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***Healthy Children, Healthy Minds: Creating a Brighter Future***

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**Abstract**

Children struggle with life today. Being children in the 21<sup>st</sup> century is both taxing and exciting and yet trying to cope with all of the technology and media that surrounds them. How do we as adults provide good models? Mindfulness, exercise, focus and attention, healthy living strategies need to play a role in shaping healthy children. Educators need to become well versed in strategies that both teach short and long term behaviors that will sustain healthy living and healthy minds. Children are the future and what kind of adult do we want running our countries and the world. The article provides many strategies for educators and parents to guide children in making choices that are both empowering and allow them the flexibility to be children

**Keywords:** Exercise, children, mindfulness, media, focus, attention, healthy living



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## Introduction

*“Education makes better minds, and knowledge of the mind can make better education.”*

-Daniel Willingham

What can be more important to the future of humanity than helping our next generation develop their minds in healthy ways? This article provides a wakeup call for adults to focus our attention on what really matters—creating healthy children with healthy minds. We must cultivate healthy minds that are thoughtful, focused on their own and others’ mental, physical and spiritual health, as well as the health of other living creatures and of the environment locally and around the world. We must purposefully cultivate minds that work to improve the welfare of all citizens of the world. At the same time, we all want to see children happily playing outdoors, making friends, eating healthy food, and having purpose, drive, motivation and exuding the qualities of honesty and integrity.

Instead we are currently bombarded with images of children who are dishonest and lack integrity—who are self-absorbed, who abuse their bodies. Somewhere during the past several decades there has been a complete shift in the moral, physical, intellectual and emotional capabilities of American children—or at least the ones portrayed in the popular culture.

The 21<sup>st</sup> century generation of children and adolescents is riddled with psychological, behavioral and socio-emotional problems and challenges. The Centers for Disease Control and Prevention reported that prescription drug use among our nation’s children has risen steadily since 1999 and continues to rise. The amount of children and adolescents who are on medication, failing at school, and in our juvenile prison system is staggering. The increase in youth violence and incarceration has increased tenfold from the 1950-60’s.

Researchers have been overwhelmed with the amount of data that has been collected on dysfunctional children and adolescents. Failing schools have contributed to failing students. The breakdown of the family and lack of parental support has contributed to growing numbers of depressed, suicidal, anxious, confused and fundamentally troubled youth. The educational and family systems have failed to keep up with the societal changes and failed to make accommodations to this ever-growing population of disenfranchised and disillusioned youth.

The purpose of this article is to regain the energy that is needed to meet the needs of all children -- in America and around the world. We need an ongoing campaign for all educators, adults and citizens to take responsibility to raise healthy, mindful children of the 21<sup>st</sup> century. The roles and responsibilities of the present adult generation are to provide safe and healthy environments for all children to develop healthy bodies and healthy minds, so they can contribute in positive ways to the global community. The models adults present to children make lasting impressions during the formative years. Children watch adult role models in the media, at home, in their communities and at school, and try to emulate them, thus influencing their own adult later behaviors.

What are adults showing children by their behaviors? Are adults inadvertently creating a generation of dysfunctional and egotistical youth that will only care about their own immediate needs and not an iota about anyone else? Will American adults create a generation of self-absorbed monsters who are focused only on their own survival, thus reverting back to the days of the cave man where only the strongest of the species survived? If this does occur in the next generation, America will be a place where its citizens attempt to survive in any way they can, and our environment may not survive.

People need to be motivated to stop that wave of dysfunction and future destruction. We adults can and must purposefully work with children to help them develop in healthy and mindful ways. There are solutions and interventions available to direct children and youth in the right direction. The situation is not hopeless. The goal of this article is to help all educators and other adults who work with children to use these strategies to shape the minds of future generations, by modeling healthy behavior and encouraging and showing children how to be healthy and mindful, so that they can become positive, caring citizens of the world. The goal is to provide hands-on strategies that can help turn the tide of problematic, ultimately self-harming behavior that is happening in our culture to create a better place for us all to live.

### **Exercise: The Mind on the Move**

One of the most important life lessons for children to learn for the health of their bodies and minds is the necessity of regular exercise. The evidence is consistent and powerful—Exercise is essential and one of the most important things all people can do for a healthy body and healthy brain and mind. How much and what kind of exercise is enough? How do we know? How can we encourage children to exercise enough for their body and brain development?

### **Nature of the issue and how it affects children**

According to a report in *Medical News Today* “Less than 50% of primary school-aged boys and under 28% of girls reach the minimum levels of exercise necessary to maintain proper health” (Fitzgerald, 2013, para 1). Child and adult obesity in the U.S. is reaching epidemic proportions. Our health care costs are rising as a result of the major physical illnesses that result.

In today’s video and computer game and television and media culture, children have become more sedentary in their free time. Even in school, the amount of time devoted to physical activity in physical education classes or recess has declined as greater accountability measures in the form of state testing and local, state and federal mandates have increased. In an effort to increase instructional time, children have far less time for physical play.

In addition, sports budgets have been dismantled in schools. So what happens to children? They spend most of their days sitting down. They get almost no exercise each day. Their bodies are not strong. Their hearts are not strong. Their brains are not as strong as they could be. They are out of shape and at much greater risk of childhood obesity and other health problems such as diabetes, heart disease, and so on.

Studies have found that type two diabetes in children increases their risk for heart and kidney disease and hypertension.

Alarming rates of memory issues and Attention Deficit Hyper Activity diagnoses have lead researchers to examine non-drug options to treatment. In a study conducted by Bucci and his colleagues and published in *Neuroscience* found that “Observations of ADHD children in Vermont summer camps revealed that athletes or team sports players tended to display a better response to behavioral interventions than children who were more sedentary.” (Rattue, 2013).

Bucci stated in an interview in “Medical News Today” that:

"The implication is that exercising during development, as your brain is growing, is changing the brain in concert with normal developmental changes, resulting in your having more permanent wiring of the brain in support of things like learning and memory. It seems important to [exercise] early in life." (Rattue, 2013).

Exercise can help with stabilizing moods and may be useful for adolescents as they go through puberty to help with the mood swings they experience. Exercise has been shown to improve memory, improve mood, reduce stress, improve cognitive functioning, and improve overall health. It seems preposterous that something so crucial to our health and well-being and could be so helpful in improving learning and memory is being shut out of our schools—ironically for the sake of learning.

### **Ongoing strategies to improve the issue/problem—How can we make this better?**

The US Department of Agriculture recommends that children and adolescents between the ages of 6 and 17 every day should get an hour or more of “moderate or vigorous intensity aerobic physical activity...and as a part of their 60 or more minutes children and adolescents should include muscle-strengthening activities like climbing...at least 3 days a week.” Also three days a week should include very vigorous activity for 60 minutes –like running (How much physical activity is needed, para. 3). The Centers for Disease Control and Prevention have the same guidelines and suggestions. They break down the nature of the activity into the following categories:

1. Aerobic activity (60 minutes each day)—they suggest that 3 days should be high intensity aerobic activity
2. Muscle strengthening (at least 3 days/week and can be part of the 60 minutes per week)—they suggest activities like push-ups, but weightlifting with weights, lunges, squats, sit ups, etc. are also helpful
3. Bone strengthening for 3 days a week as part of the 60 minutes per day. The CDC recommends activities like running or jump rope. Any jumping activities like trampoline play (be careful there are many accidents on trampolines, but children if careful enjoy and can get great exercise on them).

Children and adolescents may think they are working hard, but using a 10-point scale of “perceived exertion” may help. The goal is to try to get them to get their heart rates up to the point where they feel like they are working moderately hard (5-6 on a scale of 1-10 where 10 is the absolute maximum physical exertion a child can do) to very hard 8-9 for part of the time. That is, children need to learn to push themselves

sometimes not only for good health of their brains and minds, but also to help them learn that they can work hard and feel a sense of accomplishment from hard work. This persistence and hard work will hopefully carry through to learning and challenging tasks of their minds.

In a rare example of a clinical trial involving exercise and its impact on children and their learning and development, Davis and her colleagues (2011) found that their “experimental data offer evidence that a vigorous after school aerobic exercise program improved executive function...among overweight children.” They also found “changes in corresponding brain activation patterns [that provided] partial support of a benefit to mathematics performance.” They, like many other neuroscientists support the notion that “executive function develops in childhood and is crucial for adaptive behavior and development” and exercise seems to improve this development.

Our ability to control our behavior and make decisions and problem solve is based on the development of our executive function areas of the cortex. This evidence supporting the key role of exercise in building executive function is incredibly important. We can make exercise fun and even build it into activities such as video-gaming that they really like to do. A study in the *Journal of Pediatrics* reported that there are some kinds of active video games that “may provide an alternative type of exercise to prevent stationary behavior in children.” (Fitzgerald, 2013).

In this study on active video-gaming (“exer-gaming”), participants used an active video console and found that participants who engaged in this activity had an “increased energy expenditure equal to moderate intensity exercise” when playing “high intensity games like the 200m hurdles on Kinect Sports.” Fitzgerald references an earlier study in *Archives of Pediatrics and Adolescent Medicine* that showed that “children who played active video games burned over four times as many calories as when they were playing an inactive game.” They also suggested that these high intensity games may end up encouraging children to be more active and receive the health benefits from moderate exercise.

### **What can you do right now?**

Demand regular physical activity and *high quality physical education* in school. As many school districts are cutting physical education (PE) time and recess/play time, children are getting far less of the activity they need in a given week. As parents and teachers or other concerned community members, lobby for more time spent in PE courses and after-school intramural activities and organized athletics. Children should strive toward sixty minutes of physical activity per day. As most of their waking time is spent in schools, this is the logical place for this to happen.

Families that play together, stay together. Encourage families to exercise together during their time together. Schools can organize family fun times that are active hikes, walks, times to use the gym facilities. Just MOVE—often!



### **Top Tips for Teachers:**

1. Be a good role model and exercise yourself and share with your students what you do. Exercise with them!
2. Encourage students to be active and get 60 minutes of cardiovascular activity every day—ask them to report back to you what they did and how hard they worked.
3. Build in some kind of movement into the classroom—either stretching breaks, jogging in place, opportunities to walk—even walk around the halls together or outside for even 5-10 minute breaks. Students will come back more energized and their minds more focused (especially if this becomes a regular part of the school day)

### **Attention: The Problem of Focus**

The children growing up in the media generation believe they can multi-task effectively. They truly believe that they can listen to music, play video games while reading, talking on the phone, and doing other homework and watching television. Perhaps this is extreme, but the truth is, the brain cannot do two complex cognitive tasks at once. It can switch in such a way that it may seem like it can, but alas, it cannot. And in that time that it takes to switch attention from one cognitive task (fractions of a second) to another, accidents happen and problems occur and learning is disrupted.

As John Medina, author of “Brain Rules” wrote: “multitasking, when it comes to paying attention, is a myth. The brain naturally focuses on concepts sequentially, one at a time. At first that might sound confusing; at one level the brain does multitask. You can walk and talk at the same time. Your brain controls your heartbeat while you read a book. Pianists can play a piece with left hand and right hand simultaneously. Surely this is multitasking. But I am talking about the brain’s ability to pay attention. It is the resource you forcibly deploy while trying to listen to a boring lecture at school. It is the activity that collapses as your brain wanders during a tedious presentation at work. This attentional ability is not capable of multitasking.” Why is the myth of multi-tasking so problematic for children (and adults)? What are some of the learning issues associated with the myth of multi-tasking?

### **Nature of the Problem**

Texting and even talking on the phone especially for the novice driver is so dangerous. The brain simply cannot refocus attention that quickly and completely, and for as those “expert drivers” problems happen in a fraction of a second. And because the novice driver’s brain is not organized like the more “expert” driver (whose brain has automated many aspects of driving so these are not conscious), the novice driver must think through nearly every aspect of what he or she is doing consciously. Medina wrote:

A good example [of dangerous multi-tasking] is driving while talking on a cell phone. Until researchers started measuring the effects of cell-phone distractions under controlled conditions, nobody had any idea how profoundly they can impair a driver. It’s like driving drunk. Recall that large fractions of a second are consumed every time the brain switches tasks. Cell-phone talkers are a half-second slower to hit the brakes in emergencies, slower to return to normal speed after an emergency, and more

wild in their “following distance” behind the vehicle in front of them. In a half-second, a driver going 70 mph travels 51 feet. Given that 80 percent of crashes happen within three seconds of some kind of driver distraction, increasing your amount of task-switching increases your risk of an accident. More than 50 percent of the visual cues spotted by attentive drivers are missed by cell-phone talkers. Not surprisingly, they get in more wrecks than anyone except very drunk drivers.

The same is true for school and schoolwork—although not as immediately life threatening. Children and adolescents (and adults for that matter) who are learning new ideas, skills, concepts, and content must think carefully and consciously about these—that is, they must devote a great deal of cognitive effort to these. Any interference is problematic and disrupts attention on the process.

Turn off the competition. We’ve had many students say “but I MUST have the television on when I study...or music...it’s just background noise.” Here’s the problem with this statement. If you need background noise get a sound machine or play white noise or a fan. You can also play music that does not have words—or music that you do not know well. However, once you know the music or have television with dialog, your brain will flip flop back and forth between the different verbal information—that which you are supposed to be “reading” and the words of the song or dialog on the television or the texts coming through or the emails. The brain will retain virtually nothing from the task that is cognitively more demanding (reading, writing, mathematics, problem solving or other school work) when multi-tasking with something that is less cognitively demanding (listening to music, watching television, texting, talking on the phone).

