most teachers noticed that there is a higher degree of integration and acceptance between the students. It is interesting to note that when this question was asked the teachers who noticed any changes had made reference the Muslim students in the class despite there being students who are from minority Buddhist background in the learning centre. A few teachers noticed that over time the Muslim student had become more talkative and communicate more with the other students. Whereas the head teacher of the school mentioned that although one Muslim student and one Buddhist student had quarrel on one occasion they have been counselled by the head teacher and are now friends with one another.

Interview with Parents

When asked if their child has any friends from other religion, all the parents had stated that their child do not have any friends who were non-Christian. However, when asked about their feeling about their children have friends from a different religion, two parent explicitly stated that he doesn't want his child to befriend non Christian while the other parent stated that it doesn't matter to her if her child befriends a non-Christian.

Class Observation

It is noted that there are some activities carried out in the class where the students are encouraged to have common goals and intergroup cooperation whereby they have a group activities in class where the group who are able to cooperate well will gain points in class. Apart from that, it is also noted that the teachers would correct the students and discipline them when they tease their friends who are Muslim. For one instance in a social studies class when a child made mention about Muslim and ISIS the teacher said had asked the students to get into religion. It is also noted from class observation that the students would sometimes make derogatory remarks to their Muslim friends calling them Kala to which the teachers were quick to respond and asked them not to repeat it. However, from the class observation it is also apparent that despite efforts from the teachers, the status between the students are not equal which could affect the interaction between the students.

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Ethical Leadership Competencies for Revitalizing Moral Learning in Higher Education

Kanog-on Rungrojngarmcharoen, Assumption University, Thailand
Joseph Purayidathil, Assumption University, Thailand

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Abstract
Moral and ethics courses are widely provided in higher education institutions; yet, they are taught by ineffective teaching methods. So, this paper is mainly to explore ideal practices of ethical leaders for revitalizing moral learning in higher education. The research method was based on a qualitative approach. The researcher reviewed books and articles on moral education encompassing the four pillars (1) core values, (2) instructional strategies, (3) curriculum development approaches and (4) moral assessment methods from 1965 until 2016. There were altogether 130 printed and online sources used. From the data analysis, the first pillar, core values were human (58%), social (40%) and political (2%). Respect (26%) ranked first in human values, responsibility (18%) in social values and patriotism (2%) in political value, respectively. For the second pillar, participatory teaching methods ranked first (65.3%). The method that was considered effective was group discussion (44.6%). However, passive teaching method constituted 34.7% and the method under this category ranked first was lecture (15.7%). For the third pillar, process approach ranked first (48%), praxis approach (33%) and product approach (19%). The last pillar, formative assessment was considered to be most effective for moral education, comprising 79% while summative only 21%. Institutional leaders play major roles in revitalizing how moral education should be taught, curriculum be developed, assessment be carried out. The paper recommends strategies of how institutional leaders should implement to enhance quality education of morality and ethics in higher education.

Keywords: moral education, higher education, ethical leadership

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Introduction

Moral and ethics courses are widely provided in higher education institutions; yet, they are taught by ineffective teaching methods. So, this study was mainly to explore ideal practices of ethical leaders for revitalizing moral learning in higher education. The review of related literature involves moral development theories, moral education approaches and ethical leadership competencies. The research method was based on a qualitative approach. The researcher reviewed books and articles on moral education from 1965 until 2016. There were altogether 130 printed and online sources used. Institutional leaders play major roles in revitalizing how moral education should be taught, curriculum be developed, assessment be carried out. This study recommends strategies of how institutional leaders should implement to enhance quality education of morality and ethics in higher education.

Literature Review

Moral Development Theories. The term moral comes from a Latin root (mos, moris) which means the code or customs of people. Moral education aims to cultivate children to acquire crucial virtues or moral habits that will lead them to live quality lives and become quality citizens of their communities. Historically, schools were supposed to both educate the young and inculcate a sense of moral virtues. The key moral virtues were honesty, responsibility and respect for others, which were regarded as moral education that common schools should integrate into their curricula. Since the nineteenth century, Abraham Lincoln wrote (March 9, 1832) that "I desire to see a time when education, and by its means, morality, sobriety, enterprise and industry, shall become much more general than at present." School teachers in that era were expected to teach moral and focus on character formation. Through the teaching of literature, biography, and history subjects to students, teachers could teach them with high moral standards. Moral stories and lessons learnt from these subjects could demonstrate exemplary characters that students could look up to and follow in their heroes' footsteps. In the past, moral education was regarded as the fabric of society. However, as the world evolved into industrialization, the growth of industrial society saw a significant decline in moral education. Towards the end of twentieth century, many educational institutions tended to disregard the moral dimension in school education. According to Barone (2004), educational institutions tended not to focus on moral education; hence, it created an unfavorable impact directly to the students' moral development. Mujtaba and Cavico (2009) posited that moral development is the ability of an individual who is able to distinguish the right from the wrong, to embrace ethical values and to learn to behave morally. While Kohlberg (1984) believes that moral development requires the process of socialization, education and experience, Mujtaba (2010) highlights that an individual could be instilled with a sense of morality through a process of education.

In the moral development theory developed by Kohlberg (1984), it is composed of six stages grouped into three levels. Level one is pre-conventional level of reasoning, which involves the first and second stages of moral development. It is concerned with an egocentric manner. In stage one, an individual is driven by a level of obedience and punishment while in stage two, self-interest drives an individual to act based on what he believes to be the best interest. An individual tends to have a sense of loyalty and intrinsic respect but still based on personal interest. Level two is conventional

level of moral reasoning, which involves the third and fourth stage of moral development. At this level, an individual tends to abide by the rules and society' s norms even though there are no punishments or consequences for breaking the rules. In stage three, an individual tends to have good intentions which are determined social consensus. They try to live up with expectations and to follow their social rules even though they do not understand fully. They tend to have a sense of respect and gratitude towards others. In stage four, there is an outside force and it is authority and social order obedience driven. An individual is expected to have obligations and duty to uphold laws and rules. If someone breaks a law, it is regarded that person is morally wrong. Level three is post-conventional level of moral reasoning which is regarded as a principle level. An individual believes strongly in their own ethical principles such as liberty and justice. In stage five, social contract driven, it is expected that the community holds different opinions, rights and values and people in community should have mutual respect towards one another. In stage six, universal ethical principles of moral reasoning are based on abstract reasoning. An individual who reaches this stage would act because it is right not just to avoid punishment.

Another major theory on moral development in the context of formal education was created by James Rest (1988). Rest (1988) categorizes moral action into four psychological processes. Firstly, it is the process of consciousness: moral sensitivity. An individual is expected to express his sensitivity towards to wellbeing of others. Secondly, it is the process of moral judgement, which compels an individual to make a decision based on certain courses of actions between those are morally right and those morally wrong. Thirdly, it is the process of moral focus or moral intention. Individuals are challenged by the conflict of personal and other values and they are required to prioritize their values and behave morally based on personal responsibility and moral outcomes. The last category is moral character. At this stage, an individual must have courage to overcome temptations and pressure and be able to implement moral course of actions.

Moral Education Approaches. There are a number of approaches for moral education based on different contexts, cultures and communities. The first approach, whole school approach, that is based on the belief that it is impossible to separate moral learning from formal education in schools. This approach aims to foster ethical development through instilling values, attitude and skills necessary for students to live peacefully with themselves and others including the nature. Another approach is based on an Aristotelian philosophy, that is pedagogy of values approach. This approach is based on the belief that teaching is where art and science meet. Not only did teachers content knowledge but also integrated the values that help students learn how to think, reflect, evaluate, appreciate, communicate and make better decision. One more approach that focuses mainly on reformation or recreation of values incorporation into the curriculum, which is called infusion approach. This method stresses the important role of schools where all stakeholders such as principals, students, teachers, parents and community collaborate in redefine what morals and values are to be integrated into teaching and learning. Furthermore, one of the most commonly used approaches in moral education is service learning approach, or community service. This method enables students to have experiential learning that is regarded effective and essential to their academic success.

Ethical Leadership Competencies. Ethical leadership is a leader whose goal is to transform a school successfully (Fullan, 2003). Ethical leaders are those who value honesty and demonstrate their ethical values and beliefs to his followers by their actions (Yukl, 2006). According to Cumbo (2009), ethical leaders are those who live a virtuous life and make a decision based on virtues while Moreno (2010) believes that ethical leaders could influence their followers by their ethical and moral actions. Revino, Hartman, and Brown (2000) posit that ethical leadership is based on three pillars. The first pillar is role modeling through the visible actions, which means that ethical leaders well perform ethically both in their professional and personal aspects. The second pillar is using rewards and discipline, which means that ethical leaders could encourage ethical actions by using proper rewards while discourage unethical actions through disciplinary actions. The last pillar is communicating about the ethics and values. Ethical leaders should be able to communicate ethics and values to their followers effectively. Referring to the values that ethical leaders must withhold, Northhouse (2013) postulates that they shall have following five principles: respect for others, service to others, justice for others, honesty towards others and building community with others.

Research Objectives

This paper is mainly to explore ideal practices of ethical leaders for revitalizing moral learning in higher education and to propose strategies of how institutional leaders should implement to enhance quality education of morality and ethics in higher education.

Methodology

The research method was based on a qualitative approach by applying a content analysis approach. Out of selected sources of data which were 110 books and 297 articles related to moral education, there were 16 books and 114 articles directly related to moral education, ethics, character formation and value education. The researchers extracted key words from all these sources and explored if certain themes and patterns were emerged by recording into coding sheets. The researchers listed out each individual extract obtained from each source and categorized them into similar or related groups. Each group was then reviewed and classified into a broader related theme. All items in each theme were ranked and quantified by a number of occurrences, which were computed into percentage and ranked, in order to demonstrate to what extent each item was repeatedly mentioned and highlighted.

Research Findings

From the content analysis of selected sources on moral education and related, four crucial factors were found as the structure of moral education, so-called the four pillars. They were core values, instructional strategies, curriculum development approaches and moral assessment methods. The first pillar, core values were composed of human values (essential principles for human interactions); social values (essential principles for sociability) and political values (essential principle for citizenship). Human values constituted 58% which ranked the most important value that schools should inculcate into students. Within human values, the first three most crucial human values found were respect (26%), caring (8%) and tolerance (6%). A sense of respect refers not only respecting community, respecting others, but also respecting oneself. Caring refers to expressing kindness and consideration to others

while tolerance or broadmindedness refers to being able to accept different beliefs and feelings. The second category of value was related to a social aspect that encompassed a number of values. The first three highly ranked out of nine values were responsibility (18%), honesty (11%) and cooperation (4%). Responsibility means obligation that one must perform while honesty refers to a sense of uprightness and trustworthiness that one must hold on to. Cooperation concerns an ability that one must be able to work with other peacefully. The third category of value was political, only one value found was patriotism, referring to emotional attachment and national pride towards to nation with a sense of devotion to the country.

The second pillar was instructional strategies which were considered as the means to the ends. Without sound and effective teaching strategies, values learning would be impossible. From all the related extracts, there were two major themes emerged in teaching moral values. One was a participatory teaching strategy and another was passive. The participatory teaching methods, which involved students in learning through various activities, constituted 65.3%, while passive teaching methods34.7%. The participatory teaching methods that were considered effective were group discussion (44.6%) while the method of passive teaching that ranked first was lecture (15.7%).

The third pillar was curriculum development, which is a planned way of preparing the content that students have to learn in their schools. Process approach ranked first (48%), which means that it is important that teachers and students need to interact with one another and moral is integrated into their learning activities. The approach that was ranked second was praxis approach (33%), which means that moral learning requires active interaction between teachers and students through reflective activities for they could gain insightful understanding through moral learning. The last one is product approach (19%), which is the program designed by pre-determined educational objectives. The last pillar, formative assessment, was considered to be most effective for moral education, comprising 79% while summative only 21%.

Proposed Strategies for Educational Institution Leaders

Inculcating a sense of ethics and morality into students is challenging and takes a considerable of time, effort and devotion. To propose strategies for effective moral learning that educational leaders should take into account is to deploy self-sustaining cyclic triad: learning-leading-living (Rungrojngarmcharoen, 2012). Moral educational platforms shall be developed based on strong and continuous correlation among three core components: learning (content/knowledge sharing), leading (ongoing leadership), and living (learning communities). Firstly, a group of stakeholders involving principals, teachers, students, parents, and community should work in close collaboration in determining what moral principles and content are crucial in this digital era. The community of practice should be developed to ensure explicit and implicit knowledge is shared and a moral network should be built up to ensure this moral content is reached the students in all offline and online platforms at anytime and anywhere. Secondly, ongoing leadership requires shared missions and values to be determined by the same group of stakeholders with respect, commitment, openness, trust and responsibility. This is to ensure that moral teaching and learning is everyone's obligation and duty that they all have to be held accountable. The last

component is living in learning communities where all individuals realize their roles and are willing to embrace moral learning into their daily lives.

Conclusion

All educational leaders should be in charge of promoting effective learning and teaching moral in education, and also be role models for communities of how to become ethical and moral citizens. Ethical leaders should have perseverance to drive this challenging mission of lifting up moral learning and education, determination to drive this task to success, and courage to make certain changes in moral learning strategies into higher educational institutions. Leaders could not accomplish this alone but rather they need to involve all stakeholders with shared mission through respect, trust and responsibility that would lead them to revitalize moral learning in community.

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Contact Email: drkanogon@gmail.com

Foreign Language Anxiety: A Case of Thai EFL Learners at Ubon Ratchathani University

Mairenallen Joy Basilio, Ubon Ratchathani University, Thailand
Chalermchai Wongrak, Ubon Ratchathani University, Thailand

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Abstract
Despite the decades-long integration of EFL in the Thai education system, Thai EFL students in general still perceive the English language as very difficult to be learned and thus, respond negatively to acquiring the language. With their Foreign Language Anxiety (FLA), they carry to their EFL classes certain notions rooted in past and current experiences, and such beliefs can be influential on their present study and expectation of future performance. Employing Park's (2014) five-factor model into the Thai-translated Foreign Language Classroom Anxiety Scale (FLCAS) survey, the study identified the specific factors that 2nd-3rd year Thai EFL learners at Ubon Ratchathani University associate the most with their FLA. Overall, the research aimed to reveal the specific factors that contribute the most to the English language anxiety of the Thai students.

Keywords: FLA, performance, Thai EFL learners

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1 Introduction

Anxiety manifested in the foreign language learning process is situation-specific and unique (Horwitz, Horwitz, & Cope, 1986; Liu, 2006; MacIntyre & Gardner, 1989). Set apart from general communication anxiety, Foreign Language Anxiety is defined as the worry and negative emotional reaction aroused when learning or using a second language (MacIntyre, 1998). Foreign Language Anxiety, experienced by learners of both foreign and second language, is about not being able to express one's true self using the new language. Gardner and MacIntyre in their 1991 study wrote that the feelings brought about by language anxiety, such as frustration, negative self-perception, and constant musings of poor performance are detrimental to the learners' acquisition, retention, and production of language. This establishes the constant finding of other research (Aida, 1994; Ganschow & Sparks, 1996; Horwitz, Horwitz, & Cope, 1986; MacIntyre & Gardner, 1989; Matsuda & Gobel, 2004; Park, 2014; Trang, et al., 2013; von Worde, 2003) which posits that anxiety negatively affects language learning and achievement.

2 Rationale and background

2.1 Foreign Language Anxiety

Foreign Language Anxiety (FLA) is defined as a "distant complex self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process" (Horwitz, Horwitz, & Cope, 1986, p. 128). The more anxious students tend to avoid producing more complicated language which then negatively affects FL achievement (MacIntyre & Gardner, 1991; Young, 1991).

To understand the complexity of language anxiety, Horwitz et al. (1986) developed the Foreign Language Classroom Anxiety Scale (FLCAS) – a 33-item, self-report measured scored on a five-point Likert Scale, ranging from strongly agree to strongly disagree. It aimed to capture the specific essence of foreign language anxiety in a classroom setting and to provide investigators with a standard measure. The higher the score, the higher level of anxiety is. The FLCAS is based on an analysis of potential sources of anxiety in a language classroom, integrating three related anxiety constructs – communication apprehension (McCroskey, 1970), test anxiety (Sarason, 1978), and fear of negative evaluation (Watson & Friend, 1969), as posited by Horwitz, et al. (1986). These three elements make up the entirety of Foreign Language Anxiety (Aida, 1994).

According to McCroskey (1970), communication apprehension is defined as the person's level of fear or anxiety associated with another person or persons. In this sense, the communication can either be real or anticipated. With usual manifestations of communication avoidance and communication withdrawal, communicatively apprehensive people tend to shy away from conversations and are unwilling to interact with others especially during social meetings. This reluctance rooting from anxiety creates a big stumbling block for students in the ESL classroom (Foss & Reitzel, 1988; Lucas, 1984). The more students feel incompetent of the content or language of what they want to express, the more they become reluctant in producing the language.

The second element of foreign language anxiety, test anxiety, is defined by Sarason (1978, p. 214) as "the tendency to view with alarm the consequences of inadequate performance in an evaluative situation". Being torn between their self-constructed worries about their capacity to do the test and the test itself, students lose focus on the test and give full way to their anxiety. They may introspect on thoughts like "I keep thinking that the other students are better at English than I am.", "I am afraid that my English teacher is ready to correct every mistake I make.", and "I am afraid that the other students will laugh at me when I speak English." They become distracted and anxious during class, which interferes with their performance (Aida, 1994).

Lastly, fear of negative evaluation is defined as "apprehension about others' evaluations, distress, over their negative evaluations, and the expectation that others would evaluate oneself negatively" (Watson & Friend, 1969, p. 449). If they do anything wrong or incorrect with regards their foreign language production, they will be reprimanded or thought of negatively. Moreover, people who have constant fear of negative evaluation tend to compare their own language capabilities and competencies to others'. For instance, in a classroom speaking activity, anxious students might think that their classmate(s) will speak better English than them, so they would rather not participate in the oral activity or else they will receive negative feedback from their teacher or peers.

Although these three constructs upon which Horwitz et al built the FLCAS were widely used in relevant studies that followed, several other models were hypothesized by researchers. For instance, according to Park (2014), five models could be used to analyse the FLCAS. In that study, the five models were analyzed in terms of reliability using Confirmatory Factor Analysis (CFA), and *Model 4*, which consists of communication apprehension (15 items), foreign language class anxiety (the additional part; 9 items), fear of negative evaluation (6 items), and test anxiety (3 items) was reported to be the most reliable model for the analysis of FLCAS (as supported in Aida, 1994; Tóth, 2008).

2.2 Anxiety in Performing in the Classroom

Horwitz, Horwitz, & Cope (1986) argued that poor performance in the language classroom is correlated to Foreign Language Anxiety (FLA). It was also pointed out in different studies that "anxiety exists in almost every aspect of L2/FL learning" (Liu & Jackson, 2008, p. 72), and that its effects reflect on the students' understanding and speaking of the language.

Speaking publicly in the target language is particularly anxiety provoking for many students, even those who feel little stress in other facets of language learning (Horwitz, 1995). Manifestations of foreign language anxiety in students are shyness in volunteering answers or indifference in participating in oral classroom activities. Negative behaviors such as cutting or skipping classes or procrastinating on their homework are also evident among anxious students (Liu, 2006). Saito, Horwitz, & Garza (1999, p. 202) note that FLA as measured by the FLCAS "is most clearly associated with the oral aspects of language use: listening and speaking"; therefore, other aspects of language learning anxieties such as reading and writing are not reflected in the scale. In Horwitz et al.'s 1986 study, it was noted by clinicians that

students would show most symptoms of worries and anxieties during listening and speaking tests. Speaking in class is one of the most anxiety-inducing and difficult activities in the foreign language classroom according to students. The implicit show of communication and language reticence manifested in actions like shaky hands, use of fillers during speaking activities or exams, and the "freeze" moments during speaking activities in class show how affective anxiety can be as a factor to language learning.

In Thailand, even after three decades have passed since EFL was first institutionalized from the primary through tertiary levels, many students (including English majors) are still experiencing FLA (Namsang, 2011). Thai students tend to be shy and anxious in the EFL classroom, hence affecting their performance (Wilang and Satitdee, 2015). Thus, it is important to investigate the factors that lead them to experiencing FLA and explore how those factors affect their performance.

2.3 Research questions

As discussed above, anxiety in the foreign language classroom is pervasive and can be detrimental to students' foreign language acquisition and production. Given the uniqueness and specificity of FLA, more studies should be done so that the discrepancies of the analyses and definitions surrounding FLA will be given clarity (Park, 2014).

Furthermore, it is particularly important to consider that FLA has different triggers and manifestations in different cultures (Horwitz, 2014). Given the number of foreign language/second language learners in the world, this issue needs further exploration with various groups of learners around the world (Liu, 2006). Thailand compared to other Asian countries which regard the English language as an official language, do not necessarily have all the avenues to use the language in their daily lives, although it is one of the most visited countries and tourist destinations in the world with over a million tourists in Bangkok alone in 2016. The mandatory integration of English in Thai schools has been in implementation for more than four decades now; the English language being taught from preschool to college, but most Thai people still wouldn't be able to produce the language. Thai people are also known to be a group of people that pay a huge attention to how they conduct themselves in public, which makes them want to avoid mistakes at all costs, especially when it comes to social interactions such as those that need the use of language. Hence, from this point of view, it would be very interesting to study FLA in the Thai context.

This study is aimed at identifying FLA factors that may impact the class performance of Thai EFL learners. The research questions to guide this study are:

1. To what extent or level do Thai EFL learners at Ubon Ratchathani University experience Foreign Language Anxiety?
2. What foreign language anxiety factor applies most to Thai EFL students in Thailand?
3. Is there a difference between the anxiety of Foreign Language Anxiety between English and non-English majors?

3 Methodology

3.1 Research Design

A non-correlation quantitative between groups type study, the present research focused on exploring foreign language anxiety in the Thai EFL context using the Foreign Language Classroom Anxiety Scale (FLCAS). In modification to Horwitz et al.'s (1986) original model for FL anxiety, this study utilized *Model 4*, a four-construct design (communication apprehension, test anxiety, fear of negative evaluation, and foreign language class anxiety) hypothesized by Park (2014). The difference between Horwitz et.al.'s original three-construct model and Park's hypothesized four-model construct is that some items related to Communication Apprehension which refer to foreign class language anxiety were named as such.

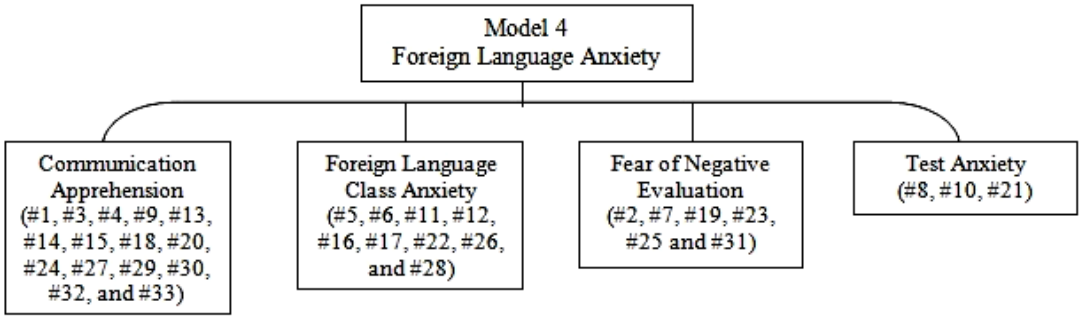

Fig.1 Model 4 of the Foreign Language Anxiety, (Park, 2014)

3.2 Participants

A total of 274 students were enquired for this research. To be exact, 128 English and Communication students (English major) and 146 Tourism students (non-English major) from Ubon Ratchathani University, a state university in the south part of Northeastern Thailand, participated in the conduct of the study. These groups are found best fit to participate in the study for three reasons: (1) English and Communication and Tourism majors take up the most exposure, experience, and number of EFL courses at UBU, (2) The participants have already taken up the basic Foundation English, and English Oral Communication courses and other mandatory English skills courses such as Presentation Skills, and elective courses like English in Careers, and (3) Their English courses particularly focus on listening and speaking skills to which the FLCAS applies best.

3.3 Research instrument

3.3.1 Foreign Language Classroom Anxiety Scale

Conducted in the quantitative tradition, the study utilized the Thai-translated Foreign Language Classroom Anxiety Scale (FLCAS). The FLCAS was used because of its overall reliability as the most-used research instrument to determine levels of FLA. Initially, the original version of FLCAS (Horwitz, Horwitz, & Cope, 1986) was studied in terms of its appropriateness to the Thai foreign language classroom context. The FLCAS was then translated to Thai to elicit the realest possible answers from the participants. The scale was composed of Strongly Agree (SA) – 5, Agree (A) – 4,

Neutral (N) – 3, Disagree (D) – 2, and Strongly Disagree (SD) – 1. The accuracy of the Thai translation of the questionnaire was twice consulted to native Thai linguistics experts. Afterwards, the questionnaire was piloted to 100 students studying Bachelor of Arts in English and Communication at Ubon Ratchathani University, and returned to the consultants for double-checking purposes. The FLCAS was then administered to respondents from different English courses such as English for Liberal Arts Students and Presentation Skills, among others. Each class was given around a maximum of 15 to 20 minutes to complete the one-page survey.

3.4 Data analysis

The data was analysed using traditional descriptive statistics as used in Horwitz et al's (1986) article. First, the responses from the scale were processed on the Google forms, categorizing them as from an English major or a non-English major. Next, using analysis data toolpak, the data from Google forms was converted into a pivot table. In this step, the values from each item was analysed so that the individual frequencies and percentages could be extracted. Third, the all the variables from the previous step were laid out on another table, but this time, categorizing them with the specific model factor they belong to. Nine positively-worded items (particularly, Q2, Q5, Q8, Q11, Q14, Q18, Q22, Q28, and Q32) were marked so that they will be reversely-scored. The header columns were marked as 1+2, 1, 2, 3, 4+5, 4, 5, respectively (Strongly Disagree (SD) – 1, Disagree (D) – 2, Neutral (N) – 3, Agree (A) – 4, and Strongly Agree (SA) – 5). The percentage sums (1+2) and (4+5), and neutral percentages were compared to interpret if the item's collective response is leaning towards anxiety or non-anxiety. Afterwards, each item is categorized according to their model factor. This will be the basis table from which the items would be ranked as either Anxiety or Non-anxiety depending on model factor. Fourth is interpreting the result of each item. In order to compute the frequency and percentage of the data from the responded FLCAS, the numerical values were processed onto a pivot table. The table data was categorized as referring to (1) Overall (both English and non-English major), (2) English major, and (3) Non-English major. The frequency and percentage were processed to elicit the following: (1) Interpretation of each FLCAS item result as either representing Anxiety or Non-anxiety, (2) The ranking of FLCAS items in a specific model factor which the respondents think best represent their anxiety, neutrality, or non-anxiety, (3) the FLCAS items which English and non-English majors support, and (4) the model factor that the respondent groups find most representing their FLA. These three aspects of data analysis were all applied to each model factor (communication apprehension, foreign language class anxiety, fear of negative evaluation, and test anxiety).

4 Results

4.1 Communication apprehension

Table 1 Overall ranking and interpretation for Communication Apprehension response values

	SD	D	N	A	SA		Interpretation	Ranking
Q1	8	16	63	133	54	274	Anxiety	1
	2.92%	5.84%	22.99%	48.54%	19.71%	100.00%		
Q3	24	49	82	83	36	274	Anxiety	11
	8.76%	17.88%	29.93%	30.29%	13.14%	100.00%		
Q4	37	63	77	68	29	274	Non-anxiety	
	13.50%	22.99%	28.10%	24.82%	10.58%	100.00%		
Q9	10	31	52	108	73	274	Anxiety	2
	3.65%	11.31%	18.98%	39.42%	26.64%	100.00%		
Q13	15	41	80	97	41	274	Anxiety	8
	5.47%	14.96%	29.20%	35.40%	14.96%	100.00%		
Q14	17	83	76	69	29	274	Anxiety *to non-anxiety*	12
	6.20%	30.29%	27.74%	25.18%	10.58%	100.00%		
Q15	20	64	61	84	45	274	Anxiety	9
	7.30%	23.36%	22.26%	30.66%	16.42%	100.00%		
Q18	17	83	122	41	11	274	Anxiety	12
	6.20%	30.29%	44.53%	14.96%	4.01%	100.00%		
Q20	8	46	64	110	46	274	Anxiety	5
	2.92%	16.79%	23.36%	40.15%	16.79%	100.00%		
Q24	4	35	66	131	38	274	Anxiety	3
	1.46%	12.77%	24.09%	47.81%	13.87%	100.00%		
Q27	12	49	89	98	26	274	Anxiety	10
	4.38%	17.88%	32.48%	35.77%	9.49%	100.00%		
Q29	7	48	79	95	45	274	Anxiety	7
	2.55%	17.52%	28.83%	34.67%	16.42%	100.00%		
Q30	13	45	73	89	54	274	Anxiety	6
	4.74%	16.42%	26.64%	32.48%	19.71%	100.00%		
Q32	10	54	107	69	34	274	Non-anxiety	
	3.65%	19.71%	39.05%	25.18%	12.41%	100.00%		
Q33	4	34	73	110	53	274	Anxiety	4
	1.46%	12.41%	26.64%	40.15%	19.34%	100.00%		

Notes: The scale was composed of Strongly Agree (SA) – 5, Agree (A) – 4, Neutral (N) – 3, Disagree (D) – 2, and Strongly Disagree (SD) – 1

As shown in table 1, for the first model factor, it can be clearly seen that Thai EFL learners, both English and Non-English majors, are most apprehensive of communicating or speaking English in their class – "I never feel quite sure of myself when I am speaking English. (item 1)" (68.25%). Overwhelmingly, the respondents endorsed the rest of the items indicative of communication apprehension "I start to panic when I have to speak with preparation in the English class." (item 9) (66.06%);

"I feel very anxious about speaking English in front of other students" (item 24) (61.68%); "I get nervous when the English teacher asks questions which I haven't prepared in advance." (item 33) (59.49%); "I can feel my heart pounding when I'm going to be called on in the English class." (item 20) (56.93%); "I feel overwhelmed by the number of rules I have to learn to speak English" (item 30) (52.19%); "I get nervous when I don't understand every word the English teacher says." (item 29) (51.09%); "It embarrasses me to volunteer answers in my English class (item 13) (50.36%); "I get upset when I don't understand what the teacher is correcting." (item 15) (47.08%); "I get nervous and confused when I am speaking English in class." (item 27) (45.26%); "I tremble when I know I am going to be called on in English class." (item 3) (43.43%); "I feel confident when I speak English in class." (item 18) (36.5%); and "I would not be nervous speaking English with native speakers." (item 14) (36.5%). It can be noted that on item 14, the respondents were anxious to non-anxious when it comes to speaking English with native speakers. Only item 4, "It frightens me when I don't understand what the teacher is saying in English" (36.50%), was rejected. Specifically, English majors supported 12 and rejected three statements; Non-English majors supported 14 and rejected one statement.

4.2 Foreign language class anxiety

Table 2 Overall ranking and interpretation of Foreign Language Class Anxiety responses

	SD	D	N	A	SA		Interpretation	Ranking
Q5	18	61	87	72	36	274	Non-anxiety	
	6.57%	22.26%	31.75%	26.28 %	13.1 4%	100.00 %		
Q6	54	93	82	33	12	274	Non-anxiety	
	19.71%	33.94%	29.93%	12.04 %	4.38 %	100.00 %		
Q11	36	58	113	53	14	274	Neutral to anxiety	
	13.14%	21.17%	41.24%	19.34 %	5.11 %	100.00 %		
Q12	22	48	83	95	26	274	Anxiety	3
	8.03%	17.52%	30.29%	34.67 %	9.49 %	100.00 %		
Q16	5	46	63	116	44	274	Anxiety	1
	1.82%	16.79%	22.99%	42.34 %	16.0 6%	100.00 %		
Q17	77	81	72	31	13	274	Non-anxiety	
	28.10%	29.56%	26.28%	11.31 %	4.74 %	100.00 %		
Q22	18	69	93	72	22	274	Non-anxiety - Neutral - Anxiety	
	6.57%	25.18%	33.94%	26.28 %	8.03 %	100.00 %		
Q26	28	45	71	75	55	274	Anxiety	2
	10.22%	16.42%	25.91%	27.37 %	20.0 7%	100.00 %		
Q28	7	73	113	68	13	274	Neutral	
	2.55%	26.64%	41.24%	24.82 %	4.74 %	100.00 %		

Table 2 explains that Thai EFL learners, both English and Non-English majors, are generally non-anxious when it comes to Foreign Language Anxiety Class. Item 16 –

"Even if I am well prepared for the English class, I feel anxious about it." (58.39%); item 26 – "I feel more tense and nervous in my English class than in my other classes" (47.45); and item 12 – "In the English class, I can get so nervous I forget things I know." (44%) are all supported by the respondents. Overwhelmingly, six out of nine items under were rejected by the respondents. Three items rendered under non-anxiety: item 5 – "It wouldn't bother me at all to take more foreign language class" (39.42%); item 6 – "During my English class, I find myself thinking about things that have nothing to do with the course." (53.65%); item 17 – "I often feel like not going to the English class." (57.66%); and item 22 – "I don't feel pressure to prepare very well for the English class." (34.31%). Items 11 and 28, "I don't understand why some people get so upset over English classes" (41.24%), and "When I'm on my way to the English class, I feel very sure and relaxed" (41.24%) rendered as neutral, respectively.

Specifically, English majors supported three and rejected six statements; Non-English majors supported two and rejected one statement with one neutral. It can be posited that English majors have a slightly higher anxiety than Non-major students when comes to Foreign Language Anxiety most probably because their major is a foreign language in itself.

4.3 Fear of Negative Evaluation

Table 3 Overall ranking and interpretation of Fear of Negative Evaluation responses

	SD	D	N	A	SA		Interpretation	Ranking
Q2	18	90	82	60	24	274	Anxiety	4
	6.57%	32.85%	29.93 %	21.90 %	8.76%	100.00%		
Q7	7	24	75	91	77	274	Anxiety	1
	2.55%	8.76%	27.37 %	33.21 %	28.10%	100.00%		
Q19	41	81	71	58	23	274	Non-anxiety	
	14.96 %	29.56%	25.91 %	21.17 %	8.39%	100.00%		
Q23	7	30	72	111	54	274	Anxiety	2
	2.55%	10.95%	26.28 %	40.51 %	19.71%	100.00%		
Q25	23	60	100	64	27	274	Neutral - *Anxiety* - *Non-anxiety*	
	8.39%	21.90%	36.50 %	23.36 %	9.85%	100.00%		
Q31	28	49	84	84	29	274	Anxiety	3
	10.22 %	17.88%	30.66 %	30.66 %	10.58%	100.00%		

As reflected in table 3, four items were endorsed by the respondents: item 7 – "I keep thinking that the other students are better at English than I am." (61.31%); item 23 – "I always feel that the other students speak better English than I do." (60.22%); item 31 – "I am afraid that the other students will laugh at me when I speak English." (41.24%); and item 2 – "I don't worry about making mistakes in the English class." (39.42%). Item 19 – "I am afraid that my English teacher is ready to correct every mistake I make.", and item 25 – "The English class moves so quickly I worry about getting left behind." rendered under non-anxiety and neutral, respectively. It can be noted that item 25 was specifically leaning to Neutral-Anxiety-Non-anxiety. Overall, Thai EFL learners, both English and Non-English majors, have fear of negative evaluation.

Specifically, English majors supported four and rejected one statement with one neutral; Non-English majors supported five and rejected one statement. It can be posited that non-English majors are slightly more anxious of negative evaluation than English majors.

4.4 Test Anxiety

Table 4 Overall anxiety ranking and interpretation of Test Anxiety responses

	SD	D	N	A	SA		Interpretation	Ranking
Q8	47	98	83	38	8	274	Anxiety	2
	17.15%	35.77%	30.29%	13.87%	2.92%	100.00%		
Q10	4	18	38	78	136	274	Anxiety	1
	1.46%	6.57%	13.87%	28.47%	49.64%	100.00%		
Q21	45	92	64	54	19	274	Non-anxiety	
	16.42%	33.58%	23.36%	19.71%	6.93%	100.00%		

Table 4 explains that Thai EFL learners in general have test anxiety. Item 10 – "I worry about the consequences of failing my English class." (78.1%) reflects the highest endorsement from the respondents, followed by item 8 – "I am usually at ease during English tests in my class" (52.92%). Item 21 – "The more I study for an English test, the more confused I get." was rejected by the respondents. Specifically, both English and Non-English majors endorsed two and rejected one statement. It can be posited that both groups of student have the equal regard for test anxiety. However, it can also be noted that Non-English majors are more test-anxious than English majors: Item 8 – (English major: 43.75%; Non-English: 60.96%); Item 10 – (English major: 73.46%; Non-English: 82.19%). Overall, it can be posited that both English and Non-English majors experience Foreign Language Anxiety with a higher regard to FLA leaning to Non-English majors.

5 Discussion

Anxiety is evidently an affective factor in the Thai EFL students' performance in the classroom. For instance, classroom activities such as discussions and speaking tests are impeded by their apprehension to communicate (MacIntyre, 1995). The position of Park (2014) and Horwitz (2014) regarding the need for a more culture-specific context in FLA research is supported by this study. Moreover, in response to the two aforementioned researchers, this paper puts forward that it is significant to research on

the foreign language anxiety of students based on model factors, and that other model factors can be modified or derived from other culture contexts. Based on the conduct of the research, *Model 4* (communication apprehension, foreign language classroom anxiety, text anxiety, and fear of negative evaluation) proves to be a good model for the case of Thai students. More factors could be derived respective of research design and objectives. This implies that foreign language anxiety varies on the culture or society the students belong to; it is not an anxiety that has fixed and permanent anxiety factors. As part of the culture-specificity of FLA, the translation of the Foreign Language Classroom Anxiety also plays a significant part in the study of foreign language anxiety itself. Certain words from the original translation might be modified to suit the needs of the research. In short, in order to find out the root causes and solutions to address foreign language anxiety among students, researchers and academics alike should look at FLA as an anxiety triggered and manifested in different cultures and contexts. Thai EFL students are in general apprehensive to communicate, and this is because they are most of the time unsure of the accuracy of the content and context of the foreign language (English) they are using. Afraid of making mistakes, they are not motivated and unable to fully express their inner thoughts and intended messages. This is in parallel with established research (Aida, 1994; Ganschow & Sparks, 1996; Horwitz, Horwitz, & Cope, 1986; MacIntyre & Gardner, 1989; Matsuda & Gobel, 2004; Park, 2014; Trang et al., 2013; von Worde, 2003) which explains that students who have foreign language anxiety are not able to fully express themselves in the way they really intend to. Eventually, this leads to lower FL achievement, especially in speaking activities which require the most visible and interactive usage of foreign language in the classroom. In order to fully understand the anxiety that students face in the foreign language classroom, researchers and academics should first look into the utmost factor that causes the problem, and find a way to lessen or eradicate it. When it comes to Thai EFL students, it can be posited that the unwillingness to communicate pushes them the most towards foreign language anxiety, not the foreign language classroom itself. Generally speaking, there is a close discrepancy of anxiety (high scores) between English and non-English major students, which could be a bit alarming especially for the case of English major students who are already in their third year majoring in English and Communication. Given that the highest percentage falls to statement 1 (“I never feel quite sure of myself when I am speaking English.”), it could be thought that English major students perhaps still lack the language competence they need to be confident of their capacity to express themselves in English. Overall, among both English and non-English majors, communication apprehension is the culture-specific context that researchers and academics teaching English as a Foreign Language in Thai universities should look into. What could be the reason for the Thai EFL students’ overwhelming communication apprehension? What could be done to help students lessen or eradicate their unwillingness to communicate? Future research could focus on these questions. Moreover, pedagogical strategies could also be planned and devised in order to make Thai EFL students more assertive and less apprehensive in the foreign language classroom.

6 Conclusion

This study supported the established findings of other research (Aida, 1994; Gobel & Matsuda, 2003; Horwitz, Horwitz & Cope, 1986; Liu, 2006; Park, 2014; Trang, 2013; Worde, 2003) which posits that Foreign Language Anxiety is evident across different foreign language and EFL contexts. This is the first FLA research in the Thai EFL context that used Park's model 4 (2014). This research aimed to find the specific anxiety constructs that Thai EFL students experience in general, and found out that from Park's (2014) model, only foreign language class anxiety was the anxiety construct they do not generally experience or become anxious of. It could be hypothesized from this finding that Thai EFL students generally do not feel upset about going to the foreign language class, but very anxious about the experiences that they might have inside the foreign language classroom. For the rest of the constructs, especially Communication Apprehension which students find the most overwhelming, Thai EFL teachers can find ways and teaching techniques or strategies to motivate students to talk freely and with confidence (communication apprehension). Related to the pedagogical implications, as for future research, academics, specifically those at Ubon Ratchathani University can do an intervention study to find out how the students' FLA could be addressed, and what specific parts of their academic experience they are anxious about.

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Contact email: mairenallenbasilio@gmail.com

Exploratory Practice (EP): A Case Study of Communication Arts Students at UBU

Oranuch Puangsuk, Ubon Ratchathani University, Thailand

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Abstract
English in Communication Arts is a compulsory course at Ubon Ratchathani University, Thailand. The main purpose of this course is to promote the English language of communication arts students enrolled in the course. By adopting Exploratory Practice or EP (Allwright & Lenzuen, 1997) as a theoretical framework for investigation, this empirical study aims to explore how EP supports the students' English language learning. In addition, insightful information on their difficulties in learning English and how they deal with those difficulties are discussed. In terms of analysis, this research study follows a qualitative research tradition in that raw data collected from different data sources, for instance, focus group interviews, reflection papers, and students' journals, are analysed to make sense of these data as well as to triangulate and validate the emerging themes. The results from this research indicate that most of students developed a favourable attitude towards EP and also that EP can be used to promote English language learning since it enhances the understanding of the learners themselves and supports them to design more appropriate activities to improve their English. When using EP, the students are motivated to learn English, have more confidence in speaking, and become more self-disciplined. The findings from this research study also provide insights for understanding students' puzzlement in learning English, contribute some ideas on language development, and make invaluable contributions to a future ESP course at tertiary level.

Keywords: Exploratory Practice (EP), English for Specific Purposes (ESP), Classroom Research

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Introduction

English in Communication Arts is considered a compulsory subject for students in Communication Arts Program at the Faculty of Liberal Arts, Ubon Ratchathani University (UBU), Thailand. The purpose of the course is to support communication arts students to use English more effectively. To be specific, the students should be able to write newspaper and television news, produce scripts for television advertisements and documentaries as well as design a magazine advertisement and a pubic relation flyer.

In 2015, I, as an English teacher responsible for teaching this subject, I designed my lesson plans, activities, and handout to support my students' learning, expecting that these designed activities would help to promote English improvement and more importantly achievement of the learning objectives previously mentioned. For example, I assigned them to do communication arts projects, like writing English newspaper scripts and television news, producing scripts for documentaries or creating slogans for printed and television advertisements. At the end of the term, I organized informal group discussions with the students, and the purpose of this discussion was to explore their opinions on learning while they were enrolling in the course. Apart from benefits they gained from their enrollment in the course, one issue emerged from our discussions; that is, they considered English as a very difficult subject, and their poor English skills directly affected their learning performance. More importantly, they stated that they encountered difficulties in completing the assigned projects (Translation, Group Discussions, May, 2015). According, to my students' reflections on their problems, I profoundly puzzled my teaching and designs of the lessons and activities in that they may have not appropriately or successfully supported the communication arts students in learning English. In other words, alternative ways of teaching and learning should have been implemented for this group of learners.

As a teacher and a researcher, my review of literature on English language teaching and learning shows that Exploratory Practice or EP (Allwright & Lenzuen, 1997; Allwright, 2003) may be adopted to promote the students' learning in this context. Although EP has been predominantly used as practitioner research for professional development of teachers in their classroom life, the literature on EP suggests that EP could possibly be utilised for promoting the students' English language learning as it involves a group of practitioners, mainly teachers and learners (Allwright, 2003). Accordingly, EP could be adopted to promote students, a group of learners, to understand their own practice and support learning through their own designs of pedagogic activities (see e.g. Gunn, 2005; Po-ying, 2007). In addition to its use to promote their understanding, suggested ideas in doing EP (Allwright & Lenzuen, 1997) is adapted not only to create a set of guidelines and guided questions but also to support the students' exploration of their own puzzles, reflection on their own practice, and design of their own activities.

The main objectives of this empirical study are twofold. First, it aims at exploring the communication arts students' perceptions towards EP experience. Second, the students' perceptions on the impacts of EP in their English language learning are investigated. The findings from this research study can provide insightful information on the students' EP experience and contribute initiatives for language learning and

development.

Literature Review

1.1 What is Exploratory Practice?

Exploratory Practice or EP is considered a postmethod pedagogy (Kumaravadivelu, 2006, pp. 66-68) promoting local practice by employing the EP principles for understanding classroom life as well as promoting better teaching and learning. Exploratory Practice, first introduced by Dick Allwright in the 1990s and generally based on the work with teachers in Rio de Janeiro, Brazil, is primarily employed as practitioner research (Allwright, 2003), and its main principle was to develop practitioners' understanding and investigation of their classroom life, rather than following scientific research methods (Allwright & Lenzuen, 1997).

The term "puzzle" is used rather than the term, "problem." In this theoretical framework, the term "puzzle" is considered more appropriate, due to its objective, promoting understanding and improvement in teaching and learning (Allwright, 2003; Allwright & Hanks, 2009), instead of finding ways to solve problems. In this research study, the term "puzzle" (Allwright, 2003) is used for students' explorations of their own problems as well as reflection on their own learning; moreover, the key is to support them to understand and improve their learning, rather than solve problems (Allwright, 2005).

EP, developed by Allwright and Lenzuen (1997) follows common steps in that it explores puzzles in a teaching and learning context. In order to gain more understanding of the puzzles, reflection is additionally needed before actions are taken. Furthermore, data are collected and further investigation is examined or explored if there is insufficient data for justification. In this research paper, this EP practice is adopted as the main theoretical framework. However, the practice is justified to make it appropriate to a group of students.

1.2 Research studies on EP

My review of the literature suggested that EP has been widely employed as practitioner research for teacher development, such as to promote understanding and practice of teachers (Bartu, 2003; Best, et al., 2015; Braga, Fish & Lyra, 2003; Dar & Gieve, 2013; Hanks, 2015a), as well as to explore their puzzles (Braga, Fish & Lyra, 2003; Dar & Gieve, 2013; Hanks, 2015b). For example, Dar and Gieve (2013) studied the use of EP in exploring the teachers' puzzles on their students' responsibilities outside class whereas others (e.g. Best, et al., 2015; Hanks, 2015b; Soomro, 2012) explored the experience of English teachers in EP at a tertiary level. EP is also used to promote team teaching for English language teaching, such as in Japan in which seven principles of EP were introduced to team teachers enhancing their team-teaching opportunity (Hiratsuka, 2016).

There is also literature on the employment of EP to promote teaching and learning (e.g. Gunn, 2003; Gunn, 2005; Perpignan, 2003). In these research studies, teachers and students involved in EP projects, aimed at developing their understanding in their English classroom. "Reflection", such as feedback writing (Gunn, 2010; Perpignan,

2003) or a reflective journal (Marquez & Wyatt, 2016) is used as a tool for developing understanding. Similar to abovementioned studies, Chuk (2004) highlighted the usefulness of EP in promoting learners as well as teachers in EFL classroom.

In addition, there is research on the use of EP with learners (e.g. Hanks, 2013; Ma, 2012). For example, Hanks (2013) introduced EP for undergraduate students in English for Academic Purposes courses. This study might be similar to my study in that EP is employed as a tool to promote English language learning. Unlike Hanks' study, my research focuses on the engagement of the students to study English in an ESP course. Another research focusing on learner development is conducted to promote learner autonomy in arts subjects (Ma, 2012).

Methodology

This section presents the methodological framework in this research study. It is composed of six main parts. The first part introduces the nature of this research study. The second part introduces the research questions, and the third part explains criteria to select a group of participants and the research setting, and he fourth and the fifth parts describe the research plan and the data collected. Lastly, the final part deals with the procedure for data analysis

1.1 Nature of research

This research study is qualitative and exploratory in nature, and the "interpretation of meaning" is considered important. Additionally, this study also positions its stance as "post-positivist". The relativist view (see e.g. Gray, 2005; Johnson, 1992) also influences the nature of this research, believing in construction of knowledge and "insider meaning" (Dörnyei, 2007, p. 38). In this empirical study, students' perspectives on their experience in EP as well as their perceptions on the impacts of EP towards their English language learning are constructed and interpreted. Accordingly, "subjectivity" is considered significant in this research study, which is owed to the fact that I, as a researcher, am responsible for the design of methodology and interpretation of the raw data collected.

Although there is criticism of qualitative research on its generalisability, lack of research rigour, or personal bias (Dörnyei, 2007, pp. 39-40), a design of methodology—i.e. provision of evidence from different data sources for triangulation (see e.g. Bryman, 2004; Newby, 2010) and careful data collection and analysis procedures—probably helps minimise this criticism. In this circumstance, the triangulation of raw data from different data sources—i.e. focus group interviews, students' journals and reflective writing papers—not only increases the confidence of research findings but also makes the research more rigorous.

In terms of analysis, this study follows a qualitative research tradition in which raw data are analysed to make sense of the data collected. Moreover, generalisability is insignificant in this research study because it is an empirical and small-scale study. In contrast, its aim is to reveal insightful information on experience of communication students in EP and the influence of EP on their learning. Accordingly, it is expected that the persons gaining benefits from this research study are participants involved,

and the results of this study will make an invaluable contribution to future ESP courses for communication arts.

1.2 Research questions

The research study will investigate the following questions:

- What were the students' perceptions towards their experience in using Exploratory Practice?
- In the students' perceptions, how did the EP influence their English language learning?

1.3 Participants

This research study adopts a purposive sampling (Palys, 2008) or judgement sampling as a technique (Tongco, 2007) to select a group of participants. As mentioned in the previous section, the objective of conducting this research is to explore the experiences of communication arts students in EP. The selected technique is considered appropriate as a group of students who met my research objectives and requirements were chosen. Accordingly, 36 students enrolled in the English for Communication Arts course at the Faculty of Liberal Arts, Ubon Ratchathani University, in the second term (January-May 2016) of the academic year 2015 were appropriately selected as a group of participants. Furthermore, to protect their confidentiality, pseudonyms were used.

1.4 Research plan

To collect data, I designed my research plan, as summarized in **Table 1** below:

Week	Activities
Week 1	• Meeting a group of participants • Giving an overview of the course outline (i.e. learning objectives, mark distribution, lessons and activities) • Introducing the research project and explaining about the concept of EP, types of activities (i.e. journal writing and reflective papers), and other important issues (i.e. research purposes, confidentiality and consent)
Weeks 2- 15	• Teaching • Doing communication arts projects • Implementing EP • Writing a student journal
Week 16	• Writing a reflective paper • Organising focus group interviews

Table 1: Research plan (January-May 2016)

The plan of this research study was designed to collect data in order to answer the research questions mentioned above.

1.5 Data collected

In this research study, three main data sources were collected for analysis and triangulation. These sources include (1) the focus group interviews (FG), (2) the student journals (SJ), and (3) student reflective papers (RP). First, the focus group interview (Birmingham & Wilkinson, 2003; Gray, 2005; Knobel & Lankshear, 2004; Newby, 2010) was employed for primary data collection. In this study, the focus group interview is considered appropriate, for to the reason that it provides shared information from different views of participants. In this study, each focus group interview was composed of 6-7 participants. To facilitate the interview, the focus group interview guide, consisting of guided questions was also prepared. Second, the student journal was a secondary source of data. The main objective of writing the journal was to allow students to reflect on their experience during the employment of the EP framework in promoting their learning. A list of guided questions was also prepared to support the students' writing. Third, to triangulate the analysis of the primary data source, I also assigned the students to write a reflective paper at the end of the term. The main purpose of this writing was to allow the students to express their opinions after their participation in the project, more specifically, the use of the EP framework. Guided questions were also provided for the students to answer.

1.6 Data analysis

The data analysis procedure follows the nature of this research study (see Nature of Research) in that the "interpretative approach", focusing on the interpretation of meanings (Corbin & Strauss, 1998) is adopted for developing core or emergent themes. To make sense of the data collected, the technique of line-by-line analysis (Cresswell, 2005) and categorical analysis (Knobel & Lankshear, 2004) were also adopted. In addition, the English-Thai translations were reviewed and edited by an English expert.

Results

This section is divided into two main sections. The first section reveals the findings from the analysis to answer the first question regarding the students' perceptions on their experience in EP. The second section reports the results of the analysis to answer the second research question on the students' perceptions towards the impacts of EP in their English language learning.