For effective and efficient work, the brain needs to eliminate opportunities for distraction. Can the brain handle any distraction? How much is too much? What about those with attention problems? How can we improve our attention? At what point are attention problems truly problems?

### **Brain Function: Selective Attention**

To interact effectively with the people around you, your brain must constantly process large amounts of more or less complex information. However, it can only carry out a limited number of tasks at a time, so it needs to select the most relevant information, based on your needs at any given moment.(Brain Center America, 2013). Certain functions governed by the brain are fairly automatic and unconscious -- for example vital functions like breathing or highly developed skills such as competitive running. As a result, you don't have to specifically focus on the level of oxygen in your blood in order to activate your diaphragm and fill your lungs.

Other functions require constant supervision. When you are reading a text or sign it means a more or less conscious and sustained mental effort and attention. Your attention span varies depending on the type of information you're looking for, and it relies on the proper function of much of your brain. Exercising your attention span by performing a variety of specifically designed exercises promotes the proper functioning of many areas of the brain. (Brain Center America, 2013).

Your prefrontal cortex, located at the front of your brain, governs attention span and provides additional supervision; in other words, it determines what information is to

be given priority and which cognitive resources are needed to analyze this information and eliminate any distractions. It does a wonderful automatic job of sorting and categorizing for you as to where you will need to focus your attention. Human beings are not natural multi-taskers; the brain functions at optimal level when it only does one thing at a time. Male and female alike, if you ask it to do two somewhat complicated tasks at the same time, your performance levels for each will be reduced by half. People whom we admire for their multitasking ability are actually high-performance individuals who can quickly and efficiently complete each of the tasks one after the other. (Brain Center America, 2013). Generally they have very efficient and high-speed brains. Often they are experts in one of the areas in which they are multi-tasking.

The ability to focus on some things at the expense of others is crucial for functioning in a complicated world. But studies show there can be a downside to this focus — too much attention to one thing may make us seemingly "blind" or "deaf" to other stimuli in the environment. We are curious and want to try to understand and hear everything that is happening at once. The brain tries very hard to take in what it can. Our brains recreate an internal map of the world we see through our eyes, mapping our visual field onto specific brain cells.

Humans and our primate relatives have the ability to pay attention to objects in the visual scene without looking at them directly, ( Farran et al, 2013). "Essentially, we 'see out of the corner of our eyes,' as the old saying goes. This ability helps us detect threats, and react quickly to avoid them, as when a car running a red light at high speed is approach from our side,(Mangun 2013). Even though we can see from the corner of our eye we are not able to attend to all of the stimuli that are present within our personal bubble space, which is about 3-5 feet around us.

The problem of consciousness continues to be a subject of great debate in cognitive science. Synthesizing decades of research, *The Conscious Brain* written by Jesse Prinz advances a new theory of the psychological and neurophysiological correlates of conscious experience. Prinz's account of consciousness makes two main claims: first consciousness always arises at a particular stage of perceptual processing the intermediate level, and, second, consciousness depends on attention. Attention changes the flow of information allowing perceptual information to access memory systems. Neurobiologically this change in flow depends on synchronized neural firing. Neural synchrony is also implicated in the unity of consciousness and in the temporal duration of experience.

Prinz also explores the limits of consciousness. We have no direct experience of our thoughts, no experience of motor commands, and no experience of a conscious self. All consciousness is perceptual, and it functions to make perceptual information available to systems that allows for flexible behavior.

## **Do Television and Video Games Affect Attention?**

Some experts have argued that watching too many fast-paced television programs and video games may actually increase the likelihood of attention problems. If the brain becomes accustomed to constant stimulation by rapidly changing visual effects, it may easily become impatient with tasks that require closer attention. Television also makes fewer demands on attention than do reading, studying, or playing a game. Without enough of these more challenging activities, the brain may "get out of shape." (Human Diseases and Conditions, 2013). The brain will typically choose the path of least resistance or cognitive strain, and if given a steady diet of tasks that require little to no cognitive strain, it will be difficult to make the brain work hard on a more cognitively challenging task.

However, the reverse may be true. Children and adults with limited attention resources may be attracted to intense stimulation and therefore may be captured by television or video games. Less intense activities may not hold the focus of individuals with attention deficits. More research is needed to better understand this issue.

We don't pay attention to boring things. What we pay attention to is profoundly influenced by memory. Our previous experience predicts where we should pay attention. Culture matters too. Whether in school or in business, these differences can greatly affect how an audience perceives a given presentation.

We pay attention to things like emotions, threats and sex. Regardless of who you are, the brain pays a great deal of attention to these questions: Can I eat it? Will it eat me? Can I mate with it? Will it mate with me? Have I seen it before? The brain is not capable of multi-tasking. We can talk and breathe, but when it comes to higher level tasks, we just can't do it.

Driving while talking on a cell phone is like driving drunk. The brain is a sequential processor and large fractions of a second are consumed every time the brain switches tasks. This is why cell-phone talkers are a half-second slower to hit the brakes and get in more wrecks. (Medina, 2012).

Workplaces and schools actually encourage this type of multi-tasking. Walk into any office and you'll see people sending e-mail, answering their phones, Instant Messaging, and on MySpace—all at the same time. Research shows your error rate goes up 50% and it takes you twice as long to do things. (Medina, 2012). When you're always online you're always distracted. So the always online organization is the always unproductive organization.

## **Ongoing Strategies**

There are a variety of strategies that can be used with students, employees and family members when it comes to attention and focus. Below you will find some suggestions. The list is not exhaustive and it is recommended that the correct strategy be chosen for the right individual.

There are nine types of adaptations for anyone who is experiencing attention problems. These adaptations can work in a school or professional work environment.

1. Size: Adapt the number of items that the learner/ worker is expected to learn or complete.
2. Input: Adapt the way the instruction or training is delivered to the learner.
3. Participation: Adapt the extent to which the learner/worker is actively involved in the task.
4. Time: Adapt the time allotted and allowed for learning, task completion and/or testing.
5. Difficulty: Adapt the skill level, problem type, or the rules on how the learner/worker may approach the work.
6. Alternate Goals: Adapt the goals or outcome expectations while using the same materials.
7. Level of Support: Increase the amount of personal assistance with a specific learner/ worker.
8. Output: Adapt how the learner/ worker can respond to instruction or training.
9. Substitute Curriculum-Content: Provide different instruction and materials to meet a learner/worker's individual goals.  
(Indiana University 2010).

There are a variety of general accommodations for students with attention/behavior problems. It is important to remember that not all of these accommodations or strategies will work for all students. The individual needs of each student need to be taken into consideration before the application of these strategies. This is but a short list of possibilities

#### Literacy:

1. Second Set of books at home
2. Books on tape
3. Interactive CD reading programs
4. Hand held spell checker

#### Writing:

1. Computers
2. Graph paper
3. Dictate responses
4. Pencil or pens with rubber grip
5. Form filling software
6. Keyguards
7. 7. Color coded notebooks
8. Give photocopied notes
9. Have student use highlighter
10. Outline of key points of presentation or lesson

#### Groups

1. Work in cooperative mixed ability groups
2. Peer Assistance pairings
3. Clear rules and expectations for group behavior
4. Assign job or specific responsibility
5. Headphones for privacy
6. Taped instructions
7. Buddy system
8. Five minute warning for transitions

Presentations/ discussions/ Questioning:

1. Alternative methods of presentation ( visual, videotape, graphs, maps, pictures)
2. Provide visual aids
3. Provide model of previous work or examples
4. Detail descriptions or checklist of project components
5. Place student near or in front of teacher or audience
6. Provide stimuli –reduced environments
7. Repeat question before answering
8. Provide time to process before answering questions

When making accommodations for a child with attention issues it is imperative that the strategy matches the age level and learning level of the student. Being aware of these simple factors can accelerate behavior problems and power struggles. As a teacher one must use a variety of visual and auditory teaching techniques to stimulate interest and maintain focus. Teachers and parents must use close proximity control to assist the student in focusing on the directions and understanding the task that is being asked of them. If the adult wants to modify the child's behavior one needs to catch the student being good and/or doing the right thing. Giving immediate praise or rewards will often shape behavior in way that allows the child to meet the expectations.

Sometimes children and young adults have attention challenges that go beyond those that are based on the environment. However, sometimes children have attention disorders that are not helped by basic interventions such as increasing mindfulness and meditation. Attention Disorders fall into 3 types: Attention Deficit Disorder, Attention Deficit Hyperactivity Disorder, and Not Otherwise Specified Attention Disorder. Students can exhibit Predominantly Inattentive Type, Predominantly Hyperactivity/Impulsive Type, and the combined type.

Effects of the disorder within the classroom can be seen in behavioral problems, becoming frustrated and aggressive, experiencing failure on tests and assignments. A very large impact of having an attention challenges is that it impairs social relations whereas the student struggles with social interactions because of the lack of social skills. These students are often disorganized and lose their materials frequently.

The effects of this disorder at home can be manifested by children not listening to their parents and waging in battles over the smallest detail. Both parties become argumentative over daily chores, roles and responsibilities. Often time there is frustration on both adult and child because the child is unable to complete even the simple tasks without supervision or support. Teachers and parents alike should be on the look-out for pervasive patterns of attention problems that cannot seem to be managed well by typical levels of support.

### **Three Tips for Teachers:**

Remember that students don't pay attention to boring things—keep students engaged with interesting lessons and help them see the relevance of what they are learning and make connections as much as possible.

Encourage parents to set limits on children's interactions with television and other video games/screens and spend more time on cognitive tasks that are challenging without these distractions

Make sure that drivers of all ages realize how dangerous it is to text, talk on the phone or engage in other cognitive tasks competing for attention and encourage them to avoid distracted driving.

### **Mindfulness, meditation, and sleep**

One of the best strategies we can teach our children to improve their brains and minds as well as their safety, happiness, mental health and overall healthy development is the art of mindfulness. One strategy that can improve mindfulness is meditation, but mindfulness goes beyond just purposeful meditation. During meditation, the brain is still active, but quieted (at least for our consciousness) during sleep, and sleep is so important for brain and mind health.

The question is—how do mindfulness, meditation and sleep help children in their development? How important are they? How might building more mindfulness and meditation into a child's life help their developing brains and minds? How can we create healthy sleep patterns for children?

### **Nature of the issue and how it affects children**

When children are young, they naturally function “in the moment.” They tend not to focus on the past (partly because they do not have much of a past) or the future (perhaps because their abstract thinking, language and executive functioning centers are not as well developed). It is not until these areas of the brain become well-developed that our minds pull us out of the present moment and focus our attention on the running language-laden monolog in our heads. This voice pulls us into thinking about the past or the future—neither of which we can change or control. We often dwell on the past or worry about the future—but we can do nothing to change the past and we cannot predict the future.

Mindfulness is paying close attention to what is happening and what one is experiencing in the present moment. Taking time to focus on what one is doing, eating, reading, saying, hearing, and so on. In mindfulness we are fully present in the present moment. The present moment is where we live and exist, yet our older adult (and even older child) brains are rarely focused there. When in the present moment, children can be naturally more mindful. A keen attention to the present is an essential part of mindfulness that can contribute to success in school and at home or on the playground or playing field. Children who are more mindful have an easier time in these spaces.

Flow is a concept that has been described and written extensively about by Mihály Csíkszentmihályi. When in a state of “flow” we are completely single-minded in focus with our positive energy focused on a particular task or experience. People experience a sense of joy and peace when in this state. Athletes discuss being in a state of flow when they lose track of time and are singularly focused on the sport they are playing. They are fully present in the moment without any distractions of anxieties or worries. People sometimes call this experience in athletics as “being in the zone.” But the truth is, this experience can happen reading a book, doing a school project, giving a talk, eating a great meal, spending time with friends, meditating, etc.

For flow to be achieved Csíkszentmihályi argues that there are generally three conditions:

1. involvement in an activity with clearly set goals and progress and structure
2. those doing the task receive clear and immediate feedback about their performance a good balance between one’s perception of his/her skills/abilities and the task at hand—one must have confidence about his/her abilities. (Csíkszentmihályi, Abuhamdeh & Nakamura, 2005)

We can create opportunities for children to experience flow in their lives by helping them balance their abilities, confidence levels with activities they enjoy, are good at and for which they can get immediate feedback to improve their skills and performance. We hope that students can have these kinds of experiences in school and in school-related activities. And if they cannot experience flow in school, we hope that parents can find ways to help them achieve their flow experience in healthy ways through arts/music /dance or other experiences outside.

As Daniel Willingham argues in his book *Why Don’t Students Like School?* “contrary to popular belief, the brain is not designed for thinking. It’s designed to save you from having to think, because the brain is actually not very good at thinking.” (p. 3). As we teach children to become more mindful, they can become more purposeful in their thinking—that is, they can become better able to direct and control their thinking.

The notion of mindfulness is the idea that we focus on our experience of reality as it exists in the present moment. That we pay close attention to our experiences and what is going on around us. We become keen observers of our emotional states and what our minds are doing. If you watch a very young child, he or she will tend to be very focused on what is going on at the present moment. This is why they will often ask questions about what is happening to them or what they notice “I’m hungry” or “What makes the car go?” or “Why do dogs pant?” or “This ice cream is delicious.”