1.1 Students' perceptions towards their experience in Exploratory Practice

To answer the first question, the analysis of the verbatim data indicated that the students had both favorable and unfavorable attitudes towards their experience in the use of EP in promoting their learning of English.

According to the analysis, for a group of students with favorable attitude, they pointed out that doing EP supported their English learning (B, D, E, F, H, I, M, P, Q, R, S, U, X, Y, Z, AA (FG)). For example, Z mentioned that EP helped improve her writing skills. She said:

> "It (EP) is a very good activity. I have never believed in myself that I can write English news." (Z, FG, 30 May 16, my translation)

In addition, E stated that she developed her favourable attitude on EP, because of its benefits on developing understanding of her own puzzles. She said:

> "…after using EP. I know what my problem is and what I should do to solve it." (E, FG, 19 May 16, my translation)

In contrast, some students had an unfavorable attitude towards EP (B, P, Q, R, S, W (FG)), and the verbatim data showed that they had different reasons why they disliked it. First, the data analysis showed their puzzlement in doing this EP activity (A, B, W (FG)). For instance, W said:

> "At the beginning, I was puzzled about why I was asked to do this activity [EP]. Why do I have to reflect on what puzzles or problems I encounter from my study and how I should solve them? I think it is childish." (W, FG, 25 May 16, my translation)

Other students like Q and S (FG) also felt bored and did not want to participate in the EP activity while R (FG) expressed her laziness in doing it. More interestingly, three students, that is, B, P and S (FG) developed depressed feelings when they were assigned to do EP. Additionally, T developed a feeling of discouragement after doing EP. She said:

> "…I feel that my problems [in English] have not been solved. I have faced the same problems, and I don't really know what to do... Although I have tried different ways to improve my English, I don't succeed. I feel so discouraged." (T, FG, 25 May 16, my translation)

Moreover, due to unsuccessful practice of EP in promoting their English, some students had a negative attitude towards EP (C, AB (FG))

Despite that fact that some students had an unfavourable attitude on EP, the analysis of the data indicated that there was a group of students who changed their attitudes on EP, which happened after their successful experience in EP. For instance, B, P, S and Z (FG) stated that at the beginning, they had an unfavourable attitude for EP; nevertheless, they gradually developed positive attitudes towards the use of EP after their participation in this research project. This change was caused by the fact that EP helped them notice their own puzzles and find their own ways of learning, and more importantly this strategy promoted their improvement of English language learning, as shown in the following example:

> "…at first, I was puzzled why the teacher asked me to write… what are the benefits and the effects of EP writing?… But on the second week, I realised that I could use my own suggested ideas of learning to improve my English…" (P, FG, 25 May 16, my translation)

In conclusion, this section suggests that in the students' perception, they had a more favourable attitude towards the use of EP for their English language improvement.

More importantly, as evidenced in the abovementioned data, their favourable attitude develops from their successful experience in using EP to promote their language learning.

1.2 Impacts of doing Exploratory Practice on the students' English language learning

This section presents the analysis of the data to answer the second question on the impacts of EP on the students' English language learning. According to the analysis, in the students' perceptions, most of the students agreed that they gained benefits from EP in that it promoted their English language learning.

Firstly, the students mentioned that EP helped them explore and understand their own puzzles (A, D, E, L, P, Q, R, S, T, U, V, Y, Z, AA (FG)). For example, A said:

> "EP helps me explore and understand my own problems [in English]. If I don't understand some lessons, I will explore my own problem by writing it down in my journal…" (A, FG, 19 May 16, my translation)

The analysis of the students' reflective papers showed a similar finding in that EP promoted understanding of themselves (18 students) as evidenced by the example excerpts in their journals:

> It [EP] is an activity that supports me to have a better understanding of myself. (AC, RP, 24 May 2016, my translation)

> It [EP] helps me have a better understanding of myself, knowing my weaknesses and strengths... (AD, RP, 24 May 2016, my translation)

> And:

> It [EP] helps me explore my own puzzles in learning and know how to solve those puzzles… (AF, RP, 24 May 2016, my translation)

In addition, the data from the students' journals, as summarized in **Table 2**, showed the common puzzles of the students.

Puzzles	Examples	Numbers of students
Writing	Slogans, scripts, news	35
Vocabulary	Technical terms, words used to write scripts, slogans or news	27
Pronunciation	Accent	23
Grammar	Sentence structure, verb tenses, adjectives, part of speech	
Listening	TV ads, news	13
Reading	-	4

Table 2: Common puzzles of the students

Secondly, the understanding of their own puzzles directly influenced individual designs of their own preferred learning strategies or techniques to be most appropriate to their learning styles. Furthermore, they suggested that these strategies and techniques helped them to improve upon their English language problems (A, D, G, T, Q, R (FG)).

For instance, some students said that they employed technology like the Internet (T, U, W (FG)) or media, such as English films or series (G, F (FG)), for English language practice, as shown in the example verbatim data below.

> "…to improve my grammar, I use search engines like Google to search for grammar rules that I have problems with after class…" (T, FG, 25 May 16, my translation)

> And:

> "…in the past, I didn't understand about English structures and tenses. But now, I know that if I write the subject followed by the present tense verb, it indicates the present tense. If I write the subject followed by the past tense verb, it tells the situation at present. I found these rules by searching Google…" (U, FG, 25 May 16, my translation)

Apart from technology application, some students developed other techniques to improve upon their English language problems, such as how to increase their English vocabulary (R, W, Y (FG)). For instance, R used the memorisation technique:

> "…After class, if I don't know some words, I will practise my vocabulary learning by memorising those words. I kept doing this until I could remember them, and it works..." (R, FG, 25 May 16, my translation)

Moreover, they found that peer teaching and learning was also an effective tool that significantly facilitated their English learning (T, Y, Z, AA (FG)). The following example shows how T used this strategy to support her learning:

> "…I am a slow learner. I solve my problem by working with my classmates. We chose the topic to study individually and then we shared our knowledge later. Working with friends helps me learn faster. I could understand the lesson more when I listen to the teacher's lecture in class. (T, FG, 25 May 16)

As shown in **Table 3**, the data from the students' journals revealed different activities that they implemented to solve their problems.

Activities	Numbers of students
Writing activities	23
Peer teaching/Group study	20
Self-study and review lessons	14
Project work	10
Grammar learning	9
Pronunciation practice	6
Vocabulary learning	5
Application of technology	2
Listening activities	2
English-Thai translation practice	2
Reading activity	1
Speaking	1

Table 3: Activities the students did to improve their English

Thirdly, the students suggested that EP was used as a tool for lesson reviews. Under this circumstance, they indicated that doing EP provides an opportunity for them to review the lessons learnt in class (A, C, D, E, F, H, K, R, T (FG)), and this review helped improve their English, especially grammar (e.g. verb tenses) and vocabulary (e.g. jargons in the communication arts). For example, D said:

> "EP helps me review lessons I learnt from the past weeks. By doing EP, I know what I had studied in previous weeks, and what lessons I should review…" (D, FG, 19 May 16, my translation)

The data from the students' reflective papers also supported this emergent theme, as evidenced in their writing (B, D, F, K, AD, AG, AH):

> [By using EP], I can review the lessons learnt in class as well as improve myself in English. (AG, RP, 24 May 16, my translation)

And:

> By doing EP, I am aware of my learning in that I have to review the lessons I don't understand or do my homework. (K, RP, 24 Ma 16, my translation)

Another benefit the students gained from participating in this EP activity was that they were more interested in studying English (B, D, F, K, R, Y, AA (FG)). For instance, F shared her opinion on her interest in learning English:

> "I am more interested in English because of EP. After I explored my own puzzles, I had to do what I wrote in my journal. For instance, I started to watch BBC news. I have never done this before. EP opens my world, and it encourages me to be more interested in studying English. This learning

> experience is totally different from my previous English classes." (F, FG, 19 May 16, my translation)

In addition to have higher interests in learning, some students viewed EP as a tool to enhance their confidence in speaking, as shown in S's verbatim data:

> "EP supports my English language learning in that it makes me more confident to speak English with a teacher. Before coming to this class, I studied with a foreign guest lecturer. He asked me a question in English, and I could understand what he said. In the past, I could not understand at all…" (S, FG, 25 May 16, my translation)

Lastly, the analysis showed that they increased their self-discipline in learning, and this encouraged them to improve their English. For instance, G stated:

> "EP promotes my responsibility in learning. I have increased my discipline because of doing EP." (G, FG, 19 May 16, my translation)

Despite the benefits of EP, a few students experienced difficulties in implementing it for their language learning. For them, not having experience in EP made them encounter problems surrounding how to explore puzzles or find ways to improve their learning; accordingly, they developed unfavourable attitudes towards EP (A, D (FG)).

Although the analysis of the data indicated that most of the students gained success in using EP to promote their English language learning, there were a few cases of students in which EP was not be successfully employed. However, the unsuccessful stories may not be due to EP itself; in contrast, as evidenced from the students' verbatim data, self-discipline in learning of students became the main factor influencing their successful implementation of EP (I, L, M, O (FG)).

To conclude, the findings from the analysis suggest that EP has positive impacts on the students' English language learning as it motivates students to understand their own puzzles, encourages students to design their own learning English activities, provides a tool for lesson reviews, promotes students to interest in English, increases students' confidence, and helps students become more self-disciplined.

Conclusion

The findings from the data analysis suggested that EP should be considered an alternative approach to promote English language learning for communication arts students at UBU. Regarding the first question, the result suggests that it is possible to use EP as most of the students developed favorable attitudes on EP. Although the analysis indicates that some students had unfavourable attitude, the findings on the changes of the students' attitude towards EP, due to successful EP stories shed light on the possibility of using EP even with a group of students who have unfavourble attitudes. For example, introduction to successful stories of students in EP may influence students with unfavorable attitudes to be interested in EP. More importantly, this could provide ideas for unsuccessful students in EP to use to design their own activities for learning English.

The findings in response to the second question also shed light on the use of EP to promote English language learning in this context. The first reason is that EP supports individual learning as it allows a learner to explore their own puzzles or difficulties they face. In addition, the understanding of their own learning or puzzles directly leads the learner to find their own ways of learning to improve their English, that is, planning their own preferred lessons or developing their own activities.

Secondly, the analysis also indicates that EP promotes learners to become more reflective. As evidenced in the data collected, it is found that doing EP enhances the students' ability to consider their learning process through their exploration of puzzles and reflection on their practice. The tool to support this reflection is feedback writing on the student journals (see e.g. Bartu, 2003). Under this circumstance, the students will gain more benefits from being more reflective in that they notice their problems in English and develop their own ways to improve it. Additionally, the ability to plan or design their own preferred activities further illuminates the impact of EP on how to become a more autonomous learner, being responsible for their learning. The findings also echoed Chuk's study (2004) and Ma (2012) on the employment of EP in promoting learner autonomy.

As reported in the result section, there was a group of students encountering difficulty in doing EP. Collegiality (Allwright, 2003) between a teacher and students should take part in their explorations of puzzles as well as suggestions of ideas on learning. For example, the discussions among students should be organised to support this group. By doing so, the students facing problems with EP will gain benefits from their participation in the discussions in that they learn from other students sharing their EP experience. In addition, the teacher should take part in this activity. By receiving guidance and suggestion from both the teachers and their classmates, it is assumed that the students would be able to learn from each other as well as receive some ideas of how to design their own learning strategies or solve their own problems.

However, there is the limitation of this research study on its generalisability since this is an empirical study, dealing with a particular group of participants and in a specific context. To increase its generalisability, a mixed methods approach should be employed for investigation. In addition, this framework should be implemented with different groups of learners or another ESP course. The findings from this research study also build upon on the literature of EP in that it supports English language learning in an ESP course.

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Speaking Difficulties Encountered by Low-Proficiency EFL Students at Ubon Ratchathani University

Kadek Ray Sulyantha, Ubon Ratchathani University, Thailand

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Abstract
In English as a foreign language learning contexts, speaking has been generally assumed as one of the most challenging skills to master. The purpose of this study is to reveal the speaking difficulties encountered by five low-proficiency students of Ubon Ratchathani University who got 4 out of 10 in the final speaking exam of English Oral Communication in the first semester of the academic year 2016. This study analyzed the two (among three) key aspects of oral language production mentioned by Skehan (1996) and Ellis (2009), namely fluency and accuracy. From the analysis of the turn-taking using a tool called the next-turn proof procedure (NTPP), it is revealed that most students have problems with fluency in the forms hesitation, which includes restarts, repeats, false starts, self-corrections, pauses (filled and silent pauses), and silence. In terms of accuracy, the major problem faced by the students is the inability to use appropriate grammatical structures and produce well-formulated utterances. Another major problem is poor comprehension. The use of an inappropriate selection of words during speaking and is also found to be one of the other accuracy problems.

Keywords: low-proficiency students, speaking difficulties, fluency, accuracy, next-turn proof procedure

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1 Introduction

Speaking or spoken language production is one of the most difficult aspects of language learning (Brown & Yule, 1983). It is considered as the most important skill among the four skills (listening, speaking, reading, and writing) because people who know a language are referred to as speakers of that language (Ur, 1996). According to Davies & Pearse (1998), the important goal of all English language teaching should be to give learners the ability to use English effectively and accurately in communication. Using the language is far more important than just knowing about it for "there is no point knowing a lot about language if you can't use it" (Scrivener, 2005: 146). In a foreign language learning context, especially English, speaking has been given a serious attention by both teachers and learners because, as Luoma (2004) says, "*speaking in a foreign language is very difficult and competence in speaking takes a long time to develop*" (p.1). Thornbury (2005) points out that second or foreign language speaking differs from first language speaking in terms of the lack of grammar and vocabulary knowledge of learners. He argues that the process of building utterances accurately and retrieving words does not yet become automatic in second or foreign language speaking. That is why, despite years of learning English, many English language learners still struggle to communicate fluently and accurately because they lack the necessary knowledge (Tuan & Mai, 2015).

2 Theoretical Background

2.1 Speaking Performance in an Institutional Talk

It is important to note that institutional talk, such as the teacher-student interaction in the classroom, has some distinct features which have drawn the attention of many researchers to study this type of interaction. Kurhila (2004) believes that institutional talk is characterized by being goal-oriented and containing contributions shaped by the institutional goals. In relation to this study, when the students take the speaking test, as part of the institutional talk, their responses and speaking performance are expected to be of a particular quality based on the standard set by the teacher. In other words, for the students, to be understood is not enough. They have to meet the pedagogical goals or the criteria set by the teacher (which is usually in a form of a speaking rubric) if they want to get the best score possible.

2.2 Key Aspects of Language Production

In both second and foreign language learning contexts, fluency and accuracy complexity have been considered to be the two (among three) key aspects of language production (Ellis, 2009), and improving these main areas is thus a core goal of language instruction (Skehan (1996).

2.2.1 Fluency

One of the most desired goals a teacher wants to achieve in teaching speaking is oral fluency. Fluency can be defined as the ability to express oneself in an intelligible, reasonable and accurate way in real time without undue pausing or too much hesitation (Hughes, 2002; Ellis & Barkhuizen, 2005). According to Longman Dictionary of Language Teaching and Applied Linguistics (2002), fluency is *"the ability...communicate ideas effectively, and produce continuous speech without causing comprehension difficulties or a breakdown of communication"* (p. 141).

2.2.2 Accuracy

Paying attention to correctness and completeness of language form is another important aspect of oral proficiency. This is called accuracy, which is generally defined as the ability to avoid errors in performance (Ellis, 2005). Skehan (1996) defines accuracy as the production of target language according to its rule systems, while Housen and Kuikken (2009) regard accuracy as "error-free" speech. There are a number of things that learners should focus on in their production of the spoken language, mainly, the grammatical structure, vocabulary, and pronunciation.

2.3 Most Common Speaking Problems

2.3.1 Previous Studies

A number of empirical studies have examined ESL and EFL students' concerns and difficulties they encountered in English oral activities. Gan (2012) found that there were six major problems in oral English skills perceived by the ESL students at a tertiary teacher training institution in Hong Kong. They are inadequate vocabulary, grammar hindrance, imperfect pronunciation and intonation, inadequate opportunities to speak English in class, lack of a focus on language improvement in the curriculum, and input-poor environment outside class.

Hosni (2014), who conducted a study on speaking difficulties encountered by grade 5 students in basic education schools in Oman, found that there are three major speaking difficulties encountered by the students at this level, namely linguistic difficulties, mother tongue use, and inhibition. From the observation and interview, it is revealed that the students struggled to find appropriate words and build sentences when they try to communicate in English.

A study by Maulana, et al. (2016) on the students' views on EFL speaking problems revealed twelve major causes of speaking faced by junior high school students in Indonesia, namely (1) lack of vocabulary, (2) poor pronunciation, (3) nervous to speak, (4) afraid of making errors, (5) not confident to speak, (6) lack of grammar knowledge, (7) not used to speak in English, (8) difficult to express words and sentences, (9) reluctant to speak, (10) difficult to pronounce English words, (11) not being brave to speak, (12) afraid of being laughed by friends.

2.3.2 Hesitation Phenomena as Fluency Problem

According to Filled Pause Research Center (FPRC), hesitation phenomena are an integral part of an unscripted, spontaneous speech. In other words, it is rare for a natural speech to be free from hesitation phenomena. There are six major types of hesitation phenomena that have been so far identified by FPRC, they are false starts, restarts, repeats, self-corrections, pauses (filled [lexicalized and unlexicalized] and silent pauses), and word-lengthening.

2.3.2.1 False starts

A false start happens when a speaker begins an utterance and then abandons it completely without finishing it. It is generally followed by a pause which may then be followed be a new utterance or a complete stop in the conversation. The example is: *"I said, uh... She said..."* (Rose, 1999).

2.3.2.2 Restarts
A restart is defined as a repetition of a sequence of one or more words at the beginning of an utterance. The example is: *"When did you... uh- when did you go?"* (Rose, 1999).

2.3.2.3 Repeats
Leech and Svartvik (1994) mention that when a speaker iterates a lexical item in mid-sentence, it is called a repeat.

2.3.2.4 Self-corrections
In some occasions, a speaker may utter one word, and then suddenly give a replacement which is to be understood to constitute a retraction of that word. This phenomenon is called self-corrections (Rose, 1998).

2.3.2.5 Pauses
Pauses can be subdivided into either filled pauses or unfilled (also called silent) pauses. The filled pauses may be further categorized as either unlexicalized--that is, filled with some non-verbal utterance like *uh* or *um*--or lexicalized with such phrases as *well...*, *like...*, and *you know...* (Rose, 1998).

2.3.2.6 Word-lengthening
This kind of hesitation phenomena occurs when a speaker stretches out the enunciation of a word past its normal length: The example is: *"Have you ever been to the-- uh... museum?"* (Rose 1998).

3 Data and Method

3.1 Research Question
This study looks closely at the teacher-student interaction during a speaking test. The research question to which this study aims to give answers is:

> What are the speaking difficulties encountered by the low-proficiency students at Ubon Ratchathani University (henceforth UBU) during a speaking test of English Oral Communication (henceforth EOC) seen from the aspects of fluency and accuracy?

3.2 Participants and Setting

3.2.1 Teacher
The native-English teacher participated in this study is a teaching staff at the Faculty of Liberal Arts, UBU whose one of his responsibilities is to teach EOC.

3.2.2 Students
There were five selected students out of thirty-three in Section 2 of EOC class at the Faculty of Liberal Arts, UBU. These students have passed Foundation English for LA Students which is used as a prerequisite before taking EOC. The five female students whose recordings analyzed in this study were chosen based on the scores of the final speaking test of EOC.

3.2.2.1 Setting and Teaching Material

EOC is one of the compulsory courses offered at UBU. The purpose of this course is to help prepare the students with sufficient English ability to cope with everyday dealings while they are still a student and after they graduate. One of the requirements to pass this course is to take the final speaking exam. The speaking exam consists of two parts. The first part is a picture description (there is no interaction with the teacher) and the second one is a conversation between the teacher and the students on the selected topics (i.e. animals, vacation, travel, and gadget). This study focuses on the second part since the researcher wanted to know the students' problem in interacting with the teacher.

3.3 Data and Data Collection Procedure

The data were obtained from the teacher's one-on-one conversation on the second part of the speaking exam (which lasted around 5 minutes) with the students in the teacher's office. The conversations were video-recorded by the teacher using the computer in his office. The students' speaking performance was assessed using the following rubric prepared by the teacher.

7-8 points for highly intelligible, fluent, and accurate speech (8 being exceptional)
5-6 points for somewhat intelligible, fluent, and accurate speech
3-4 points for moderately intelligible, fluent, and accurate speech
1-2 points for below average if you can understand less than half of the performance
0 point for attempting the tasks, but without being understood
0 point for being unable to even attempt the tasks
0-2 points (based on the degree of how strictly they follow item 3 in the instructions above)

It should be noted that the teacher's highest point for this test is 10. However, for some unknown considerations, the teacher uses 7-8 points as the highest range of scores in the rubric. When this range of points was converted into the grading matrix used at UBU, it is found that 5 or below 5 point equals to an F, which means that those who get 5 or below 5 fail the test. Surprisingly, the teacher's description in the above point range does not reflect the quality of an F as it is described as "moderately intelligible, fluent, and accurate speech."

After the speaking test, the teacher completed the score sheet. This sheet was then used by the researcher to decide the participants of this study.

N27

	A	B	C	D	E	F	G	H	I	J
1	GRADING MATRIX									
2	This matrix is for converting a holistic letter grade into a buffered point grade.									
3	1) Enter the total points possible. 2) Find your holistic letter grade. 3) The buffered points are to the left.									
4										
5	Total Points Possible:			10	< Change only this number. Everything else is automatic.					
6										
7	Letter	Low	High	Buffered	Decimal	Buffered	Letter	Min Points	Neg. Buff.	
8	A	80	100	83	0.83	8.3	A	8	-1.7	
9	B+	75	79	78	0.78	7.8	B+	7.5	-2.2	
10	B	70	74	73	0.73	7.3	B	7	-2.7	
11	C+	65	69	68	0.68	6.8	C+	6.5	-3.2	
12	C	60	64	63	0.63	6.3	C	6	-3.7	
13	D+	55	59	58	0.58	5.8	D+	5.5	-4.2	
14	D	50	54	53	0.53	5.3	D	5	-4.7	
15	F	0	49	43	0.43	4.3	F	0	-5.7	
16										
17										

From the teacher's score sheet, the researcher found five students who got 4 out of 10. These students, in relation to the research question, are the low-proficiency students who are believed to have encountered speaking difficulties during the speaking test. The recordings of these five students were then labeled as Video 1, Video 2, Video 3, Video 4 and Video 5.

3.4 Data Analysis

As speaking does not only require the ability to produce a certain form of utterances but also to exchange information between two parties, analysis on the turn-taking is needed. In conversational analysis, the Next-Turn Proof Procedure (henceforth NTPP) is utilized to enable the researcher to see how any first action in interaction works as an action template which later creates a normative expectation for the next action and a template for interpreting it (Seedhouse, 2004). This very tool is also used in this study as a main tool for the data analysis. The number of the turns presented in the data analysis does not specifically follow a particular consensus. Rather, they are presented in a unit where enough understanding of the context allows the researcher to do the analysis. Some excerpts only have three or four turns, while others have longer turn-taking.

4 Results

4.1 Fluency and Hesitation Phenomena

This study reveals that most students have problems with fluency, marked by the appearance of hesitation. There are several types of hesitation identified in this study, namely restarts, false starts, repeats, self-corrections, and pauses (filled pauses and silent pauses). These types of hesitation phenomena have been identified in the study by Filled Pause Research Center (FPRC). The turn-taking analysis in this study also revealed another phenomenon which is believed to be a significant factor in determining the fluency level of the students. This phenomenon is called silence.

4.1.1 Restarts

The first category of hesitation phenomena found in the excerpts is restarts. They are basically a repetition of the same part of the utterances, either one word or two words, usually at the beginning of the utterance as can be seen in the following excerpts.

Excerpt 1 (Video 2)

Tr:	*I have been to the zoo. Yes.*	1
St:	[Unintelligible]... *Do you like… do you like… do you like err… dog?*	2
Tr:	*Yes, I like dogs=*	3
St:	*=Okay*	4

Here the student spends some time before she can tell the object of the sentence. She repeats the phrase "Do you like" three times which signifies a restart.

4.1.2 Repeats

Excerpt 2 (Video 2)

Tr:	*Do you like going to the zoo?*	1
St:	*I like… I like… zoo… I like zoo.*	2
Tr:	*Why do you like the zoo?*	3
St:	*Err… animal… I like animal.*	4

The repetition of the same words (*I like zoo*) as shown in the above excerpts are considered undesirable as they are not required (the student's message is understood). Here the repetition is not used by the student to emphasize message, but to echo what has been previously said (the form of the utterance) with less hesitation.

4.1.3 False Starts

Excerpt 3 (Video 2)

Tr:	*Five. Animals. Do you like going to the zoo?*	1
St:	*Err… I like… I like…* [Unintelligible] *I… I don't like.*	2
Tr:	*You don't like the zoo?*	3

Before changing the beginning of her utterance, the repeats the beginning of her false start. The student's false start has turned out into a less favorable response due to the pedagogical goal of the teacher which expects a "yes" answer to enable the teacher to ask relevant follow up questions. Another false start can be found in the following excerpt.

Excerpt 4 (Video 2)

Tr:	*Any more questions for me?*	1
St:	*Err..... do… err... holiday or…?=*	2
Tr:	*=No, about animal.*	3

In the above excerpt, the student's utterance was supposed to be started with the word "do" to ask for a clarification (a question). However, she drops the first part of the utterance and decides to use the content word "holiday" only with a raising intonation to ask for clarification.

4.1.4 Self-corrections

Excerpt 5 (Video 1)

Tr:	*Yeah, if you* [*go*] *anywhere, where would you go?*	1
St:	[*I…*] *err… I would go to…err… Japan.=*	2
Tr:	*=Yeah? Why?*	3

St: *Err… Japan is a big city and with cool weather. I have… ehh… I* [Unintelligible] *seen people and different place.* 4

In the above extract, the student corrects herself which is clearly shown by the use of the marker "ehh" which is common in spoken and informal conversation.

4.1.5 Pauses

The type of pause which is presented here appears before or after entire speech acts, sentences, clauses, or words, but tends to occur at significant grammatical locations. They are of two types namely filled pause and silent pause.

4.1.5.1 Filled Pause

Filled pauses can be found in many turns throughout the conversation of each student with the teacher.