When they start to get older and more aware of past and future and their role in it, they start to focus more on what happened in the past or what might happen in the future. Children may start to become upset about events in the past or anxious or worried or excited about the future.

As adults we are guilty of this past and future focus too. Our brains are so busy thinking about what has happened or what might happen that they are seldom focused on what is currently happening. We all know those times when we are in a “zone” and



so focused on the present moment (usually doing what we love, or times of high emotion, or intense pain).

As children age, we spend so much time encouraging them to focus on the future. With all this time focused on the past and future, it is no wonder that as children get older, they have greater difficulty paying full attention to what is happening now. If children are not paying full attention to what they are doing in the moment, they are at greater risk of accidents. They are also more likely to have difficulty paying attention to what is happening (or what they are supposed to be learning) in the classroom.

They have greater difficulty controlling their emotions and making good decisions. They may have sleep difficulties as well because they cannot shut their brains down enough to sleep. A tired mind has great difficulty focusing on the present moment. It is easily distracted. Sleep is essential for the brain and mind to function properly.

## **5 Tips for Healthy & Happy Mind**

### **1. Meditation/Mindfulness**

Research has shown the profound effects that meditation has on the mind, but how many people actually do it on a daily basis? When you meditate, you are giving your mind time to clear, reformat itself for all the new information that is going to be taken in the following day, or day ahead.

### **2. Media**

The media is very centered on pain and negativity. This fuels pessimism, and ideally it's best to avoid subjecting the mind to it regularly. There is no point in being stressed or worried about something you have limited control over; it's a pointless waste of energy. Beware of brainwashing; all is not necessarily as it seems, and the media are great at exaggerating and bending the truth.

### **3. Surround yourself with people who give you opportunities to grow.**

Friendships and relationships are based on love, and love is energy. When the frequencies change, you will find that particular friends and relationships may drop away, or you don't feel you have anything in common with them any longer. If you continue to hold on to relationships which no longer serve you, they sap your energy resources or distract you from focusing your mind. Don't be afraid to let go if you feel the time is right; you will find that new opportunities will arise as a result. You never know who that next amazing person/teacher/friend/lover/mentor is going to be!

### **4. Eat healthy**

Eating healthy and staying hydrated are really important for brain function.

### **5. Spend your time doing something you LOVE! (And find some physical, cardiovascular activity that you LOVE and do it regularly)**

The most important thing of all is to ensure you spend time doing a hobby or activity you love. When we participate in doing something we love, we radiate so many positive emotions, all magnetizing out into the universe to bring you back more joy and happiness. So many people get stuck in a rut and lose focus on what is important and brings them pleasure. Find something you love to do, and do it daily. Make time

for it, and even better, make a career out of it! Life is supposed to be an enjoyable experience. (Rushforth, 2012).

Healthy and mindful children will create a healthier society that will become more involved in the welfare, supervision and care of their neighbors locally and globally and the environment in which we all live. Presently the track we are on will result in future generations that are physically unhealthy with large portions of society fighting obesity, mentally unbalanced individuals who are unable to connect and develop social relationships and an increase in violence and aggression where the amount of murders and physical attacks upon others will become the norm. Gun violence will be the solution rather than negotiation, communication and problem solving. Is this what we really want for our children and grandchildren? Every adult who interacts with children must become a role model for healthy patterns or actions.



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***Students-Enthusiasts in Online Classes: Their Contribution  
To the Educational Process***

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**Abstract**

In this work, the phenomenon of student enthusiasm was explored in a population of 47 students of Touro Graduate School of Education who took the author's online psychology course. The purpose of the study was to find how students-enthusiasts differ from classmates in their communication style(s) reflected in group discussions on the Discussion Board (DB). The research methodology included graphical and statistical analysis of students' discussions. It was found that, although the enthusiasts constituted a small part (6%) of the investigated population, their contribution to the virtual learning environment was the greatest – they were catalyzers of the educational process. Students-enthusiasts a) consolidated their group, transforming it from a disorganized mass without common interests to a team capable of collaboration; b) stimulated discussions by helping their classmates to develop "a sense of community"; c) unlike others, also competent as learners and computer users, the enthusiasts shared information with their less knowledgeable classmates concerning various aspects of the online study. Students-enthusiasts served as a model and support for their fellow learners and the instructor. The author concludes that such a contribution must be appreciated and maximally used in the virtual classroom (VC) with its specifics and communicational limitations.

**Keywords:** teaching/learning psychology online, virtual classroom, student enthusiasm, learning motivation, teaching motivation, online discussions, communication styles

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## Introduction

Students specializing in education today are the workers of tomorrow. What kind of teachers will the society receive? The question is not rhetorical. That professionalism and enthusiasm, which some instructors bring to school settings, may be observed already in their students' years. That's why the study of enthusiasm in students who are current or prospective school teachers is an important task for educational psychology.

This line of research received a new incentive in the present epoch of intensive development of information technologies and the web-based distance education programs. The investigations of enthusiasm in a classroom expanded to a virtual learning environment. In this work an attempt is made to study student enthusiasm in online asynchronous classes.

## Enthusiasm in the Classroom

The word *enthusiasm* comes from Greek *entousiasmos*, Late Latin *enthusiasmus*, and Middle Age French *enthusiasms* (Online Etymology Dictionary). It "originally referred to inspiration or possession by the presence of God"; in modern time, however, the word actually lost its original meaning, and is now understood rather as intense enjoyment and interest (Wikipedia).

In psychology, there is no unanimous understanding of enthusiasm. Some researchers consider it in the framework of motivational paradigm and define it as a strong motivation for achievement (Toom, 2013). Some others interpret it as an emotional condition (Frenzel, 2009). Still others see it also as expressive behavior (Rosenshine, 1970; Kunter et al., 2008). It is likely that we are dealing with a complicated phenomenon in which all major components of psychological functioning interact: motivational, emotional, cognitive, and behavioral. The physiological component is also involved – it is not by chance that the term "energy" appears in the descriptions of enthusiasm (Metcalf & Game, 2006). In pedagogical practice, enthusiasm is typically associated with "a motivating, energetic, passionate, and dynamic teaching style" that "engages students to participate and stimulates them to explore" (Zhang, 2014). Enthusiasm is seen as a key ingredient of effective teaching.

Exploration of enthusiasm in the classroom began in the middle of the last century, if not earlier. By today, it has been validated that teacher enthusiasm promotes students' development and learning (Sanders & Gosenpud, 1986; Patrick et al., 2000; Wood, 2013, Zhang, 2014; Orosz et al., 2015). Students, who learned from enthusiastic teachers, had elevated cognitive functioning such as attention, memory, thinking, imagination, problem solving, a better comprehension of knowledge, and higher intrinsic learning motivation and vitality. Students of enthusiastic teachers get a chance to also become enthusiasts, so that, if they eventually pursue their careers in education, they will become highly desirable and valuable specialists in any school setting.

In the last two decades, the following research findings have been made about enthusiasm in the classroom. Two aspects of enthusiasm were found: enthusiasm for the subject/topic and enthusiasm for activity/teaching (Kunter et al., 2011).

Enthusiasm as a mechanism for mediating relationships with students and stimulating positive learning outcomes was explored (Frenzel et al., 2009). An influence of student enthusiasm on teacher enthusiasm was detected: as in many other interactions, effects are reciprocal (Stenlund, 1995). Nonverbal expressiveness as the manifestation of an underlying teacher enthusiasm was explored (Kunter et al., 2008). Furthermore, programs were developed to train teachers to purposely express enthusiasm to attract the students' attention and facilitate their learning (Tauber et al., 2007). In the studies of instructional methodology, it was found that one of the important abilities of enthusiastic teachers is their "descriptive and prescriptive feedback" to students' work in online classes (Parson, 2001). These are only some of representative and substantial findings.

Web-based distance education programs provided advanced and objective instruments for collecting empirical data and thus created great opportunities for various studies of the virtual learning environment. Asynchronous discussion forums in online classes became the special focus of attention. A series of experiments for investigating the role that the online professors might play in their students' learning was conducted by Australian scientists.

On large statistical samples, they showed how the quantity, timing, and nature of instructor's posts influenced students' participation in online discussions; the correlates of teacher enthusiasm in students' perceptions were identified (Mazzolini, 2002; Mazzolini & Madison, 2003; 2005). Other researchers found that the perceived presence of an instructor is even more important than the perceived presence of peers in students' satisfaction of online courses (Swan & Shih, 2005). The critical role of an online teacher as cheerleader or motivator as well as important issues of assessing a variety of teachers' and students' activities online has been discussed in the review of the literature regarding asynchronous discussion forums (Andersen, 2009).

### **Research Methodology**

In this work, the student enthusiasm was explored in online psychology classes. The research was based on the assumption that enthusiasm is a stable characteristic of an individual which manifests itself in various social roles and activities that one has to perform. In an online classroom, the student enthusiasm can be identified in all aspects of the course work: in individual as well as collective studies done collaboratively with classmates. Our purpose was to explore how students-enthusiasts differed from the classmates in their manner of leading discussions on the DB. The author hypothesized that enthusiasm may influence students' communication style(s).

The Blackboard, a software platform for our virtual classroom, was used as an instrument of collecting data about discussions and discussants: all the students' posts submitted to the DB with their arrival time were recorded and archived in the system. The research methodology included a) statistical analysis of the students' posts on the discussion forums, b) topological (graphical) representation of the students' conversations on the topics of the course subject, and c) analysis of the structure of group communications.

## **Group discussions: content and requirements**

Participation in the group discussions was one of the major activities required for the course. Five forums for asynchronous discussions were created on the DB. Each of them was devoted to a psychological or educational issue related to the course topic. The students were expected to respond to a question posted by the professor and exchange opinions about it with classmates. This activity was mandatory.

A typical question for the group discussion consisted of the following. The students were offered the game “Name me!” and asked to identify “*Which psychological functions this game can be helpful in developing?*” In this game, which is usually played at home, players sit in a circle and roll a ball to each other. Two-three year old kids, if necessary, may sit between an adult's legs. Before rolling the ball, each player looks at and says the name of the person to whom the ball is being rolled. If the name is said incorrectly, the player to whom the ball is being rolled should roll it back to one who made a mistake. If the name is said correctly, the game continues.

Requirements for each out of five course discussions included: 1. Timely submission: responses should be posted by a due date; 2. Sufficient quality: responses were expected to be substantial, supported by the student's personal educational experiences and/or the references found in e-libraries or e-data bases; 3. Sufficient quantity: at least two responses ought to be posted for each discussion by every student – one response to the professor and the other to any classmate; at least two references should be provided for each discussion forum by every student.

## **Participants and context**

Participants were students of Touro Graduate School of Education (GSE) enrolled in the Education and Special Education degree and certificate program. Some of them had not previously taught, and some were already teaching and wished to increase their expertise. The students were assigned by the college registrar's office at random to groups of 20-25 people in which they learned together throughout the semester.

The study involved 47 graduate students. All of them took the author's online psychology course *EdPs620-Child Development and Learning in Cultural Context*: 20 students – in the fall semester of 2012, and 30 students – in the fall semester of 2013. The author was the only course designer, developer, and instructor for her groups. 36 students from the investigated population had already taken online courses before at Touro College or other educational institutions and were well familiar with the Black Board platform. 14 on-line beginners went through a preliminary training to receive some technology skills necessary to study online. All students of the EdPs620 online course had the skills to use basic functions of a word processor such as Word.

Prior to this research, all participants' data were used for the author's other study – of learning motivation – in which highly motivated individuals or enthusiasts were identified and their distinguishing characteristics were found. According to the results, there were three enthusiasts in the A-group and no enthusiasts in the B-group (Toom, 2013). The students-enthusiasts differed from others in their *learning style*: they were usually ahead of the due dates for their course work and exceed all requirements of the course. Specifically, their homework was always complete, correct, and supported

by references; the discussions led by them were the most informative and interesting in the group; their final research paper and bibliography were very rich in content, so that, no revision was needed. The students-enthusiasts differed from classmates in quantity (intensity) of their *learning motivation*. In addition, they performed optional activities as well as mandatory, that is, they differed from classmates in quality of their *learning motivation* as well. The students-enthusiasts had the highest motivation in the group and, unlike others, tended to give a higher priority to knowledge and curiosity than to grades.

### Data Representation and Analysis

Since the Discussion Board was the only place in our online course where students could communicate, the analysis of group discussions appeared to be especially important for identification and understanding the distinguishing features of students-enthusiasts. Statistical analysis was done for quantitative evaluation of discussions, and the graphical representation of data was devised as the most meaningful visualized form of students' communication styles.

### Statistical analysis of group discussions

In the Table 1, main data covering discussions in both groups is provided, which allows for an easier comparison.

From the information offered in the Table 1 follows that, firstly, in the A-group, on average, each student submitted twice as many posts (4.7) than in the B-group (2.6). Secondly, in the A group the number of participants remained constant within the semester, which means that nobody dropped the course. While in the B-group three students stopped attending before the course completion. This data indicates that the A-group that had enthusiasts among participants, functioned differently; it had peculiar dynamics. (At least, it is one of the most natural explanations.)