Excerpt 6 (Video 2)

Tr:	*Why do you like the zoo?*	1
St:	*Err…… animal… animal*	2
Tr:	*Okay. What's your favorite animal?*	3
St:	*--- err…… animal err……cute.*	4
Tr:	*A what?*	5
St:	[Silence:10]	6
Tr:	*What is your favorite animal?*	7
St:	*--- err……*	8
Tr:	*Do you have any pets?*	9
St:	*Err… yes… yes…=*	10
Tr:	*=What pets do you have?*	11
St:	*Err… Ubon* [the name of a province in Thailand]. *Ehh=*	12
Tr:	*=Hah?*	13
St:	[Silence:10]	14

As what can be seen in turns 2, 4, 8, and 10 above, the student uses a lot of unlexicalized non-verbal utterance "*Err*." The "*Err*" response appears not only when the student is asked a more complex questions like a Wh- question as in turns 1, 3, and 7, but also when she is asked a simpler question like a yes/no question as in turn 9. However,

4.1.5.2 Silent Pause

While most students use filled pauses as framing act, there is also an example where the student's paused is not filled. It is called 'silent pause' as what the following excerpt reveals.

Excerpt 7 (Video 5)

Tr:	*You stayed for one week at Central Plaza* [the name of a shopping mall]?	1
St:	*---* [Unintelligible] *…… I…… camping with friend.*	2
Tr:	*At Central Plaza?*	3
St:	*Yes.*	4

In the above extract, the student creates a few-second unfilled gap between the words "I' and "camping." The six-dot mark indicates that there is a significant 'silent moment' which is not filled by the student.

5 Fluency and Silence

Apart from the hesitation phenomena mentioned above, the present study also found a phenomenon where silence is utilized by the students.

Excerpt 8 (Video 2)

Tr:	*Yeah, go ahead. Ask me question.=*	1
St:	*=Err… do you like… do you like err… zoo?*	2
Tr:	*Yes I like the zoo.=*	3
St:	*=Okay……err…*	4
Tr:	*Any more questions?*	5
St:	[Silence:4]	6
Tr:	*Any more questions for me?*	7
St:	*Err…… do… err……* [Unintelligible] *holiday err…?=*	8
Tr:	*=No, about animal.*	9

In the excerpt above, silence can be found in turn 5. Silence is considered undesirable here as the student fails to provide a response to the teacher's question. A response is indeed desired here as the teacher repeats the same question in turn 7. Silence is also found in Video 4.

6 Accuracy

In terms of accuracy, there are two main aspects which need to be given a special attention by EFL teachers. They are related to the use of appropriate grammatical structures and well-formulated utterances, as well as the use of appropriate vocabulary.

4.3.1 Inability of using appropriate grammatical structures and producing well-formulated utterances.

One of the major findings of the present study is the students' difficulties in using appropriate grammatical structures and producing well-formulated utterances. They are two main problems related to grammatical structures identified in this study. The first type is the use of a poor grammatical structure which does not hinder comprehension as shown in the following excerpt.

Excerpt 9 (Video 1)

Tr:	*Who did you go with?*	1
St:	*Err… I go to Kao Yai with my family.*	2
Tr:	*Okay. How long did you stay there?*	3
St:	*I am stay is one weeks.*	4

As can be seen in the above excerpt, the teacher's question is in past simple, but the student's response is in present simple. The turn-taking shows that the teacher does

not do anything with the student's utterance. It is not desired, but repair is not done here.

The second type, however, does affect the teacher's comprehension as can be seen in Excerpt 10 below.

Excerpt 10 (Video 1)

Tr:	*Okay. Do you have any questions for me?*	1
St:	*Err… what would you like to visit world?*	2
Tr:	*Hah?=*	3
St:	=[Laughing] *What would you like is last summer* [Unintelligible]*?*	4
Tr:	*Hah? I don't understand*	5
St:	[Laughing] *err…err…I ask vacation or…?=*	6
Tr:	*=Vacation=*	7
St:	*=Vacation. But I don't understand the question.*	8
St:	*Err… what you visit to like in the world?*	9
Tr:	*Hah? Where?*	10
St:	*Oh…oh… where.*	11
Tr:	*Okay.*	12

In turns 2 and 4 above, the student uses grammatically incorrect sentences to convey her message. This results in, the appearance of what I call here as the "Hah? Phenomenon" which indicates the teacher's inability to understand the student utterances (he clearly mentions it in turns 3 and 8).

4.3.2 The use of inappropriate selection of words during speaking

In terms of vocabulary accuracy, one student is found to struggle with the parts of speech. She cannot differentiate between a noun and an adjective as shown in the following excerpt.

Excerpt 11 (Video 3)

Tr:	*Have you ever gone abroad?*	1
St:	*Again, please.=*	2
Tr:	*=Have you ever gone abroad? Have you ever gone to another country?*	3
St:	[Unintelligible] *I… I have already American.*	4
Tr:	*Hah?*	5

In turn 4 above, the student says 'American' instead of 'America' to refer to the country as asked by the teacher in turn 3. In turn 5, the teacher signals that there is something wrong in the student's utterance by saying "Hah?"

4.4 Poor Comprehension

Often times the communication cannot be continued to a level where ideas can be exchanged smoothly without interruption due to poor comprehension.

Excerpt 12 (Video 2)

Tr:	*What pets do you have?*	1

St:	*Err… Ubon* [the name of a province in Thailand]. *Ehh…*	2
Tr:	*Hah?*	3
St:	*Pets* [Self-repetition]	4
Tr:	*What pets do you have?*	5
St:	--- *Yes, I… yes I… pet* [Unintelligible] *zoo?*	6
Tr:	*Hah?*	7
St:	[Laughing] *pets…* [Self-repetition]=	8
Tr:	*=Pets like like dogs, like cats, like birds.*	9
	[Silence:1]	10
	Do you have a pet?=	11
St:	*=Pet?*	12
	Yeah.	13
	[Silence]	14
Tr:	*Like dog, like cat.=*	15
St:	*=Cat?...* [*meaw?* [cat] / [Laughing]] [*chai mai?* [right?] [Laughing] / *Yeah… cat… yeah* [Laughing]]	16 17
Tr:	*Do you have a cat or dog?*	18
St:	*I… errr… dog.=*	19
Tr:	*=You have a dog?* [*What…* / [Unintelligible]] *what is his name?*	20 21
St:	--- *Fa.*	22
Tr:	*Fa? Like your* [*name?* / *Mai chai [no, it isn't]*] *Fa? Your dog is Fa?* [Laughing]=	23
St:	[Laughing] *=mai… mai… [no.. no…]*	24
	dog … dog?=	
Tr:	*=Yes.=*	25
St:	*=Oh,...* [[Laughing] / [Laughing]] *err… Kabi.*	26
Tr:	*Kabi. Okay.*	27

In this excerpt the teacher's initiation (which is a question) is in turn 1. To respond to "What pets do you have?" question, the student needs to be given several repairs and confirmation questions by the teacher. The expected response is eventually given by the student in turn 19. Similarly, to respond to the teacher's question in turn 20 (*What is his name?)*, the student has to produce several turns before the confirmation that her response is correct is finally given by the teacher in turn 27.

5 Discussion

5.1 Summary of the Findings

This small-scale study reveals both fluency and accuracy are the main problems encountered by the low-proficiency students at UBU. In terms of fluency, the turn-taking analysis shows that most students are trapped to be in hesitation. This can be seen from the occurrence of false starts, repeats, restarts and pauses. In terms of accuracy, the major problem faced by the students is the inability to use correct grammatical structures in their utterances which unfortunately hinders or decreases comprehension. Two major findings which have not been clearly identified in previous studies are presented in this study. They are silence and poor comprehension. Silence is put under fluency since it deals with the ability to produce continuous speech. Seen from the turn-taking perspective in an institutional talk, every teacher's question requires an answer from the student. If the student is unable to respond, the teacher will usually repeat the question or ask other questions.

The second phenomenon, that is poor comprehension, has not been identified yet whether or not it can (or should) be under fluency or accuracy problems. The main reason is because, in all excerpts mentioned above, the student understand what the teacher asks or want her to do. Her only problem is not being able to respond it fluently and accurately. The poor comprehension phenomenon, however, shows a completely different situation. The student does not comprehend the teacher's questions, which leads her to give unexpected responses. As for the silence phenomenon, since the researcher solely depends on the turn-taking analysis, it is still arguable whether the students' silence is caused by their not understanding the questions or not being given enough time to respond, or by other unknown factors.

With regard to the related previous studies, there are two problems that the researcher found to be quite similar to what were found by Gan (2012), namely inadequate vocabulary and grammar hindrance, which are closely related to linguistics difficulties as mentioned by Hosni (2014). Six other speaking problems mentioned by Maulana, et al. (2016) were also found to be closely related to the findings of the present study. They are lack of vocabulary, lack of grammar knowledge, difficult to express words and sentences, and reluctant to speak.

6 Conclusion

This study examines the difficulties encountered by the students in a speaking test. It specifically looks at the fluency-and-accuracy-related problems of five low-proficiency students at UBU. As discussed in part 5 above, students need to be prepared to speak in a more fluent and accurate way in order to improve their speaking performance. In particular, they need to be trained to produce eligible utterances by reducing the number of unnecessary pauses or hesitation and poor grammatical structures. This is not only to help them get better scores or simply to pass the course, but also to prepare them to become a competent speaker of English language. In order to undercover the causes of these speaking problems, further studies are needed.

Symbol and Conventions Used in This Study

Notation	Denotation
…	Short pause
……	Long pause
---	Silence before starting the utterance
err	Filled pause
=	The two parties almost speak at the same time
[Unintelligible]	The utterances cannot be understood
[ ]	Additional description of a particular situation
[ ]	The two parties speak at the same time; or one party interrupts the turn of another party.
[Silence: *n*]	The length of silence in seconds. "*n*" is replaced by a number in the excerpts.

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Contact email: ray_sulyantha@yahoo.com

The Concept of Measurement in Pre-Service Teachers

Suttharat Boonlerts, Rajabhat Suratthani University, Thailand
Mattaniya Phongsuwan, Rajabhat Suratthani University, Thailand

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Abstract
This paper presents the results of phase 1 of the research project "pre-service mathematics teachers' mathematical conception in the context of lesson study and problem solving approach". The objective of this research was to explore mathematical concepts of pre-service mathematics teachers for fourth grader prior teaching in schools. The participants to the research included 121 fourth year students, in second semester of academic year 2014, Faculty of Education, Suratthani Rajabhat University. Mathematics conceptual questionnaires used as research instrument comprised 3 problems of 12 problems about measurement. Percentage and content analysis were used for data analysis.
The results showed that:
1) Problem 1: 90.08% of the students explained that if the tank measure 2 m by 2 m by 2 m, then the volume of this tank is 8 times of a tank is 1 m long, 1 m wide 1 high, and 7.44% of them explained that the volume of this tank is 2 times of tank is 1 m long, 1 m wide 1 high. and 2.48% of them are not responds.
2) Problem 2: 81.82% of the students explained that if we measure two lines and there are the same length, then two straight lines are equal length, and 18.18% of them explained that the length of line is not the end. we cannot measure the length.
3) Problem 3: 71.07% of the students explained that the time is 1 hour 15 minutes can be written as 1.25 hours, and 28.93% of them explained that 1 hour 15 minutes can be written as 1.15 hours.

Keywords: pre-service teachers, measurement

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Introduction

Teachers' mathematical knowledge is important for teaching. (Hill, Shilling, &Ball, 2004; Rowland, Huckstep, & Thwaites, 2005; Davis & Simmt, 2006 cited in Tchoshanov, 2010) Concept is defined to explain human's knowledge. Despite mathematical concepts referring to knowledge in core substance, there were many research had been conducted about knowledge of In-service teacher or Pre-service teacher in several contents. Concept for measurement consists of measuring length, distance, area, volume and capacity, weight, value of money, time, and unit of measurement in other systems. The estimation about measuring of ratio, trigonometry, and the knowledge application in assumed circumstances (Makanong, 2014) obviously suggest the relevance between concepts and individual's daily life.

Researcher has been interesting in mathematical capability of mathematics student teachers in terms of content, that is mathematical concept. The research would be analyzed mathematical concept regarding measurement of students, which is one of key factors for instructional preparation.

Objectives of study

This research was aimed to study mathematical concepts about measurement of 4^{th}-year student teachers majoring in mathematics.

Method

Participants of this research were 121 persons from 4^{th}-year student teachers majoring in mathematics of semester 2014. They willingly participated in this study. The tool for data collection was questionnaire evaluating mathematical concept with contents in primary and secondary school levels. The questions was open-ended, consisting of 10 questions which three of them were about measurement concept. Data analysis was done by procedure of content analysis. Statistics used for analysis were mean and percentage and finally processed for conclusion by analytical description.

Results

Results of mathematical concepts from 4^{th}year student teachers majoring in mathematics given by open-ended questionnaire with 3 questions of measurement were detailed as follows:

Table 1. This shows the analysis of Question 1 asking: "Please answer whether this statement is correct? A water well with its width, length, and depth 2 m. of each side would be double in volume from a water well with 1 m. in its width, length, and depth of each side".

Number	Percentage	Reason
3	2.48	No answer
2	1.65	Incorrect because the 1^{st} well contains 4 cm^3. Whereas the 2^{nd} well contains less 0.5 cm^3 than the 1^{st} one.
3	2.48	Correct
6	4.96	Correct because the 1^{st} has width, length, and depth 2 m. each

Number	Percentage	Reason
		which considered double of the 2nd well.
3	2.48	Incorrect with no reason.
11	9.09	Incorrect because it should be 4 times.
93	76.86	Incorrect because: Volume 2 m. of each side = 2 x 2 x 2 = 8 Volume 1 m. of each side = 1 x 1 x 1 = 1 Therefore, the 1st has volume 8 times of the 2nd.

From Table 1, it represents analytical results of Question 1 about volume measurement. 90.08% of student teachers explained their reasons that the well with 2m. of each width, length, and depth must be the volume 8 times from the well with 1 m. each side. Students 7.44% responded that the well with 2m. of each side must be the volume 2 times from the well with 1 m., while there were 2.48% student given no answer.

Table 2. This shows the analysis of Question 2 asking: "Please answer whether this statement is true? The straight line measured found the same length that must be equal straight line"

Number	Percentage	Reason
64	52.89	True but no reason indicated
35	28.93	True because the straight line measured found the same length is considered the equal lines.
11	9.09	False because they have just the same length but different size.
2	1.65	False but no reason indicated
9	7.44	False because the straight line is endless. Therefore, the length can't be measured.

From Table 2, it represents analytical results of Question 2 about the length measurement of straight line. Students 81.82% suggested that the straight lines sharing the same length are equal lines. However, there were 18.18% indicated the endless length of line is not able to measure the length.

Conclusions

From three open-ended questions, these indicated mathematical concepts about measurement of 4thyear student teachers majoring in mathematics that most of them illustrated concepts in the correct way. This concluded from explanations of students 90.08% given for the question volume measurement, 81.82% for the question straight line measurement, and 71.01% for the time measurement which represented the correct perceptions of mathematical concepts.

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The Development of Anti-corruption Education Model to Support Students Integrity Character in Schools through Civic Education (Case Study in Senior High School 8 Bandung)

Shilmy Purnama, Indonesia University of Education, Indonesia
Dadang Sundawa, Indonesia University of Education, Indonesia

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Abstract
Civic Education is a subject aims to humanize the students to become good citizens in accordance with the objectives and ideals state. Civic education subject in schooling has taught both the cognitive, affective, and psychomotor learning in the application of the expected characters. Unfortunately, this formula has not shown significant results because of there are many messy characters from the citizens. The efforts to combat corruption are by adding them in an educational curriculum is an important approach. Anti-corruption education can be taught through the hidden curriculum and integrative approach.
This study discussed how the formulation, planning and implementation of Anticorruption Education in Senior High School 8 Bandung to support student integrity character.
The approach utilized in this study is a qualitative method in the form of case study. The subjects of the research were the Principal, the teachers, and the students. The result showed that: the learning is done by reviewing the Anti-Corruption Education/Civic Education analysis's content standards that guided the formulation of syllabi and lesson plans which reflect the model of Anti-Corruption education. Thus, the development model of Anticorruption Education in Senior High School 8 Bandung is indeed good and suitable to be applied through the integration of Civic Education subjects. However, the commitment and the consistency to continue and implement the Anti-Corruption education models should be maintained and improved.

Keyword: Civic Education, Anti-Corruption Education, Integrity

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Introduction

Civic Education is a subject aims to humanize the students to become good citizens in accordance with the objectives and ideals state. The formation of character in this nation has been mandated in the Act through Civic Education learning which aims to form the student's character who's not only smart intellectually, but also has a noble character, become good citizens and responsible to the country. Civic Education subject in school has taught the cognitive, the affective, and the psychomotor learning in the application of the expected characters. Unfortunately, this formula has not shown significant results because of many messy characters from the citizens. Another fact says that during the implementation of Civic Education, learning only emphasizes the cognitive aspects and less develops the effective and the psychomotor aspects. Moreover, Civic Education is only done in the classroom, without habituation or character learning outside the classroom which aims to apply the material and develop the skills of the students' attitude. Thus, a renewal in teaching Civic Education in school is needed. It also became an Anti-Corruption effort by entering into an educational curriculum, namely Anti-Corruption Education.

Review of Theories

The constitution No. 20 in 2003 about the national educational system or *Sistem Pendidikan Nasional*, states that:

> *"Pendidikan nasional berfungsi mengembangkan kemampuan dan membentuk watak serta peradaban bangsa yang bermartabat dalam rangka mencerdaskan kehidupan bangsa, bertujuan untuk berkembangnya potensi peserta didik agar menjadi manusia yang beriman dan bertakwa kepada Tuhan Yang Maha Esa, berakhlak mulia, sehat, berilmu, cakap, kreatif, mandiri, dan menjadi warga negara yang demokratis serta bertanggung jawab".*
>
> "The national education functions to develop the ability and form the character and the dignified civilization in order to enrich the life of a nation, to develop the potent of the students to become the men of faith and fear of God, the almighty one, have noble character, healthy, intelligent, competent, creative, independent, and become the democratic and responsible citizens". (writer translation)

Forming the national has been mandated in the constitutions through education which aims to form the students' character which is not only smart intelligently but also has a noble character, become good and responsible citizens of the nation so that they can be the citizen of a civilized country.

In line with the above-mentioned constitutions, Cogan and Derricott (1998, p. 13) stated that:

> A citizen was defined as a constituent member of society. Citizenship, on the other hand, was said to be a set of characteristics of being a citizen. And finally, citizenship education, the underlying focal point of the study, was defined as the contribution of education to the development of those characteristics of being a citizen.

Citizens are the members of the community, to be the part of the community; citizens must get the civic education lesson as the contribution in the educational field to build the characterized citizens. The above-mentioned opinion insisted that the mandate for creating the good and civilized citizens is put on civic education.

The corruption, according to *Kamus Besar Bahasa Indonesia* or Indonesian dictionary "is an action to use the authority for self-needed (like embezzling money and accepting bribe)". Whereas, according to Eigen (Kesuma *et al.*, 2008, p. 13) "the corruption is the abuse of public official for private profit)." The definition of corruption defined by Eigen tends to lead to corruption in the government or office.

The values of anti-corruption stated by *Ditjen Mandikdasmen* (2012) are as follows:

a) F
airness, togetherness, commitment.
b) C
onsequent, ownership, saving
c) W
ise, sincere, sharing
d) D
iligent, sportive
e) R
esponsive
f) H
onest, simple, and hard-worker
g) I
ndependent, pair, brave
h) C
are

Research Method

Methodologically, this research used a qualitative approach. The method appropriates to this research is a case study. The case study is used to draw the existing events in the field more detail according to the focus of this research, the implementation of anti-corruption education. After gaining the data based on the real situation in the field, the data were collected and analyzed based on the purpose of this current research.

The data collected in this research were primary and secondary data. The primary data were spoken information gathered from the informants in the field of the study. Meanwhile, the secondary data were the other information gathered from some sources related to the research. the informants of this research were as follows:

a. The principal as the leader of the state senior high school/*SMA* 8 Bandung or the vice principal of the students' section.
b. Teachers as the students' director and the students' manager in the senior high school/*SMA* 8 Bandung.
c. Students

Findings and Discussion

1. The Formulation of Anti-Corruption Education in School

Anti-Corruption Education model was integrated into Civic Education learning that should have good planning in order to achieve the goal of learning itself. Particularly in this study, the Anti-Corruption Education is aimed to support the students' integrity character. In the formulation/planning of the Anti-Corruption Education learning, teachers must know the substance and the relationship of corruption as messages constitutionally with Civic Education learning materials so that the materials can be good delivered. In other words, the teacher must know the material which can be inserted material of anti-corruption values.

This is in line with what was stated in the guidelines of the Anti-Corruption Education integration model according to the Directorate General for Primary and Secondary Education (2009, p. 03), namely:

a. The substance and the relationship of corruption as constitutional messages with Civic Education standards, competency standards, and basic competence.
b. The integration of aspects and corruption indicators into Civic Education standards and basic competencies.
c. The adjustment of Anti-Corruption Education integration model into the syllabus of Civic Education learning.
d. The adjustment of Anti-Corruption Education integration model into the lesson plan.

Anti-Corruption Education has been applied since 2010 in Senior High School 8 Bandung. The school was very welcoming to the Anti-Corruption Education program. The school conducted the dissemination of Anti-Corruption Education, training for principal and teachers, and the syllabus and the lesson plan about the formulation of Anti-Corruption Education. After the training, the teachers are required to implement the results of the training in the classroom as an intra-curricular activity. Before implementing an Anti-Corruption Education model into the classroom, teachers should do some preparations before, such as; understand the meaning and purpose of Anti-Corruption Education, the values of anti-corruption, and how to implement the values of anti-corruption in accordance with the materials that have been awarded on the training of Anti-Corruption Education model.

The process of formulating Anti-Corruption Education learning need to follow the following steps:

a. Study or Analysis of Content Standards

Before drawing up the syllabus and lesson plan, teachers should carry out the study or analysis of Civic Education content standards by selecting Competency Standards (SK) and the Basic Competency (KD) that can be inserted into the anti-corruption material. The study or analysis of the contents of this standard is done through working meetings begin in each school year together with the Council Civic Education Subject Teacher (MGMP).

b. Preparation of the Syllabus

After conducting the study or analysis of the content standards, teachers are doing the syllabus with reference to the syllabus that has been made by the Ministry of Education and Culture and considers or pay attention to the results of the standard for content analysis that have been done before.

c. Formulation of the Lesson Plan

The form and the structure of the lesson plan are not similar in general, but in the Anti-Corruption Education lesson plan, there is an integration of anti-corruption values on each indicator. Lesson plan as a guide in the classroom should be prepared based on the syllabus that has been designed. Lesson plan consists of the subject matter, the indicators of competencies achievement, learning methods to be implemented, as well as values.

2. The Implementation of Anti-Corruption Education in Schools

The implementation of Anti-Corruption Education models is the inclusion of Civic Education into the learning process in the classroom. Although it does not use a certain learning model, the learning process implies to develop anti-corruption values in each classroom. Any material submitted contains the anti-corruption values and the integrity character in particular. However, the teacher must choose the material which can be inserted with the integrity material, for example; material of the democratic system that should be implemented honestly and fairly.

When teachers apply discussion learning methods in the classroom, it indicates the displaying attitudes of honesty and respects to the others opinions, express opinions in good faith, and report the results of the group task honestly. The indicator of integrity character is still abstract and not simplified by not cheating. One of the indicators is telling the truth. For example, when collecting the students' tasks together with the other assignments, they must check the results in accordance to what it claims.

The implementation of Anti-Corruption Education with the integration model into the Civic Education subject is a core or intra-curricular activities. The learning process begins with checking the readiness of the students, the neatness and completeness of student uniforms and the class cleanliness.

3. The Habituation of Anti-Corruption Education in Schools

The implementation of Anti-Corruption Education held in Senior High School 8 Bandung is done in a variety of activities, both in intra-curricular activities, co-curricular, and extra-curricular activities are as follows:

a. Intra Curricular

The implementation of Anti-Corruption Education on how to incorporate them into Civic Education subject is a core or intra-curricular activities. The learning process began with checking the readiness of the students, the neatness and completeness of student uniforms, and class cleanliness. If there is a student who does not wear uniform completely, it will be reprimanded and should clarify the reason for not using the uniform completely. Before the study began, the teachers together with the students picking up trash scattered around the classroom and throw it into the trash.

After doing the apperception, teachers checked the completeness of individual and group assignments. Firstly, the teacher would ask if there is a student who has not completed the task and the reason why. The teacher also recorded the data of students who are already done the work and a description of the jobs number completed. To strengthen the recognition of students, the teacher also directly checked students' workbooks; it aimed to determine the honesty of students.

In the case of students who are late to come to the class, the teacher would ask for clarification of the student delays despite obtaining a permit from the officer on duty. Such students should reveal the truthful reason for his delay, not just for oversleep or loss as a classic reason often stated. Their habit of writing the name and deal honestly dealing with the exam administer at school when doing the quiz on the answer sheet is one of the examples of habituation are routinely implemented. The habituation will prevent and minimize fraud or cheating students. In the task, all students must have proof of each process in the group assignment.

b. Co-curricular

The action to support the students' integrity character as one of the purposes of the Anti-Corruption Education models, Senior High School 8 Bandung was held as the habit in co-curricular activities inside and outside the classroom. Character education, in this case, Anti-Corruption Education conducted in Senior High School Negeri 8 Bandung is not only integrated into the Civic Education subjects only but to all subjects. More specifically relates to Religious Education and Economy,

The habitual activities conducted outside the classroom was the presence Integrity Canteen. All students who visited the Integrity Canteen were doing its own transactions, store and retrieve money by themselves. This is a habit of being honest with students in the school environment, which is expected to become the students' habit in everyday life. In any event, the students of Senior High School 8 Bandung required to always behaving honestly, including in extra-curricular activities. All students belonging to the realm of extra-curricular should disclose the reasons for the absence of properly.

c. Extracurricular

In any event, students of Senior High School 8 Bandung are required to always behave honestly, including in extra-curricular activities. The school has several rides extracurricular activities, such as *Paskibra, Scout, PMR, Choir*, English Club, Basketball, Volleyball, and much more. All students who belong to the members of the extra-curricular must reveal the true reason if they unable to attend, honesty in filling the attendance list as one of the supporting forms and the application of Anti-Corruption Education to embody students integrity character in school. Members of extra-curricular must attend on time in accordance with the training schedule that has been determined as a reflection of avoiding time corruption. In addition, the cash funds management organization should be transparent and all members entitled to participate in supervising the management of the fund.

Conclusion

Based on the findings and the discussion above, the Anti-Corruption education and civic education basically have the same essence and purposes. The essence and the purposes have a common treat as a conscious effort (education) done to teach the students to be cognitive, effectively, and psychometrically intelligent. This is done as one of the efforts to build the national character. By means of integration model between anti-corruption education and civic education, there will be a special way so that the civic education can be more contributive in developing the better, intelligent, and characterize citizens.

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Contact email: shilmyyo@gmail.com

The Role of L1 in the Instruction of L2: Perspectives of Thai EFL Teachers

Chalermchai Wongrak, Ubon Ratchathani University, Thailand

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Abstract
The selection of a medium of instruction has long been a contentious issue in foreign language teaching. The teacher's decision about which language should be used to deliver the lesson and interact with the students in the classroom—whether it be the language or languages of the students and teachers or the target language—is not always dependent on existing national or institutional language policies. In countries like Thailand, such policies rarely exist, leaving it up to the teachers to make the decision on their own. This study therefore explores Thai EFL teachers' perspectives on their practice. Drawing on data from interviews with EFL lecturers at a university in Northeast Thailand, this study found overwhelmingly supportive attitudes among teachers for the use of L1 in teaching English for university students. What is interesting is their reasons, which juxtapose their perceptions of classroom-specific context with curriculum requirements, all of which make their self-positioning on the use of L1 in L2 instruction strikingly different from the continuum of perspectives on target language and first language use described in the current literature. Using Macaro (2001) as a starting point, this article argues that an additional position is needed in order to make sense of the self-reported thinking and practice of the lecturers in this study. These empirical findings allow us to critically discuss theoretical and practical implications for EFL teaching in additional contexts where English is taught as a foreign language.

Keywords: codeswitching, code choice, medium of instruction, EFL in Thailand

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1 Introduction

Previous studies have painted different pictures of the proportions of L1 and L2 in the classroom, paying attention to variables such as the level of the L2 course, students' L2 proficiency, and the students' age cohort. Moreover, the absence or presence of language policies in L2 education pertaining to the medium of education seem to have a decisive role in shaping the proportion of L1 and L2 use in the teachers' speech in class. Classrooms under national or institutional policies supporting the use of L2 often use L1 much less frequently, and vice versa. For instance, in the UK, Macaro (2001) found that six student teachers of French employed L1 less than 10% of the time, on average, in classes with students who had one to three years of the foreign language already under their belt. Moreover, instances of L1 use were usually very short. Like Macaro, other researchers such as Neil (1997), Macaro and Mutton (2002) and Rolin-Ianziti and Brownlie (2002) report relatively small amounts of L1 use in contexts in which policies discourage it.

Studies have found a very different outcome in contexts without policies explicitly supporting L2 use in the classroom. For instance, Humphries and Stroupe (2014) found that two English teachers in their study used L1 predominantly in teaching English to grade 11 Japanese students. In my study (Wongrak, 2017), I found that Thai lecturers of English in a university in Thailand used Thai more than English in all kinds of classroom interactions across different levels of English classes. Moreover, the stretches of L1 use were often found to be longer than those of L2.

These studies indicate that the language policy regarding the medium of instruction in L2 classrooms matters. When there is such a policy, teachers' agency on the decision to use L1 and L2 was at times superseded by state or institutional guidelines. When such a policy does not exist, teachers' autonomous agency is actually at work, and in this study, I explore how it works by analyzing the teachers' perspectives on L1 use in L2 instruction in their contexts.

2 Teachers' theoretical positioning and practice

Despite the fact that teachers' work is largely influenced by state policies (Bourdieu & Passeron, 1977/1990), teachers are not always agents of the state; their practices have been guided by their agency, informed by a juxtaposition of what they know about their specific contexts against what they wish to achieve. Researchers (Littlewood & Yu, 2011) have discussed different positions teachers in non-English speaking countries take on the use of L1 in their L2 classrooms. Macaro (1997) categorizes their self-positioning into three groups—which he calls the virtual, maximal and optimal positions—but these theoretical positions, developed from observations of specific Western contexts of language teaching, are, on the one hand, extremely useful in helping us think about the complexity in L1 use for L2 teaching, while at the same time they are not entirely applicable as a framework of analysis to every context.

According to Macaro (1997), the three positions can be differentiated by the extent to which the teachers agree on the necessity for L1 in L2 acquisition and learning. The virtual position is held by teachers whose theoretical orientation is on par with theories that posit the uselessness of L1 in L2 acquisition. It is closely aligned to

Krashen's (1987, 1988; Krashen & Terrell, 1988) hypotheses based on L1 acquisition theories. According to this line of thinking, L2 teaching must be conducted all in L2. This theoretical position has informed practices in language immersion programs around the world, even though a consistent use of only L2 has been proven to be very difficult (McMillan & Turnbull, 2009). While the virtual position is motivated by the fear of L1 interference, the maximal position is taken by those who are worried that L1 would cause "communication breakdown resulting in: pupils being distracted; pupils misbehaving; pupil being demotivated" (Macaro, 1997, p.91). Macaro (1997) explains that people with a maximal position do not perceive the practical value of L1. Therefore L2 use is emphasised in the L2 class. Teachers may use L1 if the context really leaves them no other options. However, such uses often lead them to have "feelings of guilt and inadequacy" (Macaro, 2001, p.535). Unlike the first two positions, however, teachers who realise that L1 can offer pedagogical contributions to their L2 classes are considered to possess the optimal position. Their use of L1 is theoretically guided, meaning that they often know when it is beneficial to use it and when it is not. According to Macaro (1997), although teachers may sometimes feel guilty about their L1 uses, they can still give reasons and explanations for such uses. The optimal use is not the same as an unabridged use of L1, and it offers effective results especially in helping build a good relationship between teachers and students. It is for this reason that many researchers like Macaro (2001, 2009) are trying to forge a principled use of L1 to enhance L2 education.

Macaro's continuum of perspectives on L1 and L2 use have been adopted by many researchers in their studies to discern the teachers' linguistic practice, but the continuum is not a definitive model due to the specific context of the data out of which it was originally derived. Some researchers have already pointed out this limitation in the use of this continuum to explain practices in other contexts, and so they have started to expand the continuum. Yonesaka (2005) and Yonesaka and Metoki (2007), for instance, explored a Japanese context of English teaching and found that their data did not sit comfortably with Macaro's original model. Yonesaka (2005) argues that in the Japanese context, teachers' low English proficiency became a significant factor leading them to take a different position, which they call the "regression position." If a teacher holds the regression position, he or she would believe that "foreign-language classes should rely mainly on L1 instruction, which is the most effective way for these classes to be taught" (Yonesaka & Metoki, 2007: 136), and they would use L1 for all purposes in the classroom. Previously, Macaro (2001, p.535) summarises conclusions from previous studies that none of the teachers in those studies held a view that L1 should be employed more than L2. The results from the Japanese studies supply us with a view that supplements earlier studies, and makes us realize the need to explore more from other contexts.

3 Methodology

The article is based on a qualitative study of Thai EFL lecturers' reflections on their linguistic practice in the classroom as well as their theoretical self-positioning about the role of L1 in L2 acquisition and learning. The participants were university lecturers, each with a high proficiency in English and an M.A. or Ph.D. related to linguistics or language teaching. The context in which these lecturers were working can help us analyze their perspectives on their own linguistic practices.

In Thailand, English is neither an official language nor is it regularly used for official purposes except in dealing with foreigners and in some communities in Bangkok that use English as a lingua franca (Baker, 2012), but such communities do not prevail in the rural Northeast area where the university I studied is located. The university is a comprehensive university offering a wide range of programs to students mostly from Thailand's Northeast. It could be said that the majority of the students enrolled has a low English proficiency, probably at the A1 level or below on the CEFR scale, and they all have to take four English general education courses ranging from basic English courses to academic English courses. The university accepted around 4,000 students each year, but there were fewer than 30 English lecturers who had to teach as many as 80 students of mixed ability per class.

By using a purposive sampling technique (Bryman, 2015), six lecturers were recruited as the participants. For confidentiality and anonymity, the lecturers were given new names: T1, T2, T3, T4, T5 and T6. The male lecturers were T2, T5 and T6, and the female lecturers were T1, T3 and T4. T3, T4 and T6 had more than ten years of teaching experience at the university. T2 and T5 had been teaching there for five to ten years. T2 just started teaching for the first time less than a year before the study. T1, T3 and T6 were Ph.D. holders and the rest had an M.A. in related fields. Apart from T6 who is not a native of the region, the other teachers are Northeasterners and are each proficient in Lao Isan, the main local language of the region, except for T2 who is a monolingual in Thai, the national language. T2, T3 and T6 received their final degrees from English speaking countries. All lecturers were highly proficient in English. These lecturers taught English in general education courses for undergraduate students using Thai, on average, 50 per cent of the class time. Details of this quantitative analysis can be found in Wongrak (2017).

The participants were interviewed using a semi-structured interview with a set of questions about their theoretical beliefs about the role of L1 in L2 acquisition, and about their reflections on their L1 use in the classroom. The interviews were conducted by the researcher with an audio recorder. Each interview lasted for about 30 minutes to one hour. The interviews were all transcribed for the analysis.

4 Findings

An analysis of the interview data indicates that the lecturers all shared two opinions: on the one hand, the lecturers believed that in theory, learners' total exposure to English in the classroom would provide the most preferable language learning conditions for them; but on the other hand, English-only instruction was impossible given the specific contexts inside and outside their classes. I argue based on these findings that the lecturers' opinions suggest that they are taking an agency-based position, which I shall call "a relational position," on the use of L1 in L2 classrooms. I discuss the two opinions held by all of the lecturers below, quoting liberally from the interviews in translation.

4.1 Using L2 only is ideal.

The lecturers in this study believed that a greater exposure to English in class would lead to the better acquisition of English. The lecturers' epistemological understanding of language acquisition was a heritage from their own exposure to second language acquisition theories passed on to them from their postgraduate education. The belief

in providing L2 input for learners as the most important part of L2 learning happened to be the most influential theoretical principle in the lecturers' theoretical repertoires. As T5 told me, "We believe in teaching English by allowing students to be exposed to the language directly. We believe this more than [any other ways of teaching]." In this quote, T5 expressed his opinion using the inclusive "we" in Thai, suggesting voices of other lecturers as well. Indeed, other lecturers in this study shared his theoretical view that L2 learning would need a great exposure to L2 input.

Nevertheless, the six lecturers concluded that their belief in the significance of students' exposure to L2 in classrooms through lecturers' exclusive use of L2 was more theoretical than practical. They reported a number of factors which limited their ability to put this theoretical ideal into real use in their classroom contexts. These factors led them to adopt their second opinion.

4.2 The contexts of their EFL classrooms required the use of L1.

Several contextual characteristics of the classes that the lecturers taught set limitations on the theoretical exploitation of L2 use in L2 learning. In this study, nine types of constraints can be identified. These constraints arise from macro contexts in 4.2.1 and 4.2.2, micro class-related contexts in 4.2.3 to 4.2.6, and more personal and experience-based contexts in 4.2.7 to 4.2.9.

4.2.1 The status and use of English as a foreign language in Thailand

The six lecturers explained that in Thailand, where English is a foreign language, their students had little exposure to English outside their secondary school classroom. Their low proficiency prior to attending the university became, in turn, an obstacle for the maximal use of English in their university classrooms. The lecturers related the context of language use outside the classroom to the pedagogical practice in their classrooms, arguing that "The condition or context of Thai society does not facilitate Thai students' use of English, so we have to use their mother tongue in the teaching of English to create understanding" (T3). That is to say the high proportion of L1 use in their classes was partly the result of the status of English as a foreign language in Thailand. English was not used outside of the classroom by the vast majority of people in the country, and coupled with their consideration for their students' understanding of the lesson, the classroom linguistic practice of the lecturers indeed mimicked the partially imagined reality of language use outside the classroom in Thailand in which Thai was the majority language and English was reserved as the de facto lingua franca for international contacts. Their belief in an ideal micro classroom practice in which L1 use was limited did not reflect the reality of language use in the Northeast where Lao Isan and other local languages are used as the main languages.

4.2.2 Constraints from curriculum and assessment methods

Another factor that influenced the lecturers' decision was the existing teaching and evaluation practices. They argued that the use of L1 extensively in class was a result of the way they set out to evaluate students at the end of the course. One lecturer revealed the dilemma in the clash of theory and practice when he said, "It is probably the frame that we have set up; that is, the particular kind of assessment. If we want [students] to learn with a direct method through [teachers] speaking English directly, it might not fit the objective we have set. Something like this" (T5). The evaluation frame mentioned by the lecturer referred to the unit-by-unit-based kind of summative assessment, which did not allow flexibility for each lecturer to react to the particular

needs of their students, as they would be able to do with a formative assessment. Despite the freedom to decide the focus of each lesson, all the lecturers assigned to teach the same course had to follow the same progression of topics prescribed on the syllabus in order to be able to cover everything that students needed to know for tests that came in pre-determined intervals. According to the lecturers in this study, it would create a frustrating atmosphere for the lecturers and students if a teaching approach with an extensive L2 use, such as a direct method or a communicative approach, was used since it would require more time than they had. Hence, to the lecturers, the way they taught English was tied to the evaluation method they used and this could not be changed easily since it would require a lot to take down the traditional test-based pedagogical practice of the educational system in Thailand.

4.2.3 Class size

A big class size was said by the lecturers to be one of the first factors leading to the use of L1. When there were up to 80 students in class, the six lecturers found themselves teaching over-populated classrooms. Their concern was that using only English in class would discourage their students from participating in class activities. For instance, T5 explained he had to use Thai in his class because "There are so many students. To use—using English, for lecturers—it might be possible, but there won't be interaction [between lecturers and students]. Because students won't interact, it won't help them to improve their English as it should naturally, because there are many students." According to T5, interaction was important for English learning, but it did not need to be just in English. In other words, interaction between students and the lecturer or just among students, be it in Thai or English, would contribute to student learning. Like other lecturers, he believed that his use of Thai helped lighten the class atmosphere and make classroom interactions possible given the large class size.

4.2.4 Mixed-ability classrooms

All six lecturers gave a similar opinion regarding using L2 in mixed ability classrooms. For example, T4 said, "As for students with a low proficiency, using their mother tongue will help them understand the lesson because using English may make them feel worried or frustrated about their learning." In line with T4's opinion, the other lecturers were worried about the negative consequences of the use of L2 on the students with a low proficiency in English. At this university, some students, especially health science students, were usually very good at English in that they would be able to interact with lecturers in English without much trouble. Nevertheless, these students were in the minority at the university. They were often mixed into classes with other students. On this point, T5 commented, "If I get to teach good students, personally I think [the use of] Thai will decrease. I used to teach medical students, but what happened was that these medical students were in the same class with agricultural students. It is like this, so I can't use [English extensively]." In brief, using only L2 in class would have been possible for students with good communicative English abilities and under the condition that they were separated from other students, but it was impractical due to the limited number of English lecturers.

4.2.5 The students' background

The students in these classrooms were from relatively underprivileged backgrounds in Thailand, and their prior school education was among the worst provided in the

country, resulting in insufficient English proficiency to successfully undertake even the first course of English at the university. In such a context, lecturers' exclusive English use would not be appropriate for their learning. T3 claimed in an interview, "Students do not have enough knowledge about English for us to use only English." The six lecturers agreed that most of the newly enrolled students were distinctly below average, compared to the English abilities of first-year students at other universities in Thailand. Most of these students were from the province where the university was located or provinces nearby. Few were from other parts of Thailand. Rural schools in the region were still poorly equipped with resources, including well-trained English teachers. There were exceptional students in many schools, but those students would go to more prestigious universities. The six English lecturers, including even the junior lecturer in this study, had already noticed this characteristic in their classes and they had adjusted their practice by using a high proportion of Thai to fit the low English proficiency of the majority of their students.

4.2.6 The practicality of L1

Despite the disdainful attitudes on the role of L1 in L2 learning found in popular L2 acquisition theories, there are a number of scholars who point out the usefulness of L1 for the instruction of L2 (Atkinson, 1987; see also Cook, 2016). Likewise our lecturers found that L1 could be used to perform some of the most important functions of language use in English classes, namely lesson explanation. To explicate, T6 reflected on the function of Thai in his class. "Using the mother tongue is a very convenient method for explaining lessons. We don't need to bother using English" (T6). I should highlight the lecturer's reasoning that using English is something that can be bothersome or even impede their teaching. This reason might raise many eyebrows, but if T6's opinion is interpreted with other internal and external contexts of the classroom as previously discussed, it can be understood as reasonable. Using Thai for lesson explication both serves the learners' needs and respects curriculum constraints. This reason, however, does not explain why they used Thai so much, but the next one does.

4.2.7 Lecturers' experiences of failed attempts to use more L2

The lecturers' linguistic practice, and especially the choice of language, was partly informed by their past experiences trying to use English more in the classroom. Every lecturer in this study had an experience trying to use English as much as possible in the classroom. The results generally align with the account provided by T3: "I once taught a class for which I made a photocopy of two pages of the textbook to teach vocabulary. I spoke all in English. It was easy, but it turned out that the students withdrew, and some changed the class section. Ever since, I haven't taught in English." This experience, in addition, did not seem to depend on student proficiency, either. It happened, according to the lecturers, in all levels of classes, but with slightly different results. T3's case was severe, as students opted to withdraw or enroll in other lecturers' sections. In other cases with high proficiency students, when the lecturers used English extensively, they experienced low engagement from students. In the lecturers' experience, using L2 expansively put them at risk of losing students or reducing the effectiveness of their lessons. The gamble, they concluded, was not worth their efforts.

4.2.8 Lecturers' own L2 learning experiences

The lecturers' ethnolinguistic background as well as their own educational experiences also played a role in their explicit decision to use a significant amount of Thai to teach English. To quote T1, "I used my own background to help make the decision. Because I'm a Northeasterner like them and I have a background like Thai students who are not good [at English], whatever helped me when I learned, I would use to help [my students]." In addition to providing additional support for the lecturers' observations about the students' weak backgrounds in English as discussed above in section 4.2.5, T1 also brings up a new issue. According to T1, her experience as a Northeasterner herself, and having struggled through her English learning experience as she grew up until she became an English lecturer herself, has taught her valuable methods for learning the language. To T1 and, no doubt, to the other Thai EFL lecturers in this study who were successful English learners, the role of L1 was part of their success no matter what the theories say.

4.2.9 Lecturers' speech style

Many people in the Northeast codeswitch between their local languages and Thai in daily speech. Two of the lecturers in this study acknowledged that they transferred this multilingual practice into their classrooms. One was T5, who proudly identified himself as a Lao Isan speaker and admitted to mixing Lao Isan and Thai in his everyday language use as well as his classroom language use. Another lecturer, T2, said that codeswitching was his speech style both inside and outside the classroom. Indeed, in my observations of his classes (reported in more detail in Wongrak, 2017), I observed a higher frequency of the use of English in T2's classroom speech than in other lecturers' classrooms. Although it would be premature to assert that the way all the lecturers used their languages in class resembled the way they did outside class, at least we can say with confidence that this was true for some of the lecturers in this study.

5 Discussion

This small scale study sought to examine the perspectives on L1 use in L2 instruction of Thai lecturers of English at a university in Northeast Thailand. The findings suggest that even though the lecturers were aware of the theoretical importance of the use of L2 for L2 acquisition in the classroom, their working position was mainly influenced by the contextual constraints of their classroom and other contexts beyond the immediate classroom. In this study, I therefore argue that these lecturers took a relational position on L1 use in L2 instruction to justify their linguistic practice, as they thought the results would be best for their students' English learning under their specific conditions, including the expectations of the curriculum. In this section, I will set out to detail this relational position and its implementation in language teaching and research.

The most important theoretical assumption that helps us categorize the perspectives and practices of the lecturers in this study as taking a relational position is that lecturers are not mere lay people unfamiliar with L2 acquisition theories, nor are they completely functionaries of the institution they work for (Bourdieu & Passeron, 1977/1990). The lecturers on the contrary are rational beings in the sense that they are capable of taking into account factors of significance to inform their linguistic practice in view of accomplishing their classroom duties successfully. Previous

studies have demonstrated that lecturers' agency regarding their own practice is at work in the prominence of L1 in some classrooms despite school rules or educational policies saying otherwise (Probyn, 2009; Tien, 2009). In fact, this agency was also evident in Macaro's (2001) work when the teacher who appeared to take a maximalist position with an exclusive L2 use mentality had to use L1 to help students understand the lesson. The Thai lecturers of English in this study were operating in a context without any explicit policy on the medium of instruction, leaving them the autonomy to consider theories, experiences, classroom-related contexts, curriculum policies as well as their personal habitual linguistic practice in making decisions about language use in the classroom. Their perceived internal and external classroom-specific contextual factors make their theoretical self-positioning on the use of L1 in L2 instruction a relational one.

A relational position acknowledges the crucial roles of teachers' agency and the situatedness of language teaching in different contexts. Macaro's virtual, maximal and optimal positions are each elucidated as more or less a fixed theoretical position upon which the teachers only reflect before and after their practice. Yonesaka's (2005) regression position describes a situation in which the teachers' limited linguistic abilities in L2 lead them to use L1. The word regression nevertheless suggests an emphasis on the theoretical importance of the role of L2 on L2 acquisition, stressing that the amount of L2 input in the classroom is the main factor for language learning success. These four positions do not explain the position that the lecturers here take. Although the six lecturers were aware of the theoretical benefit of L2 use in L2 learning, they did not take any of Macaro's positions—virtual, maximal or optimal. Instead, they all argued for the extensive use of L1 in their L2 classes. Likewise, they cannot be identified as having taken the regression position, since their use of L1 was not motived by their L2 incompetence, but rather because they concluded that their substantial use of L1 was best for the students in their teaching context.

Macaro's positions as well as Yonesaka's proposed additional position help us understand why language teachers opt to use varying amounts of L1 in L2 instruction, and these positions are still observable in many teaching contexts. This study, however, leads me to suggest that we add a fifth position—the relational position—to our classification of possibilities. It would enable researchers to better explain the lecturers' decisions about their teaching practice and it would capture the complexity of the ways in which language teachers make them. An analysis of the practice of instructors taking a relational position would highlight the lecturers' agency while shedding light on the situated practice of their teaching in different contexts. Only when teachers' unique perceptions of the specific contexts they face inside and outside the classroom are understood can we justly recommended them more suitable, effective and context sensitive pedagogical practices as regards L1 use in L2 instruction.

6 Conclusion

Elsewhere language teachers were found to be dismissive of L1 use in their L2 classrooms (Macaro, 2001, p.535). Analysis of interview data with the six Thai EFL lecturers in this study found otherwise: the lecturers drew on many different contextual observations as well as their experience in English teaching at a regional university in Northeast Thailand in their support for the use of L1 in their L2 classes.

This perspective leads us to postulate that they have taken a relational position, a contextually-sensitive self-positioning that has led them to rethink the use of L1 in L2 instruction. The relational position, if added to the continuum of perspectives on target language and first language use as found in the literature, would allow researchers to better examine teachers' linguistic practices in the classroom with attention to their agency and the situated nature of their teaching.

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Contact email: chalermchai.w@ubu.ac.th

Developing an Instrument for Self-Evaluation of Teaching and Learning Competencies: A Review of Faculty Professional Development and the Changing Higher Education Landscape in Singapore

Grace Cheong, University of Western Australia, Australia

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Abstract
This scholarly paper forms part of a doctoral study focused on the development and validation of an instrument for the self-evaluation of teaching and learning competencies for the purpose of faculty professional development. The rapid expansion of the higher education sector in Singapore has called for new approaches to university teaching that are adjusted to modern, more student centered, and technologically enabled learning contexts. The changing visions on student learning and the evolution of the teaching role require university teachers to develop themselves professionally on a continuous basis. It is therefore timely to have a taxonomy of teaching and learning competencies that can be used within a professional development model for academics to perform a self-assessment of their current pedagogical knowledge and skill levels as well as to set their learning and development goals. This paper is a systematic literature review of the concepts, theories and contexts involved in competency studies as well as the dynamic changes in the Singapore higher education landscape.

Keywords: teaching and learning competencies, higher education, professional development frameworks.

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Introduction

The higher education landscape in Singapore is fast evolving in tandem with global trends in educational development (Cheong, 2015). Slightly over two decades ago, when most universities worldwide, including the publicly-funded ones in Singapore, were more selective and admitting smaller percentages of secondary school leavers, the definition of teaching usually meant lecturing to an elite group of very intelligent and highly motivated individuals. The "prevailing conception of teaching" was focused on "what teachers did, not what students learned" (Altbach, Reisberg and Rumbley, 2009, p. 113).

Since then, like the rest of the world, the number of universities in Singapore and their total student enrolments have grown significantly. Currently, there are six publicly-funded, autonomous universities established, namely the National University of Singapore (NUS), the Nanyang Technological University (NTU), the Singapore Management University (SMU), the Singapore University of Technology and Design (SUTD), the Singapore Institute of Technology (SIT), as well as SIM University, recently renamed as Singapore University of Social Sciences (SUSS) (Davie, 2017). According to the statistics provided by the Ministry of Education (MOE), approximately one in four students from each Primary One cohort are currently able to obtain a place in one of Singapore's publicly-funded universities. By 2020, there will be an increase of three thousand more university places which will raise the cohort participation rate (CPR) to forty percent (*Final Report of the Committee on University Education Pathways Beyond 2015, 2012*).

With the 'massification' of university education since the 1980s, the teaching role of academics has also shifted from the traditional teacher-centered focus towards greater emphasis on student-centered learning (Barr & Tagg, 1995; Kinchin, Hatzipanagos & Turner, 2009; Weimer 2013). The expansion of student cohorts naturally meant that the body of learners is now more diverse - with varying degrees of intellectual capacity, prior knowledge, skills and preparation for tertiary study (Biggs, 2003). This growth phenomenon requires faculty to develop greater understanding on ways to enhance the learning of individual students, rather than teaching to an assumed-knowledge 'elite' (Dearn, Fraser and Ryan, 2002; Mok, 2000). Putnam and Borko (as cited in Tigelaar, Dolmans, Wolfhagen, and Vleuten, 2004), argued that changing visions on student learning and the evolution of the teaching role required that teachers continuously developed themselves professionally.

At the same time, as a result of the advancement in information technology which led to knowledge explosion, globalization as well as socio-political and economic change, the past twenty years had also witnessed several other major developments which drove educational transformation. These developments included the drive towards outcomes based education, quality assurance in higher education, integration of information and communication technology into the classroom, and scholarship of teaching and learning (Cheong, 2015; Hassan, 2011). These variables would directly impact the role of academics and warranted the need for professional training and development. Hassan asserted that in a knowledge society, it was equally important for academics to produce academically rigorous research outputs while "concomitantly being accomplished and imaginative facilitators of learning in the midst of vast and available knowledge" (Hassan, 2011, p.479).