Table 1  
Post Statistics per Student and per Group Basis

Forum # ( <i>f</i> )	The A-group			The B-group		
	Number of posts	Number of students	( $x_f$ )	Number of posts	Number of students	( $y_f$ )
1	94	20	4.7	71	25	2.8
2	102	20	5.1	62	25	2.5
3	87	20	4.4	63	24	2.6
4	91	20	4.6	54	22	2.5
5	93	20	4.7	51	22	2.5
Average			$\bar{x} = 4.7$			$\bar{y} = 2.6$

*Note:*  $x_f$ = average number of posts per student in the A-group;  $y_f$ = such value in the B-group;  $\bar{x}$  = average number of posts per student per forum in the A-group;  $\bar{y}$  = such value in the B-group;  $x_f$ = average number of posts per student;  $y_f$ = average number of posts per student per forum;  $f$ = ID of the forum.



In order to better understand how the A-group was different, we analyzed its discussion forums in more detail. Discussions on the branches<sup>1</sup> of the forums with enthusiasts were analyzed in comparison with discussions on the branches where students-enthusiasts did not participate. This data is provided in the Table 2.

Table 2

The A-group: Comparative analysis of discussions on the branches of the forums, with and without enthusiasts

Forum # ( <i>f</i> )	The average number of posts in the branches of the forum		The average number of participants in the branches of the forum	
	With enthusiasts ( $a_f$ )	Without enthusiasts ( $b_f$ )	With enthusiasts ( $c_f$ )	Without enthusiasts ( $d_f$ )
1	11.3	3.1	4.5	2.3
2	12.2	3.3	5.6	2.7
3	9	1.9	3.3	1.9
4	10.4	2.4	4.2	2.6
5	11.1	2.2	4.2	2.0
Average	$\bar{a}=10.7$	$\bar{b}=2.4$	$\bar{c}=4.2$	$\bar{d}=2.3$

*Note:*  $a_f$ = average number of posts per branch where enthusiasts participated;  $b_f$  = such value for branches where enthusiasts did not participate;  $c_f$  = average number of students per branch where enthusiasts participated;  $d_f$  = such value for branches where enthusiasts did not participate;  $\bar{a}$  = average number of posts per branch per forum with enthusiasts;  $\bar{b}$  = such value per branch per forum without enthusiasts;  $\bar{c}$  = average number of students per branch per forum with enthusiasts;  $\bar{d}$  = such value per branch per forum without enthusiasts;  $f$  = ID of the forum.

It is shown that, firstly, on average, the number of posts submitted in the branches in which students-enthusiasts participated, was 4.5 times higher than in other branches of the same forum. Secondly, on average, the number of participants involved in discussions on branches with classmates-enthusiasts was almost twice higher than number of participants in other branches of the forum. This data indicates that students-enthusiasts definitely played a significant role in all discussions with their classmates.

### Graphical representation of group discussions

The statistical analysis showed in general terms how differently the students of the A- and B- groups participated in discussions. In addition, for the A-group, a difference was shown between discussions in which students-enthusiasts were involved, as well as those where they were not involved. The graphical analysis allowed discovering the group dynamics, specifically, to find a distinction between group communications where enthusiasts did or did not participate. If the first approach gives quantitative insight, the second approach yields some qualitative insight.

<sup>1</sup> In this work, a discussion forum is present as a tree; it is natural to call its parts *branches*. Officially, in the Blackboard system, they are called *threads*.

Each discussion started with the question offered by the professor (the author). According to the requirements, each student of the group responded to the question by posting his message on the forum, that is initiated a branch of the discussion for the classmates and also participated in discussions initiated by others.

The Figure 1 shows the discussion on the forum 1 that is very typical for the A-group. It includes twenty branches corresponding to the number of students in the class. The branches are numbered; the numbering reflects a sequence of students' appearance on the branch. Each branch is represented as a chain of disks connected by the lines. The disks are students' posts. They are light if posts belong to students-enthusiasts; other students' posts are represented by filled dark disks.

Length of the branches corresponds to the duration of the discussion which is measured in the number of posts. The longer the branch, the lengthier the discussion, and the more probable that it contains a conversation that is for some reason attractive for the participants. Remarkably, the branches where enthusiasts participate are usually the longest on the forum; exceptions are rare (branch 4).

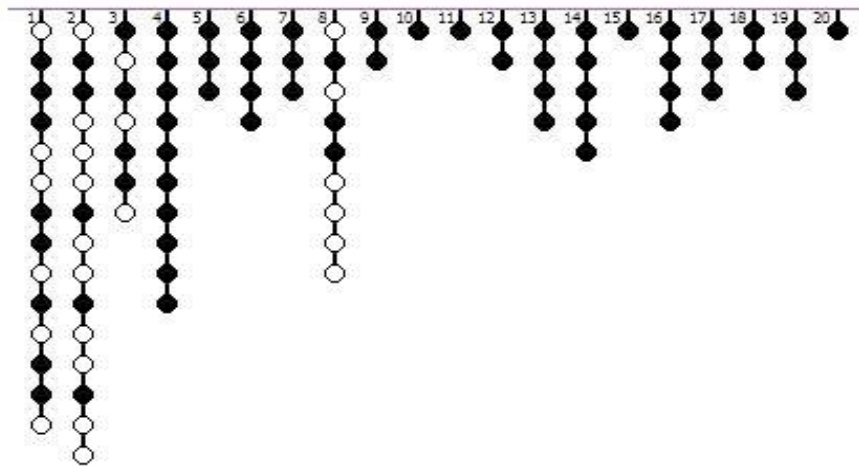


Figure 1. A representation of the group discussion on the forum 1 in the A-group.

Then, a structure of communication was drawn for every branch of the forum. One of them, #16, is represented below in the Figures 2. On the top, in a horizontal line, the sequence of the disks (that should be read from left to right) reflects the order in which the students' posts appeared. Letters in the disks mean students' encoded names. The graph represents how students who visited this branch interacted and exchanged their opinions.

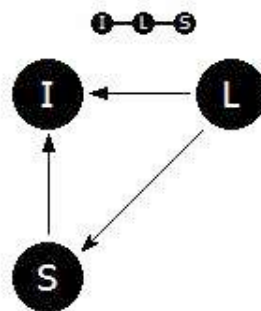


Figure 2. A representation of the discussion on the forum 1, the branch 16.

The vertices of the graph shown as disks represent the students who participated in this discussion. The lines connecting the vertices are the edges of the graph and represent students' communication. The edge may have arrows on one or both sides which mean that communication between students was uni- or bidirectional. The number of edges between any two vertices indicates the number of instances of the opinion exchange. One edge shows the single opinion exchange, while two and more edges show the multiple opinion exchange which may point to the intensity of communication between the students.

## Results and Discussion

### Structure of group communications with and without enthusiasts

The Figure 3 represents the discussion on the branch 1 initiated by a student-enthusiast code-named *A*. It is a typical course discussion in which enthusiast(s) is/are involved. Here, the structure of communication has two distinctive properties. Firstly, it is centered on the student-enthusiast *A*. This student attracted all the attention to her ideas as if she was a magnet. Everyone on the branch decided to exchange messages with her. In addition, she had an even lengthier conversation with the student code-named *D*. Secondly, communication on this branch was mostly bidirectional, again due to the student *A*, who responded to five posts out of six that she received.

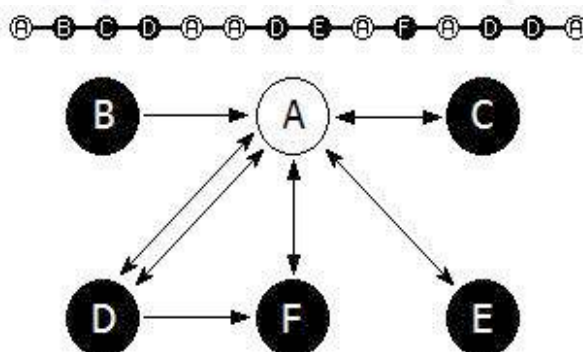


Figure 3. A representation of the discussion with an enthusiast on the forum 1, the branch 1.

The Figure 4 represents the discussion on the branch 4 which was not visited by enthusiasts. It is a typical discussion in which students-enthusiasts did not participate. There is no individual capable and/or desiring to lead a conversation here, so communication is not centered. The fraction of the cases of unidirectional communication is relatively high here: half of the participants received responses from classmates other than those to whom they were writing. It appears that sometimes students declared their opinions and did not care much about what other classmates had thought.

Comparing these different structures of group communications, we conclude that at least in the first case students discussed the issue with great interest. It seems that they did not feel isolated, although some authors point to possible feelings of isolation in online classes (Rovai, 2002; Liu et al., 2007). In our study, students rather

experienced a feeling of belonging. The author of the course (and the current study) did not make it a goal to facilitate community building in the online environment. No team interactions for community building purposes were intentionally arranged; it happened naturally.

When working on the DB, students developed a sense of community due to the presence of enthusiasts in their virtual classroom. Influence of enthusiasm in the virtual classroom on development of students' sense of community was also discovered by Korean researchers (Koh & Kim, 2003). The phenomenon appears to be culture-independent.

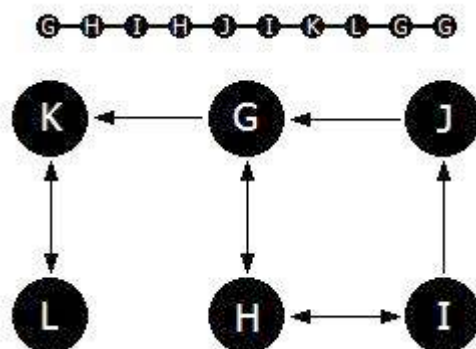


Figure 4. A representation of the discussion without enthusiasts on the forum 1, the branch 4.

### Characteristics of group discussions with and without enthusiasts

#### *The A-group.*

The branches where students-enthusiasts were present (regardless of whether they initiated the discussion or just participated in it) were the most attended. On average, the branches where at least one enthusiast was present attracted twice as many students than other branches:  $\bar{c} \approx 2\bar{d}$  (see Table 2). The *number of participants* on the branch of the forum is an important criterion of students' involvement into the discussion. However, the number of participants does not necessarily determine the quality of the discussion.

The other important criterion of the productivity of the discussion is *the intensity of message exchange*. In the branches 1 and 4 (see Figures 3 and 4) – one included and the other did not include enthusiasts – the number of participants was the same. However, the number of posts in branches is different. In this case, the difference is not so large because the branch 4 is fairly atypical for the discussions without enthusiasts; usually the branches without enthusiasts have significantly fewer posts (see Figure 2). As we showed above, the intensity of the message exchange was, on average, more than 4 times higher on the branches with enthusiasts because their participants were more eager to converse:  $\bar{a} \approx 4\bar{b}$  (see Table 2).

*The structure of group communication* is yet another important formal criterion of the productivity of the discussion, and it may explain why discussions in which enthusiasts participate are so attractive for their classmates. In the communication on the branch 1 (see Figure 3), an enthusiast united the other discussants and set a

productive style of conversation – almost all messages were responded to. It was a centered, organized, and mostly bidirectional communication.

Let's compare it with the structure of communication on the branches 4 and 16 in which enthusiasts did not participate. Although different in the number of participants, they were very similar in their essence. They did not have a leading figure and were guided by a formal course requirement (“one response should go to the professor and at least one to any classmate”) rather than the actual interest in discussing the subject. This communication was not centered, mostly unidirectional, and spontaneous.

### ***The B-group.***

This group lacked enthusiasts. Here discussions were identical in their characteristics to those of the A-group discussions in which enthusiasts did not participate. That is, they were not centered, less organized, more spontaneous, and mainly unidirectional. They were also less intensive in the average number of posts and the average number of students involved than discussions led by enthusiasts (See Table 1).

### **“Help me!” messages and helping responses**

In the virtual classroom, where there is no face-to-face contact, the difficulties that arise during the educational process may be perceived more acutely than in the traditional classroom. We analyzed the content of “Help me!” messages and helping responses submitted by other students to those who were in need in the A-group. It was determined that 3 students-enthusiasts had sent three times more helping responses to their classmates than all the remaining 17 students of the A-group did. In the B-group “Help Me!” messages did not appear on the DB. Students in need sent their questions via e-mail to the instructor.

It was determined that “Help me” messages related to the following three aspects of the online study: a) the subject under the study; b) the Blackboard, the instrument by means of which the subject is taught/learned; c) the online course's organization, that is, the framework within which the education process takes place. These three aspects – academic, technological, and administrative – are major aspects of students' orientation in the virtual learning environment. Such function as orientation is usually provided by the teacher in the traditional classroom. In the online classes, it may be voluntarily assumed by the students-enthusiasts who have willingness to provide guidance to their less knowledgeable online classmates.

### **A psychological portrait of the student-enthusiast**

Although the students-enthusiasts constituted the smallest part (6%) of investigated population, their contribution to the learning environment was the greatest. They had an inclination to lead group discussions and skillfully stimulated them even online. They demonstrated helping behavior, which is quite unusual in today's competitive society. They oriented the classmates in their virtual classroom clarifying various aspects of the online study, although not even all instructors, especially those

belonging to older generations, so-called digital immigrants<sup>2</sup>, fully understand what a virtual classroom is. Each of these three qualities listed above occurs infrequently. Their combination is truly unique. Maybe, this is precisely what identifies a pedagogical talent?