Even though important changes were taking place, relatively little research existed on the status and role of teaching and learning in higher education around the world (Altbach et al, 2009), much less in Singapore. It was also argued that "while the research role of academic work is professionalized through doctoral study and active engagement in a scholarly community, there is no commensurate rigor in the preparation and ongoing support for the teaching role" (Dearn et al, 2002, iv). Often, academics had to navigate their own way through the uncertain and confusing higher education terrain. In the past, academics could readily self-educate in order to keep abreast of new developments and maintain high skill levels. However, with the intensified pressure brought on by educational transformation, Camblin and Steger (as cited in Hassan, 2011) argued that any presumption that that kind of self-development could still apply in this millennium was to ignore the pace at which knowledge and understanding was advancing and disregard the need to keep abreast with modern higher education trends.

The Singapore education system

Spurred by the economic recession in the mid-eighties, the Singapore education system went through a major restructure. The changes involved the shift from teacher-centric to learner-centered pedagogy. The Ministry of Education (MOE) embarked on an "ability driven" education system which focused on "helping each child realize his or her full potential" (Chan, Tan and Khoo, 2007, p. 184). In 1997, MOE envisioned the concept of 'Thinking Schools Learning Nation' (TSLN) to signify a nimble education system moulding a future generation capable of undertaking 21st century challenges. In 2003, MOE initiated the call for 'Innovation and Enterprise' (I&E) in schools, followed by the 'Teach Less Learn More' (TLLM) movement in 2004. TLLM was designed to encourage greater effectiveness and efficiency in teaching, and to inculcate life-long learning in students. Since 2009, the emphasis had shifted to being "flexible and diverse" and the development of a "broad based education" to provide for a greater choice and more holistic approach to student development (Lim, 2010, p.122). Teachers were no longer expected to be disseminators of knowledge but facilitators of learning. Their pedagogy would be anchored on how students learn.

The National Institute of Education (NIE), the sole teacher preparation institution in Singapore, was tasked with the responsibility of helping trainee teachers who were schooled in traditional methods, adopt the new pedagogy (Chan et al, 2007). In the 2009 report 'A Teacher Education Model for the 21st Century' by NIE, a Graduand Teacher Competencies Framework (GTFC) was developed for pre-service teacher preparation as well as the professional development of existing in-service teachers employed by the Ministry. Such continual changes and improvements in the mainstream education (i.e. primary and secondary) would ultimately impact the development of higher education as new cohorts of students move up to the universities.

The higher education sector

In knowledge-based economies, governments see universities as "engines for social change and expansion of prosperity" (Ramsden, 2003, p. 3). It is evident that the

Singapore government had also leveraged on education as a social engineering tool to align with other sectors such as the business economy, national defence and community support. The mission of publicly funded universities is to "train people with enhanced capacity for innovation, creativity, and quality performance" (Mok, 2000, p. 166). Enhanced human capital skills are deemed as crucial to Singapore's economy leading to new educational changes and more investments into educational resources and infrastructures (*Final Report of the Committee on University Education Pathways Beyond 2015, 2012*).

In 1997, the International Academic Advisory Panel (IAAP) which included renowned academics and Presidents of several top universities from Europe, America and Japan was formed to help the Singapore government establish strategies and directions to turn local universities into world class institutions. The IAAP noted then that higher education was skewed towards increasing students' employability and ensuring economic growth. The panel was of the view that the goal of producing employable graduates, while proven useful for the 20th century, may no longer be suitable for the changing demands of the 21st century.

Apart from the carefully planned expansion of the university sector which encompassed increased undergraduate education opportunities for citizens in autonomous universities, growth in postgraduate enrolments, as well as a new applied pathway for tertiary education by building on the successful polytechnic model (Poon, 2013); another key driver towards the building of a global knowledge economy was the Agency for Science, Technology and Research (A*STAR), the government agency which provided generous funding for research and attracted top scientists and scientific companies into Singapore. Foreign nationals with scientific, technical or managerial skills were recruited to work in multi-international corporations and in higher education. Some of the local universities, especially NUS and NTU, established research partnerships with leading universities around the world with a focus in selected fields, including bioinformatics, information sciences and medical technologies (OECD, 2011). The Ministry also initiated plans to promote more social science research at universities as well as the review of undergraduate curricula to emphasize on grooming students with creativity and critical thinking skills (Mok, 2010; Poon, 2013).

In a Straits Times article that highlighted the dynamic changes in the higher education scene, Professor Cheong Hee Kiat, the President of SUSS, predicted that online learning would become a primary mode of study instead of a supplement for face-to-face didactic teaching. He was of the view that the "21st century learner will demand new pedagogies and the ability to judiciously use and interact with data" (Cheong, 2015). More innovative approaches would surface as universities find ways to cater to more individualized and independent learning needs, as well as to facilitate communities of learning and knowledge exchanges. He added that the roles of university teachers and learners would overlap. Faculty will undertake the role of facilitators of learning rather than communicators of knowledge, which would pose as a challenge even for the experienced academic.

Since the first university was built in Singapore over a century ago, it appears that no higher education professional development models, based on a validated framework of teaching competencies, have been defined for higher education. In spite of the

challenges ahead in preparing the 21st century learner to be future work ready, there is no consistent "roadmap" by which faculty can develop their competencies in teaching and learning over the course of their academic careers. Unlike the developments in the primary and secondary sector, the way the different universities prepare and support faculty for their teaching roles remains largely an exclusive and ad hoc effort. It is therefore useful and timely to conduct a comprehensive study on what teaching and learning competencies are pertinent or essential in modern, more student-centered local higher education teaching contexts.

Teaching and learning competencies

For this study, competencies will be defined as a "cluster of related knowledge, skills and attitudes (K, S, A) that affects a major part of one's job (a role or responsibility), that correlates with performance on the job, that can be measured against well-accepted standards, and that can be improved via training and development" (Parry, 1996, p. 50). According to Parry, this definition was derived from the suggestions of several hundred specialists in human resource development (HRD) during a conference on the subject of competencies in Johannesburg, South Africa, in October 1995. Since learning can be described as a cognitive (knowing), affective (feeling) and psychomotor (doing) behavior, Parry pointed out that all three domains were at work in a competency.

A competency framework is a model which describes the particular combination of knowledge, skills and attitudes necessary to perform a role in an organization effectively and is often used as a "human resource tool for selection, training and development, appraisal, and succession planning" (Lucia & Lepsinger, 1999, p.5). Other uses of competency models include training curriculum design, coaching, counseling and mentoring, as well as career development (McLagan, 1996). McLagan believed that competency models were more reliable than job descriptions and were more valid than skills lists, and hence can be used as a focal point for organization development.

Parry (1996) explained that a major consideration in competency studies was in the definition of a competency as an input or an output of human behavior. In the United Kingdom (UK), competencies were typically viewed as outcomes. Employees display competencies in the degree to which their performance meets or exceeds prescribed work standards. In the United States (US) however, competencies were seen mainly as inputs comprising clusters of knowledge, skills and attitudes that affect an individual's ability to perform. According to Garavan and McGuire (2001), the UK approach was arguably broader, as it encompassed not only personal attributes of the individual, but also made reference to a range of guidelines and personal effectiveness issues required in the performance of a job.

A combination of the UK and US approach will be applied in the formulation of teaching and learning competencies descriptions for this program of research. Tigelaar et al. (2004) leveraged on the writings of Bos (1998) as well as Stoof, Martens, Van Merriënboer and Bastiaens (2002), and defined teaching competencies as "an integrated set of personal characteristics, knowledge, skills and attitudes (KSA) that are needed for effective performance in various teaching contexts" (Tigelaar et al, 2004, p.255). Applying this definition, the teaching competencies to be identified

through this study will therefore be "integrated" in form, implying that some competencies will embody a combination of KSA for the performance of a particular teaching function whereas others can be categorized distinctively as a type of knowledge or attitude for effective performance. The competencies identified will be viewed as a whole repertoire a faculty member has at his/her disposal. The importance of "context" will also be factored into consideration, implying that teaching competencies will be viewed in the light of various contexts in which teaching takes place.

For generations, prominent scholars like Dewey (1904), Scheffler (1965), Green (1971), Fenstermacher (1978), Smith (1980), and Schwab (1983) had engaged in discussions of what qualities and understandings, skills and abilities, traits and abilities render someone a competent teacher (as cited in Shulman, 2004). Such intellectual discourses on teaching competencies continue to echo in the conference rooms of educators today. Ramsden (2003) asserted that becoming skilled at teaching entailed the development of the ability to "deploy a complex theory of teaching in the different contexts relevant to teaching and learning of that subject matter" (Ramsden, 2003, p.107). The primary aim of this study is to identify the types of teaching and learning competencies required in modern, more student-centered and technologically enabled local university teaching contexts. To do so, it is important to first establish and comprehend the theories of teaching in higher education.

Theories of teaching in higher education

The evolving role of the university teacher had been widely acknowledged in professional literature, with the paradigm moving from teaching (or instruction) to learning (Barr & Tagg, 1998). Traditionally, university teaching had been seen to be "dominated by a whole class, teacher-centered, non-interactive mode of lecturing" (Kinchin et al., 2009, p.46). Where such traditional practice had been compared with a more student-centered approach, observers such as Lord (1999) deemed the latter as more superior in terms of the quality of learning and elicitation of positive student attitudes (as cited in Kinchin et al., 2009).

Drawing on the early research and writings of Martin and Balla (1991) as well as Biggs (1999), Ramsden (2003) put forward three theories of teaching pertinent to the higher education context. The first theory described teaching as the transmission of authoritative content or demonstration of procedures to students. The teacher, who took center stage in the traditional didactic lecture, was seen as the source of undistorted information. A modern version of this 'teaching as telling' theory is encapsulated in the idea of 'delivery' of courses and the belief that the quality of university education can be enhanced by transferring knowledge more efficiently with the aid of information technology. This theory, which typified a surface approach, posited that learning would occur as long as a quantity of information was transmitted to students. Teachers who subscribed to this theory would attribute any failures to learn to students' personality weaknesses and lack of capabilities like laziness, unwillingness to work, inability to absorb new materials, poor preparation. Biggs (1999) aptly called this 'blame-the-student' theory.

The second theory described teaching as a "supervision process" which involved the "articulation of techniques designed to ensure that students learn" (Ramsden, 2003,

p.109). This theory held that students would learn through reacting and doing (i.e. active learning) based on the assumption that there was a finite set of techniques to enable student understanding. The definition of teaching was extended beyond the knowledge transmission mode to include the organization of student learning activities using a set of efficient procedures in order to cover the content. Improving teaching meant expanding the teacher's repertoire of skills and techniques. This theory undergirded many attempts for teaching innovation and professional development in higher education.

While the first two theories presented teaching as a linear process, the third theory which this research study seeks to expound, represented a more relative or complex view. In this theory, teaching was understood to be a "process of working cooperatively with learners to help them change their understanding" (Ramsden, 2003, p.110). Teaching was about making student learning possible. Based on the notion that teaching was a speculative and reflective activity, improving teaching meant listening to students and teaching peers. The continuous improvement of skills through the construction of increasingly detailed professional knowledge would become an integral part of teaching from this perspective. This theory implied a greater receptivity in teachers to educational principles and research and recognized the complementarity between teaching and research on how to help students learn. Teachers who subscribed to this theory would employ a variety of strategies and methods to help students learn or change their understanding. The activities of teaching would be seen as "context-related, uncertain and continuously improvable" (Ramsden, 2003, p.112).

Faculty professional development

Faculty development, according to Diamond (2002), emphasized the improvement of the individual faculty member's teaching skills through activities like classroom observations by professional educational development staff, the use of videos to analyze teaching styles and techniques, peer reviews of teaching, personal consultations, as well as workshops and seminars. The term 'faculty development' (Gillespie & Robertson, 2010; Sorcinelli, 2007; Villa and Alegre, 2008; McQuiggan, 2012) was also referred to in literature as professional development (Dearn et al., 2002; Gopal, 2011), educational development (Ramsden, 2003), or staff development (Ullah, Khan, Murtaza, and Din, 2011; Hassan, 2011).

The major outcomes for faculty development in higher education included "improvement in the productivity of the individual faculty members through improvement of their teaching effectiveness", "facilitation of focused change with more emphasis on what students learn and less on what faculty members cover", "improvement of faculty attitudes towards teaching", and the "demonstration of the institution's concern for the individual" (Diamond, 2002, p.4).

Based on a study on the potential new directions for faculty development which involved five hundred directors of teaching and learning centers, faculty members, department chairs, academic deans and other senior administrators , Sorcinelli (2007) discussed the constellation of issues that were driving change and shaping the future of faculty development and summed up the challenges as follow:

- The changing professoriate
- The changing nature of the student body
- The changing nature of teaching, learning and scholarship.

In view of the above discussions, the proposed development of an instrument for the self-evaluation of teaching and learning competencies to be used within a faculty professional development model will be timely and handy for preparing academics of the future as well as for existing faculty to set their learning and development goals.

Professional standards or development frameworks

National frameworks

Professional standards or development frameworks have already been established in countries with longer histories in the development of higher education. In the United States of America, the National Board for Professional Teaching Standards (NBPTS) and the Committee on Promoting and Evaluating Teaching Effectiveness (PETE) had put considerable efforts into defining teaching competencies (Hollins, 2011; Tigelaar et al., 2004). In the United Kingdom, professional bodies such as the Staff and Educational Development Association (SEDA) constructed the Professional Development Framework (PDF) and The Higher Education Academy (HEA) developed United Kingdom Professional Standards Framework (UKPSF) which contained general descriptions of the main dimensions of the roles of teaching and supporting learning within the higher education environment. In Australia, the Australian Institute for Teaching and School Leadership (AITSL) had recently developed the National Professional Standards for Teachers outlining what teachers should know and be able to do.

These frameworks, with different characteristics and histories of development, use the term ‘professional standards’ in place of ‘competencies’. Gilis, Clement, Laga, and Pauwel (2008) did a detailed comparison between the national frameworks in terms of the method used to establish them, their form and content, as well as the functions they serve. Their comparative analysis is illustrated as Table 1 below:

	UK Professional Standards Framework (PSF)	**Australian National Professional Standards for Teachers**	**US National Board for Professional Teaching Standards (NBPTS)**
Methods	Use of expert opinions	Use of expert opinions	Use of expert and teacher opinions
Function	Development	Development Assessment Certification	Development Assessment Certification
Form	General levels Distinction between knowledge, skills and attitudes	General levels Distinction between knowledge, skills and attitudes	General levels Distinction between knowledge, skills and attitudes
Outcome	Behavioral	No outcome	No outcome

measures	indicators and several levels of performance	measures	measures
Content	Areas of activity Core Knowledge Professional Values	Professional Knowledge Professional Practice Professional Engagement	Core propositions regarding commitment to students, subject matter, student learning, reflection and relations with colleagues

Table 1: Comparative Analysis of National Frameworks for Professional Teaching Standards

Competency study in The Netherlands

A similar study by Tigelaar et al (2004) in The Netherlands was propelled by dynamic changes in the higher education, where approaches to teaching were likewise becoming more student centered. The authors highlighted the weaknesses and obsolescence of the existing frameworks in their country which neglected the dimension of the teacher as a person. Furthermore, it was argued that those frameworks were not validated, too narrowly defined, and not adjusted to modern approaches to teaching. The aim of their study was therefore to develop a new and validated framework of teaching competencies in higher education context. A framework was constructed with the following domains:

- The person as teacher
- Expert on content knowledge
- Facilitator of learning process
- Organizer
- Scholar or lifelong learner

Staff development needs study in Pakistan

Unlike the previous study which was focused on teaching competencies, this study by Ullah et al (2011) was focused on the training needs of faculty in higher education. Citing the earlier work of Sisodia (2000), the authors believed that the success of educational reforms and innovations depended on the quality of teaching, which, in turn, depended on the quality of teacher education. Ullah et al noted that staff development was primarily concerned with the identification, formation and enhancement of skills. The main objectives of their study were:

1. To explore the training needs of the university teaching staff
2. To identify the areas in which development was needed
3. To formulate recommendations for staff development to improve higher education in Pakistan

The data analysis identified training gaps in multiple areas, including the philosophy of education, educational psychology, research techniques, professional trends, professional competencies, professional attitudes, professional ethics, global

innovations in teaching strategies, classroom management, counseling and guidance, student discipline, communications skills, learning theories and supervision. Overall, there was strong endorsement from the ground for staff development.

The idea of conducting a training needs assessment is largely similar to the intent of a competency study in that both are concerned with the identification of the knowledge, skills and attitudes essential for effective teaching. However, a training needs survey would be more pertinent in an institutional context (e.g. as commissioned by the university's leadership) or at a state or community level (e.g. endorsed by educational authorities or consortiums). A competency study, for the proposed research, would be less imposing in nature, and hence may elicit more voluntary responses when implemented at the ground level.

Professional development needs study in South Africa

Hassan (2011) was of the view that academics were ill-prepared to take on the challenges of educational transformation and that professional training and development which could provide the appropriate support to faculty was often neglected. The aim of his study was to determine the needs and perceptions of academics regarding their professional development within the context of educational transformation. The research was conducted at the University of Limpopo in the north-west province of South Africa.

On educational transformation surrounding curriculum development and innovative methods of teaching and learning, participants perceived that they possessed adequate knowledge of outcomes based education (OBE). According to Hassan, the findings demonstrated a gap between the participants' perceptions of their knowledge and skills, and their perceived need for training in OBE. Problem based learning, which was construed as another form of innovation in teaching and learning was another concern of the staff surveyed as seventy-seven percent indicated that there was a need for staff development programs that would help them improve their facilitation skills.

Overall, the attitudes towards staff development was positive. The participants however, indicated that they should not be compelled to attend staff development programs. Such responses were hardly surprising since the promotion system in that university traditionally favored research and publication over teaching, an observation made by Hassan which was similar to the earlier research done by Morley (2003). Morley (as cited in Hassan, 2011) asserted that the pressure to be research active is an antithesis to the scholarship of teaching and learning because of the demand for research outputs at the expense of producing knowledge of high quality. On this note, the implications of a competency study as a roadmap or guide for faculty professional development would be more appealing and appear as less of a 'compulsion' as compared to a training needs assessment.

Conclusion

It is evident from the review of literature that numerous precedent competency studies or faculty professional development needs studies were carried out in many continents including the United States, Europe, Australia, South Africa, India as well as in the

Middle East. The review has highlighted a gap for similar research in Asia, and for this particular study, Singapore.

The proposed self-rating instrument for teaching and learning competencies developed through this study can be used by the participating universities as a professional development tool for preparing academics of the future as well as for their existing faculty to set their learning and development goals. Universities can develop their professional development programs in teaching and learning support around this instrument. Its central purpose would be to help university teachers seeking to enhance the learning experience of their students, by improving their competencies in teaching and learning support. It has a wide range of uses, but it could, for example, be used to:

- Promote the professionalization of teaching and learning support in universities;
- Foster creative and innovative approaches to teaching and learning;
- Demonstrate to students and other stakeholders the professionalism that faculty and institutions bring to teaching and support for student learning;

The proposed instrument, which will factor in new ideas about teaching and learning in modern, student centered contexts can also be useful for providing notions of what constitutes teaching excellence (Chism, 2004), and provide a future reference point for teaching evaluation in higher education.

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Contact email: grace.cheong@research.uwa.edu.au

Impact of Cultural Education on Social Cohesion after a Sudden Disaster: With Reference to Two Flood Affected Locations in Colombo District-Sri Lanka

Wathsala Abeykoon, University of Colombo, Sri Lanka
Udari Samarakoon, University of Colombo, Sri Lanka

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Abstract

Natural disasters that strike without prior warning bring torment events. Unexpected disasters may destruct people's day-to-day routine and they may loose their physical assets. Disasters can affect both short-term and long-term physical and psychological life of victimized people. Recent history about disasters occurred in Sri Lanka shows that non-victims of disasters tend to sense that such stressful situations as 'our' problem rather than 'their' problem. In order to create such shared collective feeling cultural teaching also play noticeable role which will lead for a social cohesion within catastrophic situations. During May 2016 Sri Lanka went through severe flooding condition affected 172,000 people in Colombo district. Six to ten feet flood water were observed in some households and people had to stay in. Throughout this flood, majority of affected people had no choice but to leave their houses and stay in flood shelters. Mainly religious places, schools and community centers within near affected area used as flood shelters. Various random people all over country, other organizations and government with tri-forces united in an overwhelming sense to help these victimized people. People offered food and other essential items for affected people.

This research based on understanding how cultural education influence on building social cohesion after a sudden disaster. The main objective of this study was to identify how social cohesion emerge after a sudden disaster and cultural impact of it. Other objectives are to find out the ways of informal education of cultural norms and how cultural norms and valued effect the process of recovery.

Two highly flood affected areas, namely Ambathale in Kolonnawa Divisional Secretariat and Egodawatte in Athurugiriya Divisional Secretariat were selected using purposive sampling method. Affected people randomly selected from each Grama Niladhari registration list, religious leaders, and community leaders of flood shelters were interviewed for the study. Also both quantitative and qualitative data were collected using questionnaires, in-depth interviews and focus group discussions. Observation method was used to observe the various types of goods collected by different groups of people and civil organizations.

Outcome of the study reveals cultural education plays considerable role in creating social integration that emerged after a sudden disaster. It showed that throughout disaster period religious leaders contributed to inspire people by notifying people importance of helping affected people through informal methods: media and social media. This moral guidance had played significant role in non-victims' decisions and attitudes towards affected people.

Keywords: Social Cohesion, Cultural education, Affected People, Flood, Moral guidance

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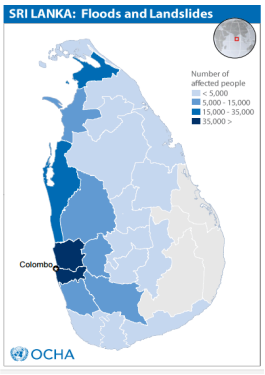
Introduction

Natural disasters that strike without prior warning bring torment events. A disaster can be define as an occurrence either natural or man-made, that causes human suffering and create new needs that victims cannot alleviate without assistance' – American Red Cross (ARC), 2010. According to World Health Organization (2012) disaster is an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community. Such Unexpected disasters may destruct people's day-to-day routine and they may lose their physical assets. Disasters can affect both short-term and long-term physical and psychological life of victimized people. Disaster can affect the quality of life of affected people. That can lead to stress and anxiety among victims. Other than that disaster can damage the bonds in the relationship that exit between a person and their community. There for the victims coping strategies are important in emergence of stress and PTSD after a disaster.

Education can be divided in to two categories mainly, formal education and non-formal education. Most of the time research are focus on is formal education and its scope. Yet in this study researchers attempt was to understand how informal education in a society helps to build a social cohesion after a sudden disaster.

During May 2016 Sri Lanka went through severe flooding condition. Gampaha and Colombo areas were worst affected (See map 1). 172,000 people in Colombo district were affected due to that. Six to ten feet flood water were observed in some households and people had to stay in. Six to ten feet flood water were observed in some households and people had to stay in. Throughout this flood, majority of affected people had no choice but to leave their houses and stay in flood shelters. These shelters were basically public schools, common centers and religious institutions. Destruction of physical properties, loss of income for longer period and ever to go through communicable diseases made their life more vulnerable. Apart from the tri force and government organization various faith groups, random groups, local organizations are actively involved in the provision of aid.



Source: United Nation Office for the coordination of Humantarian Affairs

Literature review

Recovery may be of as an attempt to bring a post disaster situation to a level of acceptability (Quarantelli, 1999). However according to Chang et al (2010) it is not a linear process. The ability to cope and recover from loss is determined by a collection of factors (Gottlieb, 1997), in pre-disaster, within-disaster, and post-disaster periods (Eyer, 2006). Personal strength, religious belief and faith, and external support appear to play key roles in coping after a massive disaster or major life events cause that will make people stronger knowing that they have someone or some place to lean on.

Non –formal education is an integral part of a lifelong learning concept that ensures that young people and adults acquire and maintain the skills, abilities and dispositions needed to adapt to a continuously changing environment. It can be acquired on the personal initiative of each individual through different learning activities taking place outside the formal educational system (Committee on Culture and Education, 1999). Culture, family, peer groups and media etc. provide such informal education to people. In order to do that Danis Saleebay's strength Perspective. Saleebey (1992) suggests that individuals and groups "have vast, often untapped and frequently unappreciated reservoirs of physical, emotional, cognitive, interpersonal, social, and spiritual energies, resources and competencies". And Saleebey further highlight that the people we work with have '*Taken steps, summoned up resources, and coped. We need to know what they have done, how they have done it, what they have learned from doing it, who was involved in doing it, what resources (inner and outer) were available in their struggle to surmount their troubles '(p. 172).*

Thus it should be understand how this non-formal education can be use in a case of emergency.

Method

Two highly flood affected areas, namely Ambatale in Kolonnawa Divisional Secretarial and Egodawaththa in Athurugiriya Divisional Secretarial were selected using purposive sampling method. Affected People were randomly selected using Grama Niladhari (the lowest administrative unit in Sri Lanka, usually comprising two to three villages) registration list. Two temporary shelters were also selected using random sampling method.

Location	Shelter
Ambatale	Galwana Rajamaha Viharaya (Buddhist Temple)
Egodatawaththa	Kothalawala Rajamaha Viharaya (Buddhist Temple)

Figure 1. Selected Shelters.
Source; Field Research, 2016

Out of total number of people that stayed in the both temporary shelters, 1/3 of total number, 84 were selected as the sample. These 84 people were belong to 28 families.

	Galwana Rajamaha Viharaya (Buddhist Temple)	Kothalawala Rajamaha Viharaya (Buddhist Temple)
Total population in the Shelters	194	158
Sample	64	52

Figure 2. Selection of respondents
Source; Field Research, 2016

Field worked were conducted in a two Stages, **1st Stage:** Within soon after the disaster happened after a week, data were collected from the affected people.**2nd Stage:** Data was collected from selected 21 families after 2 months when people return back to their places.