In their book *The Virtual Student: A Profile and Guide to Working with Online Learners*, R. Palloff and K. Pratt call an ability “to share personal details about their life, work, and other educational experiences” a necessary characteristics of successful online learner (2003, p. 6). According to academic achievement, most of our students appeared to be successful online learners. However, a tendency to trust and share information with the class was contributed primarily by students-enthusiasts. Their style to lead conversations was accepted by other discussants. To a large degree, online discussions became attractive and productive for the group due to enthusiasts’ special style of communication.

Lack of both computer skills and face-to-face communication might “expose online learners to a risk of feeling isolated and disconnected” (Liu et al., 2007). Many researchers believe that active and dynamic discussions between students may serve as significant support for building an online community (Swan et al., 2000; Blanchard & Markus, 2002; Zhao et. al., 2012). Students-enthusiasts actually acted as the support network. When enthusiasts were stimulating online group discussions as well as orienting classmates in the virtual classroom, they helped others to develop a sense of belonging, emotional connection, and wellbeing in the VC.

Learning motivation of students-enthusiasts quantitatively and qualitatively differed from other students’ learning motivation (see Participants and Context). Their interest and desire to achieve learning goals was the highest in the group. What is even more important is that, unlike others, they gave a higher priority to knowledge and curiosity than to grades.

A current study showed one more distinguishing feature of their motivation. It turned out that they could not learn productively without teaching at the same time. Teaching was their distinct method of learning. The less knowledgeable and less experienced classmates became the object of their pedagogical intentions. It seemed that learning motivation and teaching motivation were unbreakably connected in their activity. Notably, their teaching was not a formal instructing. They initiated an active exchange of opinions and stimulated dialogues with other students. Discussions led by enthusiasts usually turned into a collaborative search for answers to the questions stated by their professor on the DB.

From the point of view of the motivational paradigm, students-enthusiasts are overmotivated individuals exceeding all the course requirements and desiring to perform more and better, even if, according to the course policy, this “more and better” is not rewarded. Enthusiasm as a motivational phenomenon is a selfless love

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<sup>2</sup> The term *digital immigrant* was originated by Mark Prensky in his article “Digital Natives, Digital Immigrants” published in 2001. The term may apply to generations that were born after the spread of and/or were not exposed in their young years to digital technology, such as computers, videogames, video cams, tablets, I-phones, Internet, and other toys and tools of the digital age. College students of today, according to this point of view, are “digital natives”; many of them easy adjust to new virtual learning environments.

for knowledge and chosen profession. From the point of view of the communicational paradigm, a student-enthusiast is an informal leader uniting, consolidating classmates, and transforming the group from a disorganized mass without common interests to a team capable of collaboration. Enthusiasm as a communicational phenomenon is a selfless tendency to share one's expertise and help less experienced learners to explore knowledge and chosen profession.

### **Reliability and Validity of the Results**

It was shown that the average number of participants and posts in the branches of the B-group discussion forums not having enthusiasts were as low as in those branches of the A-group forums in which enthusiasts did not participate. Similarity of the results confirms their reliability.

Upon completion of the course, the students of the A-group were invited to help their professor (the author) with the creation of a video orientation session for the future students of the same online course. The goal of this project was to help learners, especially online beginners, orient themselves in the course site more quickly and effectively. For all of us it was a form of volunteer work. Eight out of 20 students of the A-group responded to professor's e-mail message. However, only three of them really helped – they were the same individuals who showed great enthusiasm during the semester. It confirms the validity of the results.

Since the data was collected on the relatively small population, the general applicability of the findings is still limited. Similar studies in the author's courses in consecutive semesters as well as other disciplines are needed. The research is continuing.

### **Conclusions**

The number of participants in a branch of the discussion forum, the intensity of their message exchange, and the structure of group communication can be used as formal criteria for identifying productivity of discussions on the DB in asynchronous online courses. Presence of students-enthusiasts improved these indicators.

The hypothesis of a difference in communication styles between students-enthusiasts and their classmates has been confirmed. Students-enthusiasts became the center of each discussion where they participated, and they involved other students in dialogues not leaving without a response any incoming posts. They tended to orient less knowledgeable classmates in the VC, that is, responded to every "Help me!" message and clarified various aspects of the online study. Students-enthusiasts created a positive psychological atmosphere on the discussion forums in which their classmates develop a "sense of community" and avoid feeling of isolation. Thus the students-enthusiasts may be called catalyzers of the educational process.

Students-enthusiasts served as models for others. They provided support for their classmates and the professor. In fact, they voluntarily became the professor's informal assistants in instructing the class. Formally being students, they actually performed some of the teacher's functions. However, in spite of their competence, they still looked at the learning environment through the students' eyes and might understand

other students' difficulties better than instructors. So, we conclude that such a contribution can and must be appreciated and maximally used in a virtual classroom with its specifics and communicational limitations.

Thus, we see reasons to expect that the features of students-enthusiasts, which were discovered in our study, manifest themselves in their own classrooms where they officially work as instructors. It gives us a better insight into how they influence their pupils' development, learning, and lives. It helps to recognize teachers-enthusiasts' exceptional role in the society.





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## *Mathematical Modeling: Synthesis of Qualitative Research*

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### **Abstract**

The purpose of this study was to synthesize qualitative research findings about mathematical modeling at the high school and college levels focusing on the inquiry processes applied during modeling. A total of 19 primary studies published in peer-reviewed journals between January 1, 2000, and February 28, 2013, with a total of 1,290 subjects met the inclusion criteria.

The research findings revealed that mathematical modeling can enhance students' problem solving techniques and that it has a potential to be supported by scientific inquiry methods. As such, this paper can be of interest to mathematics curriculum designers and practitioners who seek ways of integrating the methods of mathematics with other disciplines.

**Keywords:** Mathematical modeling, scientific inquiry, inductive reasoning.

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## Introduction

Mathematical modeling (MM) has been described diversely; for instance, Lesh and Harel (2003) defined MM as finding patterns and quantifying and generalization of a phenomenon, while Blum, Galbraith, Henn, and Niss (2007) defined MM as a process of “learning mathematics so as to *develop competency in applying mathematics and building mathematical models* for areas and purposes that are basically extra-mathematical” (p. 5). Modeling processes constitute central methods of science knowledge acquisition (Schwarz & White, 2005). Modeling provides a means for analyzing data, formulating theories—often expressed in symbolic mathematical forms—and testing those theories.

As such, learning via modeling plays a vital role in developing students’ skills in both science classes (Wells, Hastens, & Swackhamer, 1995) and mathematics classes, especially during problem solving (Lesh & Harel, 2003). One of the many advantages of modeling, as compared to problem solving, is shifting the learning focus from finding unique solutions to enhancing solution process skills through transforming and interpreting information, constructing models, and verifying the models (Lim, Tso, & Lin, 2009). One of the obstacles to adopting such inquiry-based learning in mathematics is the gap between problem solving in mathematics and inquiry in science (Schoenfeld & Kilpatrick, 2013).

The purpose of this research was to synthesize findings of studies that immersed students in modeling activities defined as finding patterns, generalizing the patterns, and expressing the patterns using mathematical apparatus and search for ways of merging the process of mathematical modeling with scientific inquiry methods.

## Theoretical Background

Pinar (2004) contended that interdisciplinary curriculum fosters intellectual development and students’ capacities for critical thinking, while Kelly (1989) maintained that to acquire knowledge is to experience, observe, and form hypotheses. Dewey (1997) suggested that learning results from action and practical consequences of real effects that are vital components of meaning and truth in education, and defined *learning* as a process in which experience is the motor for new knowledge guided by inquiry.

Ernest (1998) claimed that many concepts of mathematics are derived by direct experience of the physical world, by generalization and reflective abstraction of previously constructed concepts, by negotiating meanings with others during discourse, or by some combination of these means. Piaget (1964) contended that physical knowledge and logico-mathematical knowledge are learned simultaneously; when physical characteristics are learned, mathematical knowledge is used to quantify the characteristics and vice versa.

What makes science and mathematics conjoint disciplines? Multiple opportunities of integrating the methods of mathematics and other disciplines set the foundation for a curriculum that reflects a complex field of scholarly inquiry that endeavors to understand concepts across school subjects and academic disciplines (Kelly, 1989). As science guides the search for patterns and their qualitative explanations,

mathematics guides the search for describing and explaining the patterns using quantity, size, and shape, which illustrates why these two disciplines are conjoined (Yore, Pimm, & Tuan, 2007).

Natural phenomena cannot be completely apprehended without the tools of mathematics, and the purpose of studying mathematics intensifies when mathematics is used to analyze rich scientific contexts. Mathematics helps model empirical data and formulate them as timeless and universal representations (Sokolowski, Yalvac, & Loving, 2011). However, in order to have mathematics students appreciate all aspects of such inquiry, they need to be immersed in meaningful learning environments that provide opportunities not only for evaluating abstract mathematical representations but also for formulating hypotheses and validating derived models in new modified situations.

The process of MM was first introduced into mathematics classrooms about four decades ago (Pollak, 1978), and its effects on mathematics education research have been increasing (Blum & Leiss, 2007). By promoting transfer of knowledge, problem solving, and scientific thinking (Kuhn, 2007), the original ultimate goal of mathematical modeling was to bridge the gap between reasoning in a mathematics class and reasoning about a situation in the real world (Blum, Galbraith, Henn, & Niss, 2007). Over the years, the descriptions of mathematical modeling have undergone many modifications, ranging from deductively situated authentic problem modeling activities seeking unique solutions to given problems (English & Sriraman, 2010) to inductively organized inquiries leading students to find general patterns and express the patterns using the tools of mathematics (Lesh & Zawojewski, 2007).

Modeling offers a systematic way of understanding and working with the relationship between mathematics and problem situations or phenomena in other disciplines (Artigue & Blomhøj, 2013). The products of MM; elicited models, can take various forms, ranging from physical objects (e.g., solids or plane figures) to mathematized statistical models, functions, or differential equations. Mathematical modeling that utilizes real scenarios and leads learners to a pattern formulation is often classified as an exploratory type of learning (Thomas & Young, 2011). As such, multifaceted cognitive goals are achieved by learners undertaking modeling activities. Bleich, Ledford, Hawley, Polly, and Orrill (2006) claimed that such activities (a) expand students' views of mathematics by integrating math with other disciplines, especially science; and (b) engage students in the process of mathematization of real phenomena.

Problem solving and MM and are interwoven. While *problem* is defined as a situation carrying open questions (Blum & Niss, 1991), mathematical modeling is a process of moving from a real-world situation to a model, and then using the model to further understand and develop new knowledge or solve real-world problems (Crouch & Haines, 2004). Thus, the contexts of problem solving and modeling are tightly integrated. A major contribution to problem solving was made by Polya (1957), who formulated four stages of the process: understanding the problem, devising a plan, carrying out the plan, and looking back.

This sequence was further extended and redefined by Bransford and Stein (1984), whose model included the stages of identifying the problem, defining goals, exploring possible stages, anticipating outcomes, and looking back and learning. According to Arthur and Nance (2007), the stage of exploration, which leads the solver to model formulation and validation, is one of the most important in the process of problem solving.

Modeling is a core practice in science and a central part of scientific literacy (Schwarz et al., 2009). Situation, model, and analysis of the model are thereby also essential elements of scientific modeling. An important unanswered question is the following: Should scientific elements remain silent in math modeling activities, as they do in the current literature, or should they be incorporated to produce coherent methods that students should be able to transfer and apply in their mathematics classes, as is suggested by curriculum theorists?

This section provides insight into how scientific inquiry is organized. The Oxford English Dictionary defines *scientific method* as “a method or procedure that consists of systematic observation, measurement, experiment, the formulation, testing, and modification of hypotheses” (Scientific Method, n.d.), whereas the National Science Education Standards (NSES; National Research Council, 2000) define *scientific inquiry* as a way in which scientists study the natural world and propose explanations based on the evidence derived from their work. Scientific inquiry not only reflects on how scientists explain the phenomena occurring in the natural world but also gets at the heart of how students learn (Sandoval, 2005).

While scientific inquiry defines ways of investigating natural phenomena, scientific methods encompass techniques of such analysis (Hestens, 2013). The NSES identify five elements of inquiry methods for teaching and learning; learners must (a) be engaged in two types of questions: existence (*why?*) or casual (*how?*) scientifically oriented questions; (b) give priority to evidence by observing and measuring; (c) formulate explanations from evidence to address hypotheses; (d) evaluate their explanations; and (e) communicate and justify their proposed explanations. In sum, in order to be termed scientific, a method must be based on empirical and measurable evidence followed by hypothesis stating, evidence gathering, model formulating, and testing.

### **Findings of Prior Research**

Although mathematical modeling was implemented in mathematics education several decades ago, its contribution to mathematics education research has gained momentum recently. This section synthesizes major findings from prior studies. In supporting the objectives of this study, we searched for research using ERIC (Ebsco), Educational Full Text (Wilson), Professional Development Collection, ProQuest Educational Journals, Science Direct, and Google Scholar. Although several research studies aimed at various aspects of conceptualization of mathematics ideas were located, a synthesis of qualitative research pertaining to mathematical modeling was not found. The lack of such studies further supports the need for undertaking a qualitative study on mathematical modeling.

Research has shown a positive connection between mathematical modeling and learning outcomes. For example, research conducted by McBride and Silverman (1991) revealed that mathematical modeling used during integrated lessons increased student achievement in all involved subjects. Research has also identified several pitfalls connected to mathematical modeling that educators must consider. Zbiek and Conner (2006) questioned whether the skills of mathematical modeling should be considered as separate assessment items. The research reported positive effects on student learning when contexts were used to enhance math learning objectives. As cognitive and affective effects on students' math knowledge and aptitude are well exploited and researched, the literature revealed several unanswered questions and unresolved issues regarding instrumental implementation of this learning method in school mathematics along with its relation to science. This study, described in detail next, attempted to answer some of these questions.

## Method

The analysis of the pool was guided by a systematic classification process of coding and identifying themes and patterns as described by Hsieh & Shannon (2005) focusing on the development and evaluation of the elicited models formulated by learners.

As an emerging method of mathematical knowledge acquisition, MM that uses exploratory environments still faces unresolved issues that prevent the methodology of framework design from solidifying. Guided by the conceptual framework, the following research questions emerged:

How do currently used mathematical modeling activities reflect on scientific inquiry methods when used in mathematics classes?

What is the role of mathematical modeling in problem solving?

While the answer to the first research question might provide prompts for a possible modification of the currently used modeling cycles, the answer to the second one will generate means for identifying areas where both can merge. In the attempt to more comprehensively answer these questions, other auxiliary themes were considered: Should mathematical modeling be limited to just formulating mathematical representations, or should mathematical modeling be perceived as a bridge linking mathematics with other academia and provide more opportunities for enhancing students' scientific inquiry skills? What phases of mathematical modeling help students improve their problem-solving skills and enrich their techniques of formulating solution designs?



Several key terms were formulated to guide the systematic literature review. The terms are summarized in Table 1.

Table 1: Summary of Key Terms Used to Locate and Scrutinize the Research Pool

Key Term	Description
Math modeling	Process of moving from a real-world situation to a mathematical model (Crouch & Haines, 2004).
Medium applied	A form of information presented that can be categorized as data tables, a written text problem, computerized interactive scenario, or real experiment.
Research type	Quantitative
Grade levels	High school and college levels. Initially, we intended to include the entire schooling spectrum, yet due to a lack of literature pertaining to lower grade levels (English & Sriraman, 2010), the grade levels were limited to high school and college.
Time span	From January 1, 2000, to February 28, 2013. This time span marks an increase in research on math modeling (Lesh & Harel, 2003).
Descriptive parameters	Locale where the studies were conducted, sample size representing the number of subjects under investigation groups, date of the study publication, duration of the study, and total time interval that the subjects were under treatment. The total treatment time was introduced due to a high diversity of treatment frequency; thus, for instance, if the study lasted 2 months and the treatment was applied twice a week for 3 hours each session, the reporting is depicted as 2 months/48 hours.
Publication bias	Only peer-reviewed studies published as journal articles were extracted. By enacting these criteria, a publication bias was reduced.
Scientific inquiry	<i>Scientific inquiry</i> as a method or procedure that consists of experiment, hypothesis, and systematic observation and measurement, along with formulation, testing, and modification of model and hypotheses.
Activity organization	Established to reflect on the inquiry method during modeling activities and learn if scientific methods such as hypothesis stating, measurements, observations, data analysis, model formulation, and its validation were present. Within this domain, MEAs constituted a separate category.

In the process of collecting the research literature, ERIC (Ebsco), Educational Full Text (Wilson), Professional Development Collection, and ProQuest educational journals, as well as Science Direct, Google Scholar, and other resources available through the university library, were used. The following terms and their combinations were utilized to locate the relevant literature: *mathematical modeling*, *model-eliciting activities*, *simulations*, *computers and mathematics modeling*, *inquiry in mathematics learning*, *student achievement*, *high school*, and *college*. These search criteria returned 145 articles. A review revealed that eight of these research studies satisfied the criteria.

The majority of the rejected studies focused on examining formulated models in the professional fields of engineering or medicine, and some represented position papers on modeling. In order to increase the pool, a further search was undertaken with broader conceptual definitions.

This search included auxiliary terms that were found in descriptions of mathematical modeling activities, such as *investigations in mathematics*, *exploratory learning in mathematics*, and *computerized animations and learning*. These modifications returned 37 research papers. After additional scrutiny, 11 more studies were coded as satisfying the research criteria. In total, the meta-analysis included 19 primary studies, out of which four were conducted using mixed research design.

### **Descriptive Analysis of the Pool of Studies**

This analysis encompasses findings conducted with 1,256 students at the high school and college levels. Several evaluation instruments were used in the qualitative research analyzed, including interviews with participants, surveys, observations, and questionnaires.

The sample sizes of the research pool ranged from three subjects (Cory & Garofalo, 2011) to 228 subjects (Leutner, 2002); the average sample size was 60 subjects. When categorized by school level, 14 of the studies (or 74%) were conducted on the college level and involved mainly calculus students, and four (or 21%) were conducted at the high school level. Four studies (or 21%) were conducted at the college level and involved students from teacher preparatory programs (e.g., Carrejo & Marshall, 2007; Türker et al., 2010).

This trend indicates that preparing teachers to teach students modeling techniques has gained popularity in mathematics education. Considering the ratios of the populations, it is evident that the interest in examining the effects of applying MM gravitates toward college-level education. There was a noticeable diversity in the study durations, ranging from 1 hour (e.g., Cory & Garofalo, 2011) to 1 semester (e.g., Klymchuk et al., 2008; Yildirim et al., 2010).

### **Inferential Analysis and Theme Formulation**

While qualitative research unfolds as data are gathered, each study was considered as an individual source of information. With the goal of searching for keys that reflected scientific inquiry in MM along with descriptions that highlighted students' progression through the modeling cycles, a tabularization was generated; see Table 2.

Table 2: Summary of Treatment Descriptions and Research Findings

Leading Author	Treatment Description and General Findings	Medium Applied, Activity Organization
Yoon (2010)	Used MEAs after an instructional unit to teach the accumulation. Investigated change of student perception and interpretation of calculus tools.	PP, MEA
Lim (2009)	Used MATLAB and simulated volcanic ash fall. Investigated change in students' attitude toward mathematics. Mathematics appeared to generate a friendlier environment to students.	COMP, Analysis
Liang (2010)	Used interactive 3D objects to formulate patterns for volume and surface area. Investigated students' change of interpretations of geometry terms.	COMP, Analysis
Leutner (2002)	Used simulation called SimCity to enhance problem solving through modeling skills. Measured participants' comprehension skills.	COMP, Hypothesis Analysis
Chinnappan (2010)	Observed discussion of modeling techniques and approaches. Students' descriptions of math terms were more detailed and focused.	PP, Analysis
Crouch (2004)	Analyzed reflective questionnaire to distinguish between novice and expert modelers. Expert modelers used math tools with greater flexibility.	PP, Hypothesis Analysis
Yu (2011)	Teachers solved modeling problems and designed some. They perceived modeling as a bridge to problem solving.	PP, MEA
Diefes-Dux (2012)	Used web-based MEA resources to support modeling activities. The unit was applied after certain math concepts were introduced.	PP, MEA
Faraco (2012)	Students used Lab VIEW to develop simulated physical phenomena. Principle understanding is needed for successful modeling techniques.	COMP, Hypothesis Analysis
Iversen (2006)	Derived and evaluated algebraic functions. Assessed strengths and weaknesses of the modeling processes.	PP, MEA
Klymchuk (2008)	Used interactive life contexts. Learners priced correlations of the tasks to reality. Math modeling improved their problem-solving skills.	COMP, Analysis
Schorr (2003)	Pre-service teachers provided feedback about teaching the processes of modeling. Positive changes in students' attitudes emerged.	NP, Analysis
Türker (2010)	Participants worked on modeling activities. They reported that mathematics concepts became more tangible to them.	PP, Analysis
Soon (2011)	Students worked on modeling activities involving DEs and linear algebra. Auxiliary steps were provided.	PP, Analysis
Yildirim (2010)	Investigated students' progression through modeling cycle. Students had difficulties with hypothesis stating.	PP, Hypothesis and MEA
Cory (2011)	Used sketchpad to visualize the concept of limits.	COMP, Analysis
Schukajlow (2012)	Modeled problems in two different learning settings such as student and teacher centered. Student-centered modeling benefited students the most.	PP, Analysis
Flegg (2013)	Students learned how to construct and deconstruct mathematical models.	PP, Model Analysis
Carrejo (2007)	Teachers were involved in modeling activities. Need for implementing mathematical modeling in teacher preparatory programs arose.	Real Lab, Analysis

*Note.* PP = pen and paper, COMP = computer, NA = not applicable, MEA = model eliciting activity

When categorized by medium-supporting modeling activities, traditional pen-and-paper activities—used in 11 studies—dominated the pool. Computers were used in six of the studies, and a real lab was applied in only one study. When categorized by elements on inquiry, in the majority of the studies (12, or 63%), the processes were initiated by having students formulate a problem, analyze given contexts, and construct mathematical models. In four of the studies, students were required to state a hypothesis.

According to the procedures of analyzing a qualitative research study (Hsieh & Shannon, 2005), its inference concludes with formulations of themes that will be used to answer research questions. In this study, constant comparisons and debriefing of the accumulated research findings helped formulate the three themes that mirrored the study objectives. The first theme analyzed the stages of the modeling cycles and

reflected on how they integrated scientific inquiry methods. The second theme reflected on the modeling–problem-solving interface and sequencing of modeling activities within math curriculum.

### Research Findings

How do currently used MM activities reflect on scientific inquiry methods? The answer to this research question is clustered into three subthemes that surfaced in the research pool: formulating a hypothesis and converting reality into mathematical symbolism. A separate theme deals with a relation of MM activities and problem solving.

Learners were expected to state a hypothesis in four of the studies, yet several researchers (e.g., Crouch & Haines, 2004; Faraco et al., 2007) pointed out concerns about students' weak skills in formulating, proving, and disproving the hypotheses. Hypotheses build on the problem stated in the activity, and hypothesis formulation is a one of the most important elements of scientific inquiry that drives the process (Kelly, 1989). Once formulated, a hypothesis focuses the investigator's attention on a narrower area of investigation.

The hypothesis can be perceived as the investigator's proposed theory explaining why something happens based on the learner's prior knowledge (Felder & Brent, 2004). The role of a hypothesis is to confirm or correct an investigator's understanding of what the content of the modeling activity presents. As hypotheses in modeling activities will likely be verbalized such that they are aimed at testing mathematical concepts rather than scientific ones, the contextual balance between these two disciplines needs to be established. Reducing the problem statement in a way that students formulate only mathematical representation will not nurture the connection between the real world and mathematical world as defined by Blum and Leiss (2007).

As the research shows, the term *hypothesis* is rarely used during math modeling activities; therefore students' difficulties in hypothesis formulation signalize that more work is to be done to help students overcome the barriers. More elaboration in the differentiation between hypothesis and prediction is also needed, as both can be used in mathematical modeling. A hypothesis proposes an explanation for some puzzling observation, while a prediction is an expected outcome of a test of some element of the hypothesis (Lawson, Oehrtman, & Jensen, 2008). Thus, predictions will be associated with deductively organized modeling activities seeking a unique solution, as defined by Gravemeijer (1997).

In inductively organized modeling activities, a hypothesis will reflect on general mathematical structures and scientific context, whereas a prediction will constitute an extension of the activity, most likely supporting its further validation (see, e.g., Leutner, 2002). The use of these essential terms of scientific inquiry during math modeling activities is not visible in the current research.

A major concern voiced frequently in the research pool involved students' inability to transfer a text scenario description into its mathematical embodiment (e.g., Soon et al., 2011; Yoon et al., 2010), which usually constitutes the pivotal element of the modeling process. During the process of analyzing the accumulated research with the

intention of finding suggestions for improving this stage, two further questions emerged: Is the deficiency due to a weak student understanding of mathematical structures (e.g., the properties of periodic functions, the differences between rate of change and a percent change, the techniques of solving differential equations, and so forth), or is the deficiency due to difficulties in identifying conceptual patterns in given problems (scientific principle) and mapping the patterns on corresponding mathematical embodiments? Thus, the interface of integrating the two different worlds—real situations and their corresponding mathematical representation, as defined by Blum and Leiss (2007)—needs further investigation to help students see the link. Flegg et al. (2013) concluded that in the process of understanding mathematical model formulation, students look for relationships between the math elements of the model and the context and try to relate the model to what they already know, which is not sufficient.

Another theme that evolved from the qualitative analysis involved the investigation of how modeling activities support students' problem solving skills, what their strongholds are, and which elements appear to be still unsolved. In their study, Yu and Chang (2011) concluded that "developing the modeling ability promotes students' problem solving ability" (p. 152). However, they also noticed a lack of theoretical background on how to transition the process of mathematical modeling to problem solving. There is though strong research supporting the thesis that carefully designed modeling environments can foster and solidify students' problem-solving skills (e.g., see Chinnappan, 2010).

In this venue, the issue of sequencing modeling activities within math curriculum can also be discussed. One of the themes that emerged from the high school modeling research findings was the sequencing of modeling activities within a chapter domain. There are two distinct voices regarding this matter: one, advocated by Blum et al. (2007) and Lesh and Zawojewski (2007), suggests that modeling activities be implemented prior to new content being taught, while the other view, as presented, for example, by Leutner (2002) and Chinnappan (2010), proposes that modeling activities be implemented after new content is delivered. Both strategies seem to benefit learners, but caution needs to be taken with the inquiry design of the activities.