Questionnaires and In-depth Interviews were carried out to collect primary data while structured interview method was used to gather data form selected key informants, Such as:

1 Religious leaders who worked in relief distribution
2 Individuals who donate things to effected people
3 Media behavior

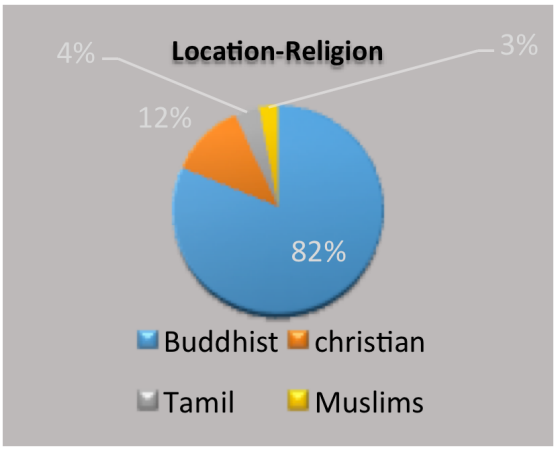
In-depth interviews were carried out in participants houses, in that they were interviewed about key topics including experiences related to flooding, any losses, responses and coping mechanism, and the extent of available external support (government and non-government). Interviewed were carried in Sinhala and recorded with the permission of the respondents.

Results

Various components of culture describe above influence how certain societies communicate, perceive the world and respond to disaster and emergencies (Jogin et al. 2014).
Soon after the flooding occurred in May 2016, various agencies non-governmental organizations, hundred of volunteers and faith based groups stepped in offering diverse assistance to affected people. Study was carried out in order to understand strength which informal education system brought up especially, through culture and media, throughout the disaster and recovery period.

Out of the total respondents 82% were Sinhala, Buddhist while, 12% were Christians, 4% were Tamils and 3% were Muslims (figure 1).
Since the majority of the research location were Sinhala Buddhist, according to research information gathered showed that most of the religious leaders who engage in the disaster relief services in the selected area were Buddhist monks (see figure 2).

Here religious leaders act as kind of communication agents building contacts with various organizations and affected people and encouraging other faith based organization to provide help to people. In their words monk acted as a 'father' to all of them.



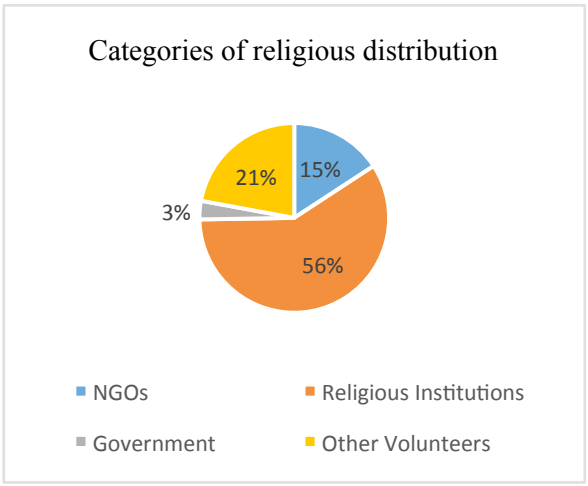


Figure 1.
Respondents according to religion

Within the disaster period Buddhist temple turned in to a something beyond the mere sacred religious place, it transit in to a common residence where Buddhist monk worked as the head person. Providing all kind of goods including foods, shelter and any other thing they wanted.

Throughout the disaster period Media acted as an agent of socialization rather than provider of information. What should be noted is Media adopted moral teaching of Buddhism such as 'Dhanaya'- donation, 'Metta'= compassion also influence non-affected people decision of providing assistance to affected people.

where they asked people to bring two lunch packets and donate one packet for displaced people. Especially social media such as Facebook and twitter, people were continuously interact with outer world, which again pave the way to immediate responses from non-affected people.

Out of the interviewed faith based group members and individual volunteers who actively engaged in donating and distributing goods, 33.1% mentioned that they were influenced by religious institutions, while 14.2% point out that they were engaged in such activities because of their own thoughts, while 50.4% mentioned that they were informed and encouraged by the media coverage during the disaster period.

Conclusion

This study try to understand the influence of informal education on people's life after a sudden disaster. Two socialization agents; culture and media were taken to understand how it provide informal education within such catastrophic event.

Within the study it emphasized that importance of social cohesion. And it often mentioned that media and religious leaders made that bridge between affected people and non-affected people to create that social cohesion or in other words help them to find the strength that they already have in their own community.

Study revealed that religious leaders tend to act as responsible actors by providing various assistance, thus it showed that religious leaders can play important role in an emergency situation specially providing not only physical assistance but also psychological comfort that affected people wanted. Other than that moral teaching of Buddhism such as 'Dhanaya'- donation, 'Metta' –compassion also influence non-affected people decision of providing assistance to affected people.

In a society where people are linked through different technology related methods, such technology can be used as a positive method of helping those who need help. Study results showed that social media appeared not only as an agent of providing information but also as an agent who create social integration. Also it showed that throughout disaster period religious leaders contributed to inspire people by notifying people importance of helping affected people through informal methods: media and social media.

Using the Concept of Fashion to Link Diverse Programs

Andrew Reilly, University of Hawaii, Manoa, United States
Loriena Yancura, University of Hawaii, Manoa, United States
Youngjin Bahng, University of Hawaii, Manoa, United States
Douglas Vincent, University of Hawaii, Manoa, United States

The Asian Conference on Education & International Development
Office Conference Proceedings

Abstract
Fashion is often described as a temporal trend illustrated with a bell curve; an item or behavior is adopted in increasing frequency until a saturation point is reach as adoption declines, and is most-frequently applied to appearance behaviors and modes of dress. This paper seeks to apply the concept of fashion to areas other than appearance and dress in order to demonstrate its usefulness for studying other topics, as well as describing how programs with diverse curricula can be linked together. We look at fashion in adoption of types of statistical analyses, specific breeds of dogs as pets, and farming practices in the U.S.

Keywords: dog breeds, farming, fashion, statistics, trends

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Introduction

Departments housed in land grant agricultural colleges often have the unenviable and difficult task of justifying their existence as collaborative entities that complement each other. Programs like fashion design and merchandising, family resources, and agricultural sciences have historic roots with seemingly little relevance to each other in today's academic milieu. Putting politics aside, educators in such programs in agricultural colleges often are left wondering how to develop cross-disciplinary curriculum that can address the linkages between programs yet still educate students for careers in their respective fields. This paper demonstrates how the concept of *fashion*, or the collective process of group acceptance for a specific period of time, is relative to many of the disparate disciplines found these colleges.

We used a diverse assortment of materials as data, including newspapers, academic journals, comic strips, and the opinions of experts. The topics we chose are based on the authors' area of expertise and current curricula. After a discussion of the academic concept fashion, we examine the influence of fashion on quantitative statistical analyses, the adoption of specific breeds of dogs as pets, and farming practices. We conclude with a discussion of these phenomena within the academic literature on fashion in clothing.

Some scholars have defined fashion as *change* or *newness* (e.g., Sapir 1931; Wilson 1985), while others have defined it as an unseen force that produces change. Craik (1994) wrote, fashion is "cultural technology that is purpose-build for specific locations" (p. xi), while Svendsen (2006) noted, "fashion is a general mechanism, logic or ideology that……. applies to the area of clothing" (p. 12), and Lipovetsky (1994) argued that "fashion is a specific form of social change, independent of any particular object (p. 16). More recently, Reilly (2014) summarized varied definitions of fashions to offer, "fashion is (a) an intangible force (b) that is manifested by tangible products (c) that represent newness relative to prior fashion products, (d) are adopted by a group of people, and (e) are reflections of society and culture" (p. 12). The commonality among these descriptions is that fashion implies a change in adoption over time.

Central to these definitions is change, which can manifest in two forms: cumulative and contextual. Cumulative change is a progression whereby *X* is improved to become a new form of *X*. Contextual change is dictated by events and technology in the environment, and therefore *X* is discarded and is replaced by *Y*. Both are related to fashion change—some clothing fashion trends are predicated on their prior version (such as, skirt length) while other changes are based on environment events (such as technological advancements in textile development). In general, fashion change is subject to cultural, social, personal, and industrial forces (Hamilton 1997). Within these four areas, one can find political, technological, social, and economic mechanisms that also affect the adoption, use, and discarding of fashion.

Example 1: Statistical Analyses

Fashion is evident in the types of statistical analyses used in 20th century academic research studies. These analyses have steadily evolved, beginning with relatively simple descriptive statistics and leading to more complex analyses. Technology has

been dramatically enhanced the use of advanced statistical methods in research. Statistical methods obviously vary greatly among academic fields, but generalizations of the popularity of common analyses may be made by examining statistical software industry standards. For most of the 20th century, researchers used only descriptive statistics (e.g., means, medians) and graphs (e.g., bar-charts) in their research studies, and the findings were publishable in top-tier journals (e.g., Steele, 1951). These analytical methods were replaced by correlations, which were replaced by regression analyses circa early-1990s. The current preferred practice appears to be the use of structural equation modeling. More frequently than in prior decades, academic journals appear to require the use of complicated statistical methods in most researchers' manuscripts unless the research study and the findings are extremely extraordinary and/or original. This trend is supported by Figure 1, which has been created by examining all issues of *Clothing and Textiles Research Journal* (*CTRJ*) from 1982 to 2015.

Year	Sample Size	Descriptive stats	T-test	chi-square	ANOVA	ANCOVA	MANOVA	Correlation	Regression	Multiple Regression	Factor Analysis	Path analysis	SEM	LSD	Tukey HSD	Cluster	Lit review	Qualitative	Development of Design
1982	116-176	0	0		1			1	1								1	1	
1983	5 fabrics - 2274 articles	1	2		1			1	0	1	1						1	3	
1984	4M - 1978F daytime fashion illustrations	3	1		3			3	1		1							0	
1985	4M - 1330 US Army F	5	2	3	5			5	2		3					5	3	4	
1986	55 artists-210	5	0	1	3			2			1							2	
1987	37 dated victorian quilts - 1113 students	11	4	1	8			7	1	1	5			1			4	5	
1988	5 dye-mordant combinations - 1614	12	7	7	12		2	4	2	3	4				1	1	7	2	
1989	6 fabrics - 950 older adults & 750 younger	8	4	3	6		1	3	2	1	4						4	2	
1990	3 yarns/6 direct dyes - 502	9	8	3	2	3	1	6	1		5			3		1	5	7	1
1991	17 fabrics - 475F	21	9	5	15	1	2	8	3	1	7			3	2		7	2	
1992	1 apparel retailer/1 specialty retailer -	11	2	2	12		3	4	2	2	4				2		11	9	
1993	10 random lengths of fiber - 482F	9	6	6	9		4	7	2	2	7			3	1		7	4	1
1994	4 experimental fabrics - 649	4	5	1	9		6	2	2	1	4			3	1	1	3	4	
1995	3 types of nonwoven fabrics - 489	20	8	4	13		5	3	2		3			3			5	8	
1996	2 sets of nonwoven fabrics - 6652	16	6	5	6	1	6	4	3	1	4						7	3	
1997	2 naturally colored cotton fabrics - 1954	4	2	1	10		4	3	0		3				2	1	8	2	
1998	10 design associates - 1172	7	1	2	1		1	3	1					1		1	3	10	
1999	16 - 505 Korean consumers	11	4	1	7		3	4	3		2	1	1	1			3	8	
2000	3 samples of 13 100% wool fabrics of various	8	2	1	2		1	4	2	1	2						13	12	
2001	10 categories of clothing - 571	6	0	2	3		1	3	1	2	1						3	7	
2002	7 textile executives - 398 tourists & 307	16	3	3	7			4			1				2	1	5	20	
2003	4 colorants - 1011 pairs of pants	12	2	1	4		3	2	2	1	4		1		1		2	5	1
2004	4 gay men that cross-dressed publicly - 203F	5	5	2	2			3					1				6	8	3
2005	6-531	7	1	2	6		2		3		1				1		2	18	6
2006	3 artisan entrepreneurs - 1200	5	2	3	4		3	3	1	6	2						3	6	1
2007	1 fabric/agents - 278	6	0		2		1	3	4		1				2		3	3	3
2008	12F - 600 articles	4	1		3			2	3		1				1		4	10	5
2009	15 - 1126 patents	6	5	3	2		2		3	2	1		3		1		2	9	1
2010	65F - 361F	6	8	1	3		3	2		2	1		5				1	8	1
2011	7M - 858	10	2		2			2	1	1	1		4				2	18	
2012	30 tattooed women - 2981W from size USA	13	2		2		1	3	3	1	2		4	1			2	6	
2013	2 kinds of warp - knitted fabric - 365	5	2	1	5		2	4	4	1	2	1		1			3	12	
2014	9 - 909	11	7	2	3		1			1	3	3	3				1	9	
2015	15 - 129	2	1		2			4				1	1					3	

Figure 2. Statistical methods used in *Clothing and Textiles Research Journal* from 1982 to 2015

In *CTRJ*, academic articles with areas of fashion-related disciplines (i.e., merchandising, retailing, consumer behavior, aesthetics, costume history, product development, and textiles) have been published since 1982. Particularly, research

studies with merchandising, retailing, and consumer behavior topics have used increasingly sophisticated and complex statistical methods, partially because: (1) the research area overlaps with the business or economics field of research where complex analyses are commonly used; and (2) competition among researchers to be published in top-tier journals has increased. For instance, even if the research problem can be explained by multiple regression, researchers and journal editors may prefer to use Structural Equation Modeling (SEM) method. SEM has been increasingly used in research studies published in *CTRJ* since 2009 (See Table 1).

The adoption of newer and more complicated statistical methods was made possible by the viability of computer software products such as Statistical Package of the Social Sciences (SPSS), which was originally released in 1968 and available for use only on mainframe computers. It was quickly adopted by a "small, but enthusiastic, user community" of mostly university faculty.

(http://www.spss.com.hk/corpinfo/history.htm). Demand increased when its manual (later named as one of academia's most influential books, Wellman, 1998) was adopted by the US government and the private sector. The availability of SPSS for personal computers in the mid-1980s and on Windows by the 1990s helped in its dissemination. Indeed, "SPSS technology has made difficult analytical tasks easier through advances in usability and data access, enabling more people to benefit from the use of quantitative techniques in making decisions" (http://www.spss.com.hk/corpinfo/history.htm). As SPSS has been increasingly utilized, additional software modules, like Amos, have enabled more researchers to perform SEM as well (IBM, 2015). As fashion always changes, researchers may have to keep open-minded by being ready to use new and innovative statistical methods.

We asked two former editors[1] of different journals if they felt researchers preferred advanced statistical analyses. Both agreed and remarked that reviewers sometimes commented that newer, more advanced analyses were necessary for publication. Both noted that some people believe ANOVA, MANOVA, regression, and factor analyses have gone out of style in favor of structural equation modeling (SEM; personal communication, 2015). We also asked three faculty members[2] at different universities were about their experience. One reported, "I've been told by reviewers [of papers submitted to journals] that I need to use more advanced statistics. They really want SEM! But that wasn't the purpose of my research, but it seems you have to learn SEM if you want to get published" (personal communication, 2015).

But do changes in preferences for statistical analyses follow trends? Dr. P. Adam Kelly[3] (personal communication, 2015) contends that changes are "not so much trends, but evolutions in statistics due to advancements in large-sample data analysis capabilities and the proliferation of affordable and relatively easy-to-use software."

Quantitative research methods are not the only type of analyses subject to change. The number of qualitative studies published in *CTRJ* has been increased since the late 1990s and many studies use different methods (e.g., interview) than before (See Table

[1] Both asked to remain anonymous and both ask their affiliated journals not be mentioned.
[2] All three asked to remain anonymous.
[3] Dr. Kelly is an Adjunct Associate Professor in the School of Medicine at Tulane University and has expertise in statistical analyses and research methods.

1). This is supported by communications with two researchers versed in research methods. Dr. Sharron Lennon[4], said, "Qualitative analyses were not 'fashionable' in the 80s among scholars who studied behavior aspects of dress…..more acceptance of qualitative work among scholars who studies behavior aspects of dress." Similarly, Dr. Kelly notes, "Surprisingly, in medical as well as other fields, the growth industry in analysis today is qualitative. And statistical methods related to that, such as cluster analysis, multidimensional scaling, and classification accuracy (such as discriminant analysis) are getting more attention."

This example highlights both cumulative and contextual change. The advancements of each new method built upon prior achievements, where newer eventually replaced older. Fashion change is evolutionary where a change grows out of its predecessor. It also aligns with our argument that change is cumulative. Each statistical analyses grew out of its predecessor and "replaced" it by being more advanced or sophisticated. Fashion in statistics also illustrates contextual change, progressively modern analyses rely on increasingly sophisticated technology.

Example 2: Dog Breeds

Another area that shows patterns proposed by fashion theories is the popularity of dog breeds. Interactions between dogs and humans go back thousands of years. Dogs helped human to herd and hunt, and human settlements were sources of food and shelter for dogs. Dogs were kept and bred for specific functions, only the royalty and very rich kept them as symbols of social standing (Podberseck, Paul, & Serpell, 2005). However, this changed in the late nineteenth century, with the advent of industrialization and the growth of a leisured middle class (Sampson and Binns 2006). Interest in Darwin and the emerging 'science' of eugenics led to purposeful distinctions among dog breeds and a rapid growth in the number available to the general public. Dog ownership became a status symbol of for the middle class.

Trends in Dog Ownership in the 20th and 21st Centuries in the United States

When the American Kennel Club, or AKC, was founded in 1884, it recognized 9 dog breeds[5]. None of these breeds have recently made the list of the 10 most popular breeds and 3 of them are now in danger of disappearing as breeds (Coren 2013). The AKA currently recognizes 184 breeds, registration statistics in general have change drastically in the 135 years since its founding. Statistics published over the last 150 years tell the story of the rise and fall in breed popularity (American Kennel Club 2015).

There have been fluctuations in the "top ten" lists. Figure 2 lists the top ten most popular dog breeds registered with the AKC since its founding and illustrates several trends in dog ownership. First, many breeds have been popular during this time. Twenty-eight are represented. Second, breeds vary in popularity. Two breeds (Cocker Spaniel and Beagle) are each represented more than 10 times over the 12 decades, while five others (e.g., Saint Bernard, Basset Hound) are each represented

[4] Dr. Lennon is a professor in Apparel Merchandising and Interior Design at Indiana University and has expertise in statistical analyses and research methods.
[5] Chesapeake Bay Retriever, Clumber Spaniel, English Setter, Gordon Setter, Irish Setter, Irish Water Spaniel, Pointer, Sussex Spaniel, Cocker Spaniel

only once. Third, there are clear temporal trends in breed popularity. The Collie made the top ten list 7 out of 8 decades between 1890 and 1960, but does not appear after that. The Poodle did not appear on the list until 1950, but has made it every decade since.

	1890s	1900s	1910s	1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s
1	Saint Bernard	Collie	Boston Terriers	German Shepherd	Boston Terrier	Cocker Spaniel	Beagle	Poodle	Poodle	Cocker Spaniel	Labrador Retriever	Labrador Retriever
2	English Setter	Boston Terrier	Airedales	Boston Terrier	Cocker Spaniel	Beagle	Cocker Spaniel	German Shepherd	German Shepherd	Poodle	Rottweiler	German Shepherd
3	Pointer	Bull Terrier	Collies	Chow Chow	Fox Terrier	Boston Terrier	Boxer	Beagles	Doberman Pinscher	Labrador Retriever	German Shepherd	Golden Retriever
4	Collie	Irish Setter	Beagles	Pekingese	Scottish Terrier	Collie	Chihuahua	Dachshund	Beagle	German Shepherd	Golden Retriever	Beagle
5	Fox Terrier	Pointer	Bulldogs	Fox Terrier	Beagle	Boxer	Dachshund	Chihuahua	Dachshund	Doberman Pinscher	Cocker Spaniel	Bulldog
6	Cocker Spaniel	Cocker Spaniel	French Bulldogs	Airedale Terrier	Pekingese	Dachshund	German Shepherd	Pekingese	Irish Setter	Golden Retriever	Poodle	Yorkshire Terrier
7	Irish Setter	Bulldog	English Setters	Collie	Chow Chow	Pekingese	Poodle	Collies	Cocker Spaniel	Beagle	Beagle	Boxer
8	Beagle	Airedale Terrier	Cocker Spaniels	Beagle	English Springer Spaniel	Fox Terrier	Collie	Miniature Schnauzer	Miniature Schnauzer	Miniature Schnauzer	Dachshund	Poodle
9	Great Dane	Beagle	Pekingese	Cocker Spaniel	Pomeranian	English Springer Spaniel	Boston Terrier	Cocker Spaniel	Labrador Retriever	Dachshund	Yorkshire Terrier	Rottweiler
10	Bull Terrier	Irish Terrier	Bull Terrier	Bulldog	Bulldog	Scottish Terriers	Pekingese	Basset Hound	Collie	Chow Chow	Pomeranian	Dachshund

Figure 2: Top Ten Purebred Dog Breeds in the U.S. by Decade

The figures discussed above provide evidence for trends in dog breed ownership. The remainder of this section will discuss three potential factors that have influenced fashions in popular dog breeds over the past 120 years: political factors, popular culture, and changes in lifestyle and societal values.

There is evidence for the influence of political factors on the popularity of dog breeds in the United States. For example, the German shepherd was the most popular dog breed during the decade of the 1920's. However, it is completely absent from the list during the 1930s and 1940s, during the Great Depression and World War Two. Howell (2013) argues that these political factors influenced "dog nationalism." During the depression, ownership of powerful, purebred dogs was seen as frivolous. During World War Two, ownership of German dogs was seen as unpatriotic.

Pets owned by U.S. presidents also appear to influence popularity. Presidential pets receive a great deal of attention in the press. Evidence suggests that presidents and their advisors are strategic in their use of pets to boost approval ratings or distract from scandal (Maltzman, Lebovic, Saunders, & Furth 2012). The history of presidential pets provides a few examples (Presidential Pet Museum, n.d.). For example, FDR had a beloved Scottish Terrier, named Fala, who frequently performed tricks for White House visitors. This breed only shows upon the popular dog breed list in the 1930s and 1940s, when FDR was president. Gerald Ford's Golden Retriever, Liberty, had a litter of puppies while Ford was president in 1975, an event heavily covered in the press. The Golden Retriever made its debut on the AKC list in the 1980s and has held a prominent position every decade since.

Memes in popular culture also influence trends. In 2009, the AKC surveyed people about their favorite dogs in popular culture (AKC 2009). Snoopy, the carton Beagle

featured in the *Peanuts* comic strip, was overwhelmingly the top dog in both the cartoon and overall categories of this survey. The Beagle has been listed among the most popular dog breeds for all 12 decades since the 1890s, however the only time it held the number one position was during the 1950s, the decade the popular *Peanuts* cartoon was introduced. Lassie, a Collie and the canine hero of short stories, books, movies, and television was rated as the most popular movie dog. Eight of the eleven movies in the Lassie film franchise were released between 1943 and 1963. Collies were consistently on the AKC's top ten list from the 1940s through the 1960s. Collies were also on the top ten list for several decades before that time, illustrating a potentially reciprocal relationship between entertainment and real life.

Societal beliefs continue to influence the popularity of dog breeds. At this point, it is important to note one major weakness in using the AKC list of dog breeds as a marker of public preference – it only recognizes registered purebred dogs. Two relatively recent trends in dog ownership appear to go beyond breeds. The first if these is the popularity of 'rescue' dogs, those that have been adopted from shelters.. A dopting rescue dogs is endorsed by several celebrity spokespeople. Although the rescue dog movement arose from the desire to prevent unwanted dogs from being euthanized, it has grown to the extent that the demand for rescue dogs is exceeding the supply (Dahler 2015). This movement appears to be related to the broader societal trends of recycling and going green. Another recent trend in dog ownership is a preference for 'designer dogs'. These dogs are purposeful hybrids of existing dog breeds and include such dogs as 'Labradoodles' (labrador/poodle), 'Puggles' (pug/beagle), and 'Chiweenies' (chihuahua/ dachshund). The designer dog trend parallels consumer desire for individualized goods, which are now readily available from internet retailers.

Changes in preferences for dog breeds illustrate contextual change, where fashion is influenced by forces such as politics, entertainment, and social movements. It also demonstrate cumulative change with the introduction of designer dogs where breeders select the strengths and desirable characteristics of existing breeds to create a new variety.

Example 3: Farming Trends

Farming trends are third area that illustrates changes in fashion. For millennia, humans have created, adapted, and eventually discarded methods of food production. Even if the perspective is limited to United States history, agricultural producers have adopted new technologies, used them in greater frequency, and upon saturation, or as often the case, as new innovations were developed, discarded the old for the new. Decisions for change have been primarily based on the profit motive – new technologies have improved the bottom line or reduced the amount of labor necessary to produce the crop. However, some decisions of *what* to farm have also been influenced by taste and political factors.

Trends in corn crops

When English settlers arrived in the Americas, they sought to find products to sell back to Britain. Among the many crops available, settlers adopted Indian maize (corn) as the dominant cereal crop and utilized the same farming methods that they

used in Britain. Corn was easy to grow and productivity increased as new tools were invented and adopted. By 1700 English farmers had devised dozens of plow designs, most of which were designed with wooden moldboards. While widely used, they were hard to pull, broke easily, and did not fully turn the soil. By 1730, the first moldboard with the double curve of a modern plow was invented in England and used continuously by colonial farmers through the American Revolution.[6] But these British plows were not well suited to the rich American soil, so new designs appeared almost every year, including one invented by Thomas Jefferson who created a new moldboard made of cast-iron to replace wooden varieties. The first American patent for a cast-iron moldboard was issued in 1800. As a measure of productivity, in 1800, it took 300 hours of labor to produce 100 bushels of corn on five acres of land. The amount of labor hours and acreage required would continually decrease over the next 200 years.

In 1837, a blacksmith, John Deere, replaced cast-iron shares with steel which could be sharpened and polished. This invention made it easier to turn the rich and deep, virgin American soils and was quickly adopted by farmers. In most soils, a single plow required two draft horses with the farmer walking behind. As early as 1864, the standard plow became a riding plow with wheels and a seat and pulled by four horses. With innovation came efficiencies; it now took 75-90 hours of labor to produce 100 bushels of corn on two and one half acres.