Lesh and Zawojewski (2007) supported their claim by pointing out that modeling implemented as a concluding activity of the instructional unit guides students along necessary trajectories but turns the activity into mathematical applications, which is not intended. A legitimate question in this context arises: Does associating mathematical modeling with the exercising of mathematical applications diminish the virtue of modeling activities?

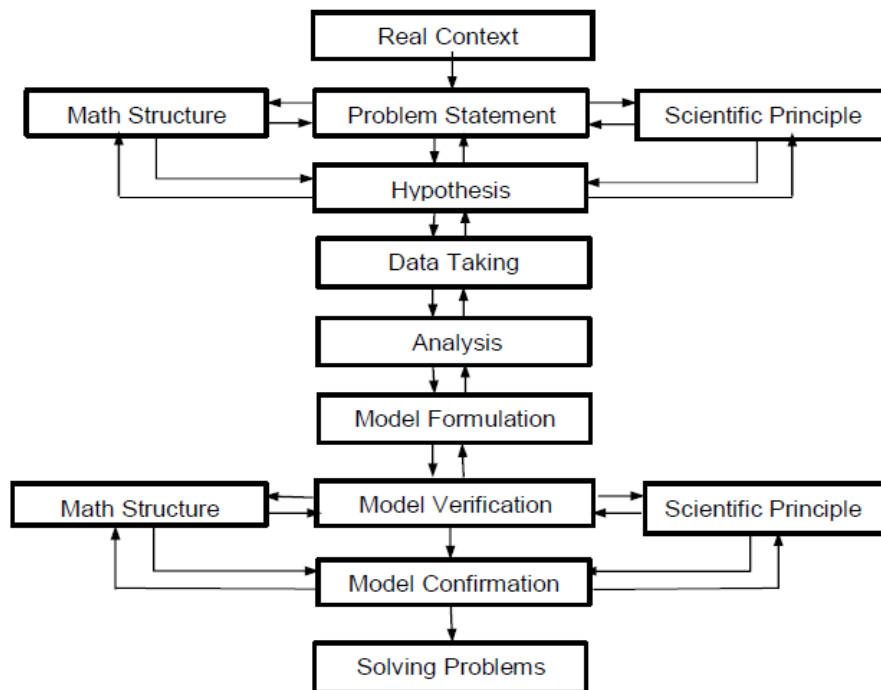
Considering the content of the simplicity principle (see Lesh & Kelly, 2000), it seems that implementing inductively organized activities after content delivery would produce higher learning effects as compared to the reverse order. There is further support for such sequencing; Leutner (2002) advocated that students' pre-domain knowledge correlates with their achievement in modeling and problem-solving activities.

A similar conclusion was reached by Chinnappan (2010), who stated that if the goal of teaching math is developing students’ structural understanding of concepts and embedding the concepts in realistic contexts, students need to learn the structures *before* exercising their applications, and this arrangement is a precursor of students’ success.

Since modeling activities are often depicted by diagrams (e.g., see Blum & Leiss, 2007; Pollack, 1978), we determined that suggesting some modifications to the existing cycles to reflect the current research findings might serve as a way of expressing the research conclusions (see Figure 1). The modifications of these cycles reflect the research findings and are guided by an attempt to increase the presence of scientific inquiry methods in the math modeling activities, especially in the initial and concluding stages of the process.

Although the general structure is not new, we suggest emphasizing certain stages that emerged through debriefing of the primary research. The concluding section of the research has a bifocal purpose: to elaborate on the general structure of the proposed modified modeling cycle by pinpointing particular research findings that led to its emergence and provide suggestions for modeling activities rooted in this design.

The stem of the process is organized in a manner that will simultaneously provide the learner with foundations for problem solving and offer the opportunity for intertwining mathematics and science (or other) concepts. Constant revision of the process stages is also strongly suggested.



Integrated Modeling Cycle

Figure 1:

The process illustrated in Figure 1 is initiated by providing students with a real context and a problem/question to solve. It is important for the context to provide opportunities for taking measurements and collecting data that will represent not only scientific evidences for the activity but also create more prompts for hypothesis formulation. Thus, based on their prior knowledge, students formulate a hypothesis for the problem solution, not only reflecting on the mathematical structure but also supporting it by scientific or other subject knowledge. Data taking, analysis, model formulation, its verification, and its confirmation constitute the central stage of the modeling activity.

The mathematical structure enacted will appear as the optimal solution to the problem posed. Through interactions with an appropriate medium, students progressively build, revise, or adapt their initial strategies if necessary. Students then validate the model's mathematical structure (e.g., type of algebraic function) and the coherence of the structure with the embedded scientific principle. Once validated, the model is ready to be used in other contexts or applied to solve word problems of a similar content domain. The details of how the stages were assembled follow.

### **Implications**

This study carries certain limitations, some of which can be attributed to the limited number of studies available for analysis, and others that can be attributed to the diversity of mathematics curricula and competencies across the countries where the research on modeling was conducted. Accounting for such diversity was not possible in the present study. Moreover, though the view of this research was that mathematical modeling is intended to support problem solving, a moderator link testing the modeling impact on students' problem-solving techniques could not be established. In some of the primary studies, student achievement resulting from mathematical modeling activities was evaluated on a broader scope, seen through general students' math concept understanding but not focused on modeling skills, an issue that was raised by Inversen and Larson (2006).

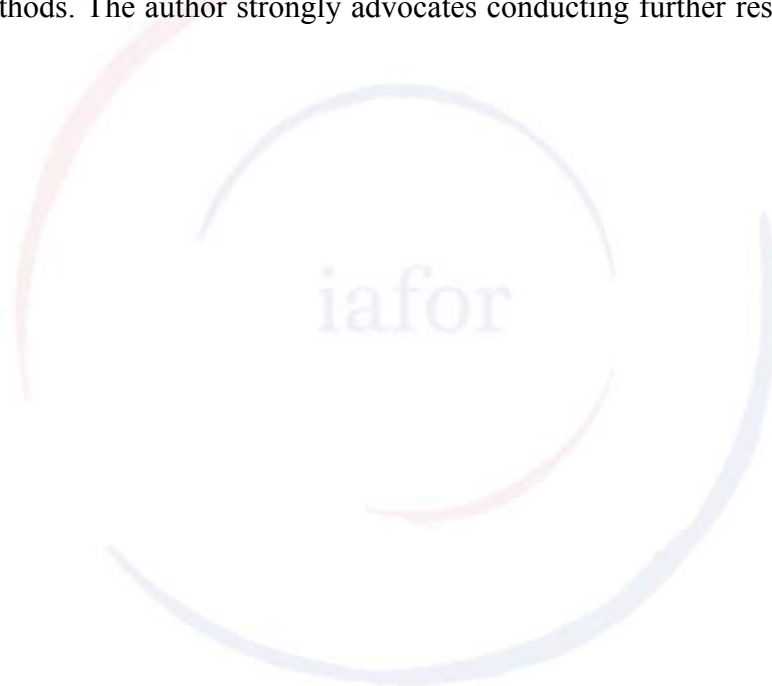
This conclusion prompts more sophisticated research focused on investigating student perceptions of transitioning from mathematical modeling to problem solving and their success with the latter. The current research also shows the need for the establishment of a stronger link between mathematical modeling and problem solving in high school practice. It has been widely proven that mathematical modeling, even when taught in isolation to problem solving, helps accomplish multiple math learning objectives (e.g., see Chinnappan, 2010; Crouch & Haines, 2004). Yet, if set as a leading method of problem-solving techniques, its impact on students' mathematical knowledge acquisition is projected to be much higher.

One major question that arose and warrants further investigation is the following: How can educators organize experimental activities in a math classroom that is not typically designed for such activities? Advances in modern technology can be helpful. Several studies (e.g., see Finkelstein et al., 2005) have shown that computerized experiments not only effectively replace real experiments, but students who used simulations learned even more than students who used real equipment.

Thus, the potential to include virtual simulations that allow for manipulating variables and collecting data exist, and it seems that this potential is not fully explored in mathematics classes yet. Another question, and one of a rather philosophical nature, that emerged involves the possible augmentation of the math description: Are the methods of mathematics, defined widely as pattern seeking and conjecture formulation (Devlin, 1996), sufficient to reflect on their new role to lead learners through the MM processes?

Finally, MM has the potential to bridge math with other academia; thus, addressing the issue of a closer integration of science inquiry with math emerged as a venue for future investigation.

As one of the obstacles in adopting inquiry-based learning projects in mathematics is “a tremendous gulf between the language and traditions of problem solving in mathematics and inquiry in science” (Schoenfeld & Kilpatrick, 2013, p. 901), it seems that mathematical modeling supported by scientific inquiry can bridge these two learning methods. The author strongly advocates conducting further research in these regards.





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## *Achieving Transnational Spaces through Collective Will*

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The IAFOR International Conference on Education - Dubai 2015  
Official Conference Proceedings

### **Abstract**

It's "a matter of wills": cultural will, social will, organizational will, and political will. Dr. Ron Edmonds said, "We can, whenever and wherever we choose, teach all children whose schooling is of interest to us. We already know more than is necessary to do that. Whether or not we do it must finally depend on how we feel about the fact that we haven't so far." To address Dr. Edmonds' question takes collective willpower. How do we feel about not having addressed the needs of every child? How can attention to transnational spaces ensure children interact globally, thereby building a collaborative world? How do we establish the cultural, social, organizational, and political will to serve every child, ensuring their global responsiveness? Thomas Friedman maintains that the world is flat. In a flat world, how do we establish cohesive collaborative structures? Conference attendees will hear the Clover Park School District (Lakewood, WA, USA) story, an intentional design to transform student experiences. The premise: Do you understand the population of students with whom you are working and are you committed to ensuring their progress (cultural will)? Do you believe that every child brings assets to school and our responsibility is to address instructional delivery from that belief system (social will)? Are you willing to redesign the organizational structure to ensure closing of the achievement gap (organizational will)? And, are you willing to commit to policy at the governance level and have the courage to stand in the face of racism and criticism.

**Keywords:** Social justice, educational achievement, closing achievement gaps, social-cultural-organizational-political will, change.

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## Introduction

Reflection is not only good for the soul, it keeps one grounded in what it takes to reach goals. My journey in social justice began before my actual birth. My father, Earnest McEwen, Jr., was a champion for justice. As an early civil rights leader in the south, he constantly challenged the status quo. At that time in the south, a black man could be hanged for just appearing to look at someone the wrong way, yet my father choose to push back. He was a janitor at “Ole Miss” (The University of Mississippi) and knew that there was something better in store for him. When asked by one of the deans at Ole Miss what he saw for his future, he responded that he would like to go to college but did not have the money to do so.

At the time, Ole Miss had not been integrated so the dean was not suggesting Ole Miss for him. However, he told him that William Faulkner might be a benefactor to help him pursue his dream of going to college. My dad, proudly walked into Rowen Oak, the home of William Faulkner, and asked to speak with him. William Faulkner, indeed, provided the money for my father to attend Alcorn College (now Alcorn State University, Lorman, MS). My dad said he did not know how he would repay him. To that, William Faulkner responded, help someone else. So, with this grounding, I have lived by the favorite gospel hymn, “If I can help somebody as I pass along....”

The social justice legacy continued as my dad attended Alcorn College, with a wife and three young children in tow, to pursue his Baccalaureate degree. While at Alcorn College, he became president of the student body. The students became disenchanted with the discriminatory practices of the college and the blatant disrespect of one of the professors (Clennon King) who supported a known racist newspaper (the *State Times*) by submitting articles, defaming civil rights organizations, supporting racial segregation, and using pictures of Alcorn students without their permission to promote his positions. As a result, the student body, led by the student body president, Earnest McEwen, Jr., decided they would boycott classes.

The result was closure of the university by the all-white board of trustees and firing of the President; Most of the student (489 of 571) body walked out in protest. (Williamson, 2008) The administration at Alcorn College, expelled all of the student leadership. When the incident occurred, my father was six weeks away from graduating when this incident occurred. The National Association for the Advancement of Colored People (NAACP) assisted my father by sending him to Central State University (Wilberforce, OH) to complete his degree. His journey in social justice continued throughout his life. For the purposes of this paper, the grounding in social justice was an ever present part of my life, as a result of the modeling from my father.

Education chose me as a profession for delivering social justice. My legacy (Burgess, 2006), personal legend (Coelho, 2005), so to speak, is in what I can give to children that will make them the orchestrator of their own destinies. Ron Edmonds (1935-1983) was very instrumental in framing my philosophical stance. Edmonds taught social studies at Ann Arbor High School (1964-1968), where I received my diploma, and was a professor at Michigan State University (East Lansing, MI), where I received both my Master’s and my Doctoral degrees. He is considered to be the founder of the Effective Schools Movement and established seven correlates of

effective schools. (Education Week, 1992) Although I did not have the privilege of studying directly with Edmonds, I was privy to his work and the extension of his work by Drs. Larry Lezotte and Wilbur Brookover. Ron Edmonds said, “We can whenever and wherever we choose successfully teach all students whose schooling is of interest to us; we already know more than we need to do that; and whether or not we do it must finally depend on how we feel about the fact that we haven’t so far.” (Edmonds, *Effective Schools for the Urban Poor*, 1979)

It is this quote that has resonated in every aspect of my professional career and my personal life journey. I constantly ask myself and others, how do you feel about the fact that we have not educated every child? This is an intense moral question that leads to the framework of collective will. Must we only educate those whose schooling is important to us or do we have the will to establish educational systems that are structured to serve every child? Achieving transnational spaces, demonstrating that every child’s education is of interest to us, takes collective will.