Cutting the crop, threshing the grains, and winnowing out the chaff were inefficient and labor intensive. Cyrus McCormick built and patented the first successful grain reaper in 1834, but adoption by other farmers took time. Horse-drawn, steam-powered threshing machines were being used in the 1870s, but it was not until 1880 that the first "combine," an implement that combined reaping and threshing, was invented. It now took 35-40 hours of labor to produce 100 bushels of corn on two and a half acres.[7]

None of these innovations in agriculture would replace horses and mules as draft animals, until 1892 when the first gasoline-powered, internal combustion engineered "traction machine" was invented. While horses and mules remained integral to small scale agriculture, they also consumed up to 20% of the crop. Land devoted to the raising and pasturing of the draft animals meant less land devoted to the "cash" crops. Over the next 20 years, several inventors devised different versions of the "tractor." The Ford Motor Company was the first to mass produce one: the 1918 Fordson was advertised as costing less than a good pair of mules. But it was also cheaply made, hard to start, and unfortunately, dangerous, killing many farmers. Competition from the International Harvester Farmall and the John Deere Company brought changes resulting in improved productivity. Costs of tractors dropped and more farmers adopted these labor saving devices. By 1930, it took 15-20 hours of labor to produce 100 bushels of corn on two and one half acres of land.[8]

During World War II, the demand for increased food production and industrial innovation, sowed the seed for an American agricultural revolution. Concurrently, the number of farmers in the United States decreased, as many farmers were serving in

[6] When the United States was founded in 1876, farmers made up 90% of the labor force.
[7] By the end of the nineteenth century, farmers comprise 49% of the labor force.
[8] By 1930, one farmer provided food for 10 people in the US and only farmers comprise 38% of the labor force.

the military and farm families migrated to cities to high-paying industrial jobs. Despite fewer farmers, productivity per acre increased. By 1945, it took 10-12 hours of labor to produce 100 bushels of corns on just two acres.

In the 1950s and 1960s, the world's population rebounded from the devastation of WWII and the industrial base shifted from war material to products (e.g., seed, machinery, fertilizer) to support the demand for food. The number of tractors on farms now exceeded the number of horses and mules for the first time; familiar ways of farming were discarded in favor of new techniques. By 1960, one American farmer fed 26 people. By 1970, one farmer feed 48 people.[9]

Corn productivity continued to grow into the 1980s, driven by the demand for ethanol, corn for animal feed, and high fructose corn syrup. By 1980, one farmer fed 76 people and it took less than three hours to produce 100 bushels of corn on one acre. The demand for greater productivity in the corn crop shifted the emphasis from in field production methods to emphasizing the genetics of the corn plant. Breeding, crossbreeding and creating new hybrids moved the production of corn seed from a competitive sector of agribusiness, comprised primarily of small, family-owned farms, to an industry dominated by a small number of transnational corporations.

Information technology, global positioning, and precision farming techniques were adopted by agriculture in the 1990s. Less than 3% of the population are farmers, yet one farmer feed 100 people. In 1995, the first transgenic corn seed, Bt corn, was produced. In 1997, The US Department of Agriculture, Federal Drug Administration, and Environmental Protection Agency deregulated Monsanto's "Roundup Ready" corn, genetically modified corn plants engineered to be herbicide-resistant. Commercialized in 1998, this genetically modified crop permitted usage of Roundup® to kill weeds in the field, consequently reducing the amount of tillage, and overall costs, and labor required by farmers. Genetically modified crops were now widely accepted by farmers. In 2012, one farmer fed 140 people and it took less than 30 minutes of farm labor to produce 100 bushels of corn on less than one acre.

Influences on trends in corn crops

Farming corn was necessary for English colonists, as both a source of their own food and as a commercial product. The economic motive has remained steadfast through the history of farming. Farms from the American colonial era were small, single family farms until the middle of the 20th century when the industrialization of farming occurred. Government price supports for corn farmers adopted during The Great Depression created incentives for farmers to produce more corn. This shifted the nature of agriculture away from small acreage, multi-cropping, subsistence farming to bigger farms. Technological innovations--a new hybrid corn seed, petroleum-based nitrogen fertilizer—also brought about dramatic improvements in productivity. In addition, soldiers returning from WWII became agriculture college students thanks to the United States GI Bill. Technology transfer through the Land-Grant University system and the Cooperative Extension Service sped the adoption of new technologies.

[9] By 1970 farmers comprise 3.4% of the population

Biotechnology was another important influence on corn production. It ushered in a new era of altering the genetic makeup of corn seed to develop new varieties of corn that were resistant to pests and weedkillers. The first transgenic corn, Bt corn, contains a toxin produced by bacterium to kill a major corn pest, the European corn borer. Other advances included the development of genetically modified corn that is resistant to Roundup® weed killer.

The US influence on corn crops was just as strong in the 1970s when farmers were encouraged to plant corn "from fencerow to fencerow." The "get big" mindset promulgated by the US Department of Agriculture of the 1970s resulted in the industrialization of American agriculture, but simultaneously spawned the emergence of an eco-friendly trend. Despite the success of industrialized farming, society has begun to worry about the long term impacts of biotechnology due to the potential risks to the population posed by ethanol and high fructose corn syrup. The 2007 documentary film, *King Corn*, challenged this industrialization, while the 2008 documentary *Food, Inc.*, examined the role of these large corporations have on our food supply. Today we are seeing the emergence of small, organic, boutique farms. Concerns over pesticides, genetically modified organisms, and waste have resulted in a new trend in agriculture. Boutique farmers use sustainable methods to cultivate heirloom product varieties. Whether this will become the next "big thing" remains to be seen, but it does provide evidence of the beginning of a new fashion in farming.

The changes in farming technology have yielded cumulative change, where each new invention is an improvement over its predecessor. Cast-iron plows, steel plows, grain reapers, threshing machines, tractors, and hybridization were each improvements that made their forerunners obsolete. The burgeoning return to organic farming is evidence of cumulative change where traditional methods are improved to respond to modern consumer desires.

Discussion

Each of these illustrates how the concepts of fashion apply to products outside the domains of clothing and dress. These examples show the adoption and decline of a particular product; yet, they also illustrate cumulative and contextual change, influenced by a variety of external factors such as popular culture, politics, and technology.

In each case, leaders were instrumental in facilitating adoption and dissemination. In studies of clothing and style, leaders wield influence and impact the adoption of new products or the discarding of old (Craik, 1994; Reilly, 2014). Celebrities' and politicians' choice in dog breed has influenced others to adopt, and is representative of the trickle down theory (Simmel, 1904) and the bandwagon effect (Leibenstein, 1950). Cooperative extension agents within the field of farming have long contended that adoption of new techniques in farming have been dependent on what a neighbor is doing (personal communication) and Herzog et al. (2004) argued that dog breed adoption was predicated on what "other people are doing."

Innovations impact what is available to consumers. Technological advancements provide increased affordability and availability. For example, the development of the cotton gin by Eli Whitney in 1793 increased the procurement of cotton fibers and

resulted in an increased supply of cotton fabrics. Likewise, technology has played a role in cumulative adoption of statistical analyses and farming equipment. Consumers of statistical analyses adopted the most sophisticated analytical methods as each advance in software and statistical theory became available. Users of farming equipment used new advances built prior technology. These changes ushered in new periods of productivity while at the same time changing creating a new idea of what it meant to be modern.

Fashion in clothing is the embrace of the modern and the innovative (Slade 2009; Steele 1998; Wilson 1987). It represents the newest, latest, and most sophisticated and is parallel to shedding the past. Using the most advances analyses, adopting a rescue dog, or adopting sustainable farming practices illustrates this, but what is perhaps most significant and best illustrates the concept of fashion is that as a trend waned the product became unfashionable.

Conclusion

This conceptual paper offers examples of the versatility of *fashion* as a process by applying it to concepts seemingly orthogonal to trends and demonstrates how it can be useful to disciplines beyond clothing design and merchandising. Agricultural colleges often have diverse programs that seem incompatible each other and instructors in these programs are often tasked with finding commonalities. Using the concept of fashion as a framework can link diverse curricula and can be incorporated into such courses such as research methods, family management, community applications, and agricultural methods. This approach can foster critical discussions among students around topics of types of, reasons for, and ability to change.

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Infographics for 21st Century Learners

Ivy Chia, SIM University, Singapore
June Tay, SIM University, Singapore
Guan Chong, SIM University, Singapore

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Abstract
This paper presents the use of infographics to support knowledge retention and to draw the links between key concepts. Often, foundational concepts in word heavy texts are not extricated. Hence students fail to see the overview of these concepts. The use of infographics will facilitate the learning process. Ready-made infographics may be presented as semantic summaries of texts that students need to comprehend. Here, Infographics could be embedded in self-study and in-class group activities and are used to summarise the students' understanding. The different types of infographics and examples of their uses are provided in this paper.

Keywords: Infographics, visual representation, instructional visuals, higher education teaching and learning

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Introduction

Infographics are a pictorial representation of information, data, or knowledge targeted at presenting complex information quickly and clearly (Sudakov et al., 2014, p.1). They are designed to make such information eye-catching, shareable and easily digestible. Through this, readers are able better to visualise the 'big picture' that might be otherwise difficult to understand. Given that 60% of the world population are visual learners, it is timely to pay heed to use infographics to help learners think visually and to support learning. Because of the complexity of unravelling and recollecting complex information, infographic is also useful for recall. The usefulness for recall has been cited in different studies.

Harrison, L., Reinecke, K. & Chang, R. (2015) have suggested the importance of designing for instant recall and impression, and their research results showed that exposure effect could allow people to form a reliable first recall based largely on the use of colours and visual complexity. Several studies further indicated that aesthetics in visualisations can lead to better engagement and better memory of data as revealed in Borkin et al. (2013).

In another study, Welinske (2012) discussed applying user research, usability testing and visual design techniques to printed publication. Their research discovered students having little or no memory of information found in a text-laden high school booklet. With changes in the layout and inclusion of infographics, students were better engaged and better able to make out the connections between the different topics. This is not surprising since many introductory textbooks or e-textbooks treat topics as a series of discrete topics with little emphasis on how the contents are related. Students typically begin the study without seeing how the concepts fit together. Infographics could be used to have a broader view of concepts across study units.

Increasingly, students are adopting mobile internet access. Coupled with the oversaturation of digital content, students' attention spans are shorter than ever. Thus, content presented in the chunks of text can be very off-putting for them. The integration of infographics into teaching, thus, becomes important.

The Conceptual Framework

Different infographics can be created to teach different parameters across the different disciplines. This could include definitions, calculations, theories, procedures, concepts, facts, processes, and principles. To this end, we are proposing that these functions could be represented visually, and they could be summarised in Figure 1. The use of infographics could cut across different disciplines. Using real data, it can be used meaningfully in ways that promote learning.

Main Parameters		**Instructional Visuals**	**Examples of Infographics**
"Ideas." Definition, Concepts, and theories	Definitions	Enable students to integrate term meanings while working through the material.	• Mnemonic visuals to provide retrieval cues for factual information • Pictures
	Theories	Interpretive graphics to illustrate abstract or cause-and-effect relationships.	• Schematic diagram
	Concepts	Organisational graphics to show qualitative relationships among content elements.	• Diagrams/Charts Visual analogies for abstract concepts i.e. examples and counterexamples
Statistic	Facts	Representational and organisational graphics to illustrate concrete and discrete facts. This could include metrics such as sales, revenue, market research, surveys	• Pictures/Diagrams/Charts Mnemonic visuals to provide retrieval cues for factual information
Process and Procedures	Processes	Chunking and sequencing graphics to show how processes can be applied to real work scenarios in logical steps. This reduces cognitive overload. This could include processes involving manufacturing, customer service, sales funnel, lead generation, supply chain	• Flowcharts/Timelines/Charts • Visual analogies to represent abstract processes
	Procedures	Transformational graphics to show steps to perform a procedural task Related to real work scenarios. Emphasise transfer of learning	• Flowchart • Animated diagram
Principles	Principles	Interpretive graphics to teach as a theory. Case studies with articles linked, and related course concepts highlighted in the same screen.	• Diagrams/Charts • Representational visuals of the job environment • Videotaped cases
Calculations	Calculations	Relational graphics to calculations	• Equations • Charts
Chronology	Chronology	Chronological graphics showing history, order of	• Chronological graphics

		events, timelines, schedules	
Geography	Geography	Maps showing locations, metrics by region	• Representational maps
Composition	Composition	Charts showing ingredients, components, lists	• Diagrams/Charts
Hierarchy	Hierarchy	Organisational graphics showing structure needs assessment	• Organizational graphics

Figure 1: Instructional Visuals for Different Infographics

In the case example on the teaching of "Customer Relationship", the communicative function could be expressed below:

Key Topics	**Functions**	**Examples of Infographics**
Customer Relationship Management and Social Media	Concept	• Mnemonic visuals to provide retrieval cues for factual information • Pictures
Value of the customer base	Calculation	• Equations • Charts/graphs
Customer Insight, Dialogue and Social Media	Principle	• Representational visuals of the job environment • Links to videotaped cases
Interacting with Customers	Process	• Flow charts • Interpretive visuals such as visual analogies for abstract processes
Britton and Barnes relationship theories	Theory	• Schematic diagram
Customer loyalty	Concept	• Mnemonic visuals to provide retrieval cues for factual information • Pictures

Figure 2: Evolution of Relationships with Customers –
The Thinking Behind Customer Relationships

An illustration of a specific example of visual mnemonics can be found below in figure 3. In this example, the infographic draw attention to the key points on the use of social media to develop customer relationship.

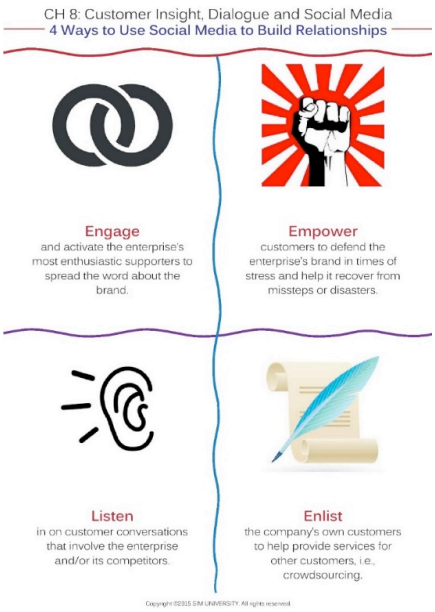

Figure 3: An example of a visual mnemonics

Infographics could be used to present case analysis. Interpretive visuals such as visual charts and analogies could be leveraged for this purpose. In the example given below, visual chart is used to show the different car hire companies and feedback data given by customers. Hence, at one glance, students are able to analyse and have a macro understanding of the car hire industry and customers' perception to the different car hire's services. Mundane statistics can be brought to life when conveyed using interesting visuals.

Figure 4: An example of Visual Chart retrieved from: https://www.pinterest.com/pin/521573200568792640/

In another example, visual analogies for abstract concepts or examples and counterexamples are utilised in infographics to capture the main idea and essence of the idea conveyed. The iceberg is used as a useful metaphor to understand the different layers of complaints, part of which is immediately visible and part of which emerges and submerges with the tides, and with the more deeply-rooted ones going largely unknown by management, beneath the surface. Ubiquitous visual symbols or analogies could be used to draw attention to key information. Such analogies allow learners to apply existing knowledge or schema to understand what is new without the need to read a large amount of text.

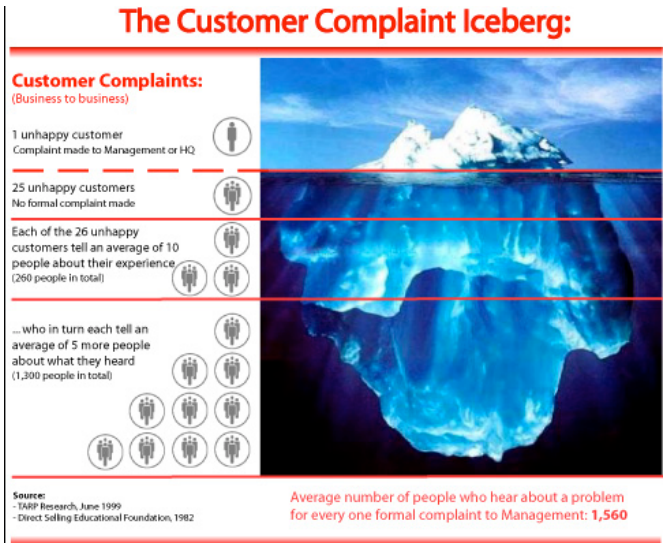

Figure 5: A Visual Analogy of Customer Complaint Iceberg, retrieved from: http://www.adrianswinscoe.com/not-many-complaints-but-still-losing-customers/

Visuals are often used to draw attention to figures given. It encourages visceral comprehension. It creates flashes of insight that engages students to want to discover more and to trigger discussion in the industry with the most complaints.

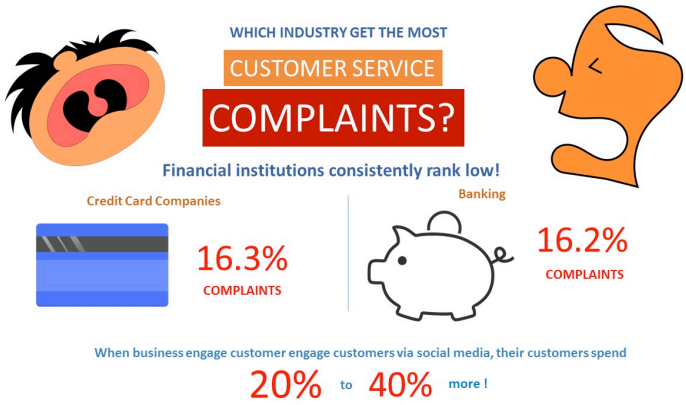

Figure 6: Visuals for Comparison of Complaints

Different Uses of Infographics

At our University, student work with several study media – the textbook, study guide, chunk lectures, and slides. There are altogether six study units per course. The use of infographics will facilitate the learning process by highlighting key concepts and connections. From the instructor's point of view, such infographics can be recreated as an assessment of students' conceptual understanding. For example, an infographic is created as a form of self-assessment towards the end of a lesson. See figure 7.

Figure 6: Infographics for Self-Assessment

Infographics could also be presented as semantic summaries of texts that students need to comprehend. They could also be integrated with other class activities conducted, and the activities could include:

- Brainstorming
- Case studies and analysis
- Debates

As we move into 21st century, knowledge construction, problem-solving and knowledge integration using more innovative approach becomes more important. There is also a need to find better ways of engaging 21st-century learners through more effective visuals such as 3D infographics and using apps and other forms of communicative technologies.

Infographics Online Apps

There are numerous free tools and online apps available to create beautiful infographics. Some of these free tools or apps have restricted access to graphics content. Most of them operate on a subscription model for individual use or corporate use and some comes with 3D vector for creating 3D infographics.

	Descriptions
Piktochart	Ready to use graphics (icons & images) are available in Piktochart. Online drag-and-drop design software to create charts and maps. There are also hundreds of templates ready for use. High-resolution infographics will be available in various formats such as pdf, png & jpg for downloads. Templates are updated on a weekly basis and include icons, photos/videos, charts, and maps that you can drag and drop into your infographic – saving hours looking for pictures in the website.
Venngage	Venngage has free education account for students and teachers to create presentations and do visual story storytelling. This software allows the making of infographics, posters, promotions material and report. It can publish your work on social media platforms. Venngage creates infographic in just three easy steps. The templates they offer as starting points are professionally done, and the resources accompanying the templates such as charts, maps, and icons seamlessly integrate into the stylistic theme of the templates.
Canvas Infographic Maker	Other than personal, work and education options, it has a suite of ready-made templates and design elements to make timeline infographics. There are also some free ready to use graphics (icons & images) available for use.
Adioma	Adioma creates information graphics out of your textual data, using timelines, grids and icons.
Blockspring	Blockspring creates impressive charts from spreadsheets. Assemble into dashboards, embed in websites, or simply share a link.
ChartGo	ChartGo is an online graph maker tool. Simply choose your settings, enter your data and hit create

Table 1: Infographics Online Apps/ Software adapted from "Tools - Cool Infographics" (http://www.coolinfographics.com/tools) and "The 6 best tools for creating infographics (http://www.creativebloq.com/infographic/6-best-tools-creating-infographics-21619)

Video or Animated Infographics

As we move into 21st century, students have come to relying more on communicative technology for knowledge construction, problem-solving and knowledge integration. In an attempt to address this, there is a gradual shift towards the use of animated and dynamic infographics. In animated infographics, information, data and statistics are presented through a blend of images and words, with added motion, audio tracks or even music and voice over. They help make content interesting which might otherwise come across as mundane.

To make narratives or large complex information set more meaningful, the following techniques are often used:

- Using motion graphics to depict a story line or present a narrative
- Using interactive content to depict information from different angles, multiple steps or components, which viewers can self-navigate.

There are numerous tools that support animated infographics. Some are designed using HTML5 or Flash. Examples of software embedded with HTML5, Flash, CSS3, SVG or Javascript to help develop animated infographics are given below:

Software	Purpose
Infogram	This tool is useful for creating data-centric infographics. The infographics can be embedded into its websites, be read off mobile phones, tablets, and desktops and they are responsive and interactive. Several templates are available to choose from, and they are easily shareable on social media.
Bokeh	A Python interactive visualisation library that targets modern web browsers for presentation
Charte.ca	It helps to create free interactive charts created online in seconds
Chartle	Chartle.net simplify the complexity of online visualisations - offers simplicity, ubiquity and interactivity instead.
ChartsBin	ChartsBin is a web-based data visualisation tool that allows everyone to create rich interactive visualisations with data
Flare	Flare is an ActionScript library for creating visualisations that run in the Adobe Flash Playe
SandDance	SandDance experiments with a new genre of visualisations, where every data element is always represented on the screen, to help people explore, understand, and communicate insights in their data (Tools - Cool Infographics, n.d.)
Silk	Silk creates interactive visualisations — charts, graphs, grids and tables
amCharts Maps	It adds interactive map functionality to your web pages and JavaScript-based applications
Tableau Public	Tableau Public is free for anyone who wants to tell stories with interactive data on the web.
Visme	With Visme, you can turn your infographic into an interactive infographic with built-in animations. The infographic could be shared as a URL. Web visitors can see the animated infographic upon visiting and as they scroll down the page depending on the animations set. This is useful if you have a teaching site. The infographic can be locked-down with a

	password if it is to be shared it online with a target audience. This is a useful feature if you are working remotely and need to share it with the team before the infographic is shared publicly. (The 6 best tools for creating infographics, Creative Bloq, n.d.)
Adobe Illustrator	It is a program used by graphics designers and artists to create logos and digital images.
Adobe After Effects	It is the industry-standard tool to do digital visual effects, video compositing, animation and motion graphics design. It is used in the post-production of filmmaking.
Adobe Animate CC (formerly Flash)	It can be used to create animated content ranging from animated cartoons, games, advertisements across platforms. This includes HTML5, Flash Player & Air, Web GL and Snap SVG.

Table 2: Tools supporting animated infographics production, adapted from "Tools - Cool Infographics". http://www.coolinfographics.com/tools

Over and above the paid licensing of Adobe, free online video makers for making infographics are also available in the public domain. The two popular ones are www.animaker.com and www.biteable.com, and they come with readily made templates.

In the example presented below, students may prepare an interactive map showing the customer increase or decrease in a franchise case study of a coffeeshop. The size of the customer base and the positive/negative trending are represented by the size of dots and the colours. When one hovers his or her mouse over the location of the chain represented by dots, the number of customers each franchise receives automatically appears. The colouring red represent a fall in numbers compared to previous year while a green colouring represents an increase in customers. Students are able to visually see the track customer base across the different coffee outlets in Singapore and to do trend analysis.

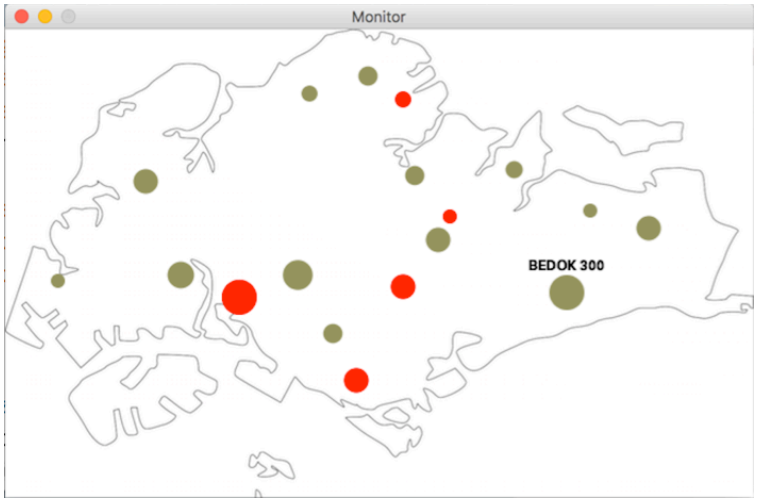

Figure 7: A dynamic map showing customer base in *Bedok* branch

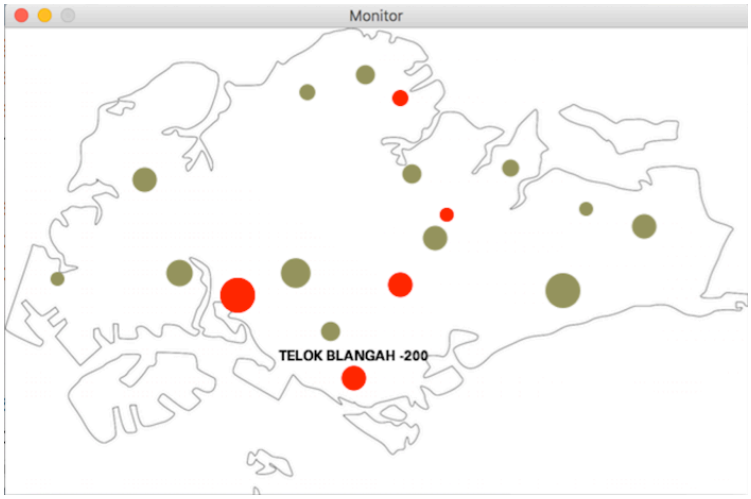

Figure 8: A dynamic map showing customer base in *Telok Blangah* Branch

The purpose of this dynamic map is to help students organise the knowledge that they bring to the course and to be used as a tool for applying that knowledge to investigating causes and problem-solving a case. Increasingly, there is need to learn how to create interactive infographics. In Multimedia classes, ICT students can be taught to write a simple Java program to present interactive infographics for their lessons, group presentation or as part of their assignment.

In recent years, we also saw infographics presented using augmented reality. Marxent Lab in the US built Augmented Reality (AR) Animated 3-D Infographics for its clients. It is an AR viewer app that allows one to hover over Augmented Reality markers to start an interactive 3D experience.

Conclusion

From our experience, we note that the instructor would certainly benefit if they are actively conducting interdisciplinary research. Infographics are believed to be a useful and effective tool in the educational process that would increase interest in learning within different disciplines. In summary, the collection of infographics promotes the incorporation of theory, concepts, principles and formulas, and disseminates critical applications to students. This kind of integration, in turn, strengthens the understanding and applications of the discipline studied. While infographics are commonly encountered in advertisements, they are lesser known for use in teaching, and their potential is still under-explored. We would like to suggest that there is much potential for their use, especially in light of the more recent developments in 3D or animated infographics.

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