The purpose of this paper is to examine the collective will to achieve transnational spaces. My experiences as Superintendent in Clover Park School District (Lakewood, WA) serve as a reference. The following questions frame the discussion: 1) How do we feel about the fact that we have not addressed the needs of every child? 2) How do we establish the cultural, social, organizational, and political will to serve every child, ensuring their global responsiveness? 3) How can attention to transnational spaces ensure children interact globally? 4) In a flat world, how do we establish cohesive structures?

### **Framework of Will: The Clover Park School District (CPSD) Story**

Changing students’ lives in the CPSD began with the mission that every child would be a productive member of their community. This was coupled with the belief that students who were educated in the CPSD would be prepared for their future, academically, socially, and emotionally, and look back on their CPSD experience with pride. In the CPSD, there is a moral imperative to educate children and a responsibility to extend hope. Some people in the community said, “Not every child will go to college.” As superintendent my response was, “They might not all go to college, but our collective responsibility is to give them the skills so they can make the choice.”

Just as Rev. Dr. Patrick O’Neill shared this information with his colleagues in the 1980s, his message remains true today – children are the future. (O’Neill, 1999) O’Neill wanted to know how our behaviors would change if we asked the question about children in America that the Masai ask daily: “How are the children?”

Among the most accomplished and fabled tribes of Africa, no tribe was considered to have warriors more fearsome or more intelligent than the mighty Masai. It is perhaps surprising then to learn the traditional greeting passed between Masai warriors. “Kasserian Ingera,” [KA-SERIAN IN-GER-A] one would always say to another. It means, “And how are the children?”



*It is still the traditional greeting among the Masai, acknowledging the high value that the Masai always place on their children's well-being. Even warriors with no children of their own would always give the traditional answer, "All the children are well." Meaning of course, that peace and safety prevail, that the priorities of protecting the young, the powerless, are in place, that Masai society has not forgotten its reason for being, its proper functions and responsibilities. "All the children are well!" - means life is good. It means that the daily struggles of existence, even among a poor people, do not preclude proper caring for its young. Patrick T. O'Neill*

Driven by the belief that in every child would be a productive member of their community, the vision for the CPSD was inspired by the vital question the Masai ask – How are the children? This is a critical question for those of us who are serious about the education of all students. We know that the answer should be: “And all the children are well.” Student wellbeing is manifested as a result of our daily practices. As superintendent, classrooms visits were a part of my routine schedule; every day between 7:30 a.m. and 9:00 a.m. At first, teachers at first were hesitant, the union skeptical. But if the trajectory of student lives is to change, it can be done only by changing what takes place in the classroom. The classroom is the single unit of change that impacts student achievement. The staff became accustomed to my visits, and eventually teachers would anticipate my visits. When I had not visited their classroom in a while, they would stop me, eager to ask, “How are the children?”

All the children are well when each one of them is successful and positively contributing to their community. That is the mission of the district, that is what underlies the belief system, and that shared belief system is what attracted me to CPSD. I knew that believing in the children helps them to believe in themselves. I said, “It is our expectations of them that determines whether they expect anything of themselves. It is our determination to ensure their success that determines whether they are successful. Changing the trajectory of student lives is a moral imperative.” Leadership compels a belief in oneself. It is about one's own personal mastery. “The core to leadership strategy is simple: To be a model. Commit yourself to your own personal mastery.” (Peter Senge, 1994)

As I entered my tenure as superintendent in the CPSD, thoughts about how to portray the work in a cohesive form centered through four lenses: Social Will, Cultural Will, Organizational Will, and Political Will. Based on this framework, thus began in the CPSD the collective will for every child to be successful. This is how students' lives and trajectory for their future were changed.

The four Wills, coupled with the pervasive question “How are the children?”, and the establishment of a simple acronym ABCs framed the vision for students in the CPSD. The CPSD staff became committed to the ABCs: A – All, that is each and every, students can and will learn; B – Build bridges and infrastructures to ensure their learning; and C – Communicate and celebrate successes. The change work also included a curriculum management audit, which provided strategic direction for the work. The curriculum management audit recommendations were the basis for developing the strategic direction for the district but the framework was always within the four Wills.

## Social Will

Social Will is about the belief in whether each and every child can and will be successful in the educational system. As previously mentioned, Ron Edmonds points out that to “successfully teach all students” is a choice. (Edmonds, *Effective Schools for the Urban Poor*, 1979) Ron Edmonds’ study on effective schools was a response to the Coleman Report (Coleman, 1966) which intimated that family background and socioeconomic status contributed more to student achievement than what happens in schools. Edmonds’ position was that schools can and do make a difference in student achievement. He conducted a study in urban schools that showed success in student achievement despite family background and economics and devised correlates that directly impact student achievement (Edmonds, *Programs of School Improvement: An Overview*, 1982):

- Leadership: the principal’s leadership and attention to the quality of instruction
- Instructional Focus: a pervasive and broadly understood instructional focus
- Safe and Orderly Climate: a safe and orderly school climate conducive to teaching and learning
- High Expectations: teacher behaviors that convey the expectation that all students are expected to obtain at least minimum mastery
- Evaluation: the use of measures of pupil achievement as the basis for program evaluation

These original five correlates were later expanded to seven (Lezotte, 1991): 6. Positive home-school relations, and 7. Opportunity to learn and student time on task. Most educators do not really believe that every child can and should go on to higher education. They make discriminatory determinations about who should be continue into high levels of learning and who should not. In other words, the success of students is in the minds of their teachers. My personal story might help amplify this point.

*I was born in Oxford, Mississippi to sharecroppers. I spent my early days riding on a cotton sack because I was too young to pick cotton. In my family, education was a given. My father believed it was “the great equalizer.” I shared part of his story in the Introduction. Although he graduated from college, his struggle continued. Because he could not find work as an architect (the area in which he graduated) he once again became a janitor. My father continued his studies and became a self-taught hematologist and blood bank technician at the hospital where he provided janitorial services. He was later hired as an engineer at Ford Motor Co., many years after he had received his Baccalaureate degree. At times, my father worked five jobs so we could get ahead. Like many men of his generation, he worked very hard and died too young. My mother was a classic homemaker. She had a strong family ethic. When she married my father, she had not completed high school. She went on to earn her GED (General Education Diploma). Her greatest satisfaction has always been raising her family. Among her five daughters, they have 15 college degrees, including two with PhDs. ’ and one with an MD.*

*When the family joined my dad in the north, we did so in Detroit (MI). I went to upper elementary and junior high in Detroit Public Schools. It was when I moved to Ann Arbor (MI) that I faced my greatest challenge, covert personal racism as well as*

*institutional racism in the public schools. My first challenge was getting into Algebra. They would not schedule me into Algebra. Because I attended the Detroit Public Schools, they said, "I was not prepared the same as students in Ann Arbor." That did not sit well with my dad. He met with the principal and made it clear that I was to take Algebra and added to that I was not to have any, what he called, "Sop courses."*

*When I was preparing my admission packets for college, my counselor refused to write a letter of recommendation for me to attend college. Did he change the trajectory of my life? He definitely could have sent it on a downward spiral. I had strong family support. Many of our children do not. My dad did not let that stop me from going to college. He insisted, "In my home, it's not a matter of if you go to college, it's was a matter of which college are you going to attend."*

Think of the enormous impact we have on children's lives daily. We can change their trajectory with the stroke of a pen, with the words, we say, with whether we believe in them or not. Ron Edmonds asked us, how we feel about the fact that we have not had the will to educate every single child although we know how to do so. It is about our belief system. As I previously stated, not everyone believes our children can learn at high levels.

When we were engaged in high school reform in the CPSD, our fight came from many fronts – one of them was from our own staff who said, "If we educate all children for college, who will make the hotel beds?" This is appalling. What would our response be if we asked which of our own children we want to make up hotel beds? The responsibility is to model at the leadership level that this thinking is not acceptable. It is not okay to "dis" (disrespect) our children. We have succeeded because someone believed in us. We must do the same for the children in our schools. It is unacceptable to throw away another generation of children. Social will is about our belief system.

### **Cultural Will**

Cultural Will is about understanding the population of students with whom you work. We all have culture, heritage, and background. Gloria Ladson-Billings stated: What makes this difficult is the finding that far too many teachers in U.S. schools possess only a surface understanding of culture - their own or anyone else's. As noted in another of my earlier studies, many middle-class white American teachers fail to associate the notion of culture with themselves. Instead, they believe that they are "just regular Americans," while people of color are the ones "with culture." This notion of regularity serves a normalizing function that positions those who are "not regular" as "others." Not recognizing that they, too, are cultural beings prevents these teachers from ever questioning taken-for-granted assumptions about the nature of human thought, activity, and existence. (Ladson-Billings, 1998)

One must embrace who they are first before they can truly understand who their students are and what they bring to the table. John Stanford, former superintendent in Seattle, said there are no excuses for students not achieving. (Stanford, 1999) Understanding Cultural Will is about understanding the influence of heritage. Knowing the cultural nuances of students can be used to their advantage.

A recent TED sensation is the story of Chimamanda Ngozi Adichie, a Nigerian, who shared her story and the misperceptions that come from categorizing people based on lack of experience with their culture. When she was 19 she went to study in the United States and was surprised when her roommate went to the “default position” of pity. She asked her to hear some of her tribal music and was shocked when Chimamanda played Mariah Carey. Chimamanda grew up in a middle class family in Nigeria, not in a tribal village, but was immediately categorized as tribal because she was from the continent of Africa.

Media, literature, and other venues show people as one thing and only one thing and hence that is what they become to others. Hence Chimamanda’s premise of the danger of a single story. She says, “Insisting on negative stories, flattens our experience. The problem with stereotypes is not that they are untrue, but that they are incomplete. Single stories rob people of their dignities. It emphasizes why we are different rather than how we are alike.” ([http://www.ted.com/talks/chimamanda\\_adichie\\_the\\_danger\\_of\\_a\\_single\\_story](http://www.ted.com/talks/chimamanda_adichie_the_danger_of_a_single_story))

Cultural Will embraces Chimamanda’s view of the danger of putting people into single categories. When we view people through their cultural lens, we enrich not only ourselves, but others as well. In the CPSD, we had district-wide book studies as a part of our monthly administrative meetings. Each of the Wills was studied over the course of a year or two. Books were chosen that would help further the conversation on the particular Will. We pushed the envelope to help individuals understand themselves as a cultural being and then to understand the population of students with whom they were working. The culminating project was a cultural quilt, with each piece done by a district administrator to reflect their cultural heritage and commitment to Cultural Will. This quilt was hung in the foyer of the central administration building (Student Services Center).

Research is rich in the connection between relationships and student achievement. (Howard, 1999) (Delpit, 1995) (Tatum, 2003) (Skria J. S., 2003) (Kuykendall, 2004) One of the best ways to establish relationships is to understand the culture and heritage of the students with whom you are teaching. A small gesture with a huge impact was to change the conversation from “all” students to “every” student.

*As superintendent, I was often called to speak in large assemblies of either students or staff, or both. I noticed early on that when I looked at a crowd of people - sometimes as much as 2,000 persons, I saw a blur of faces. This was particularly true when I used “all” in my language. But when I used “every” it shifted my mental model, allowing me to focus on individuals. I proposed a change to the district’s mission statement. Rather than using the term “all students will learn”, change it to “every student will learn”. This small, but significant, gesture helped to reposition how educators in Clover Park view students.*

## **Organizational Will**

Organizational Will is about the infrastructure. What are the hiring practices that contribute to or impede student learning? Where are the most effective teachers placed? How is funding allocated? In the CPSD we used the urban teacher perceiver instrument to hire teachers. This survey provided guidance on whether an incoming

teacher could work with our population of students. Research from Ed Trust tells us that it is the quality of the teacher that makes a difference in student achievement. “Teachers are by far the most important in-school factor in determining whether our students succeed and our nation’s schools improve. An ever stronger and more sophisticated body of scholarship confirms what parents have long suspected: Highly effective teachers help children soar, while ineffective teachers actually hobble students’ chances for success.” (www.edtrust.org)

Ed Trust research showed students had very different achievement levels in 5th grade depending on whether they had been assigned 3 effective teachers or 3 ineffective teachers in prior grades. In fact, students assigned to three ineffective teachers lost ground; where in 3rd grade they scored at the 57th average percentile rank, by 5th grade they dropped to the 27th percentile rank. The teacher is the single unit of change for student achievement:

“...teacher effects appear to be cumulative. For example, Tennessee students who had three highly effective teachers in a row scored more than 50 percentile points above their counterparts who had three ineffective teachers in a row, even when they initially had similar scores. An analysis in Dallas found essentially the same pattern there: initially similar students were separated by about 50 percentile points after three consecutive years with high- or low-effectiveness teachers.” (Hancock, 2009)

Organizational Will asks these question: “How are students placed in advanced placement classes?” What access do students have to college preparatory tests? Algebra is considered the gate-keeping course for students to do well in college. Why is Algebra not required of all students?

Organizational Will is also about the allocation of resources. Are schools funded equally or equitably? When every schools in a district receives the same amount of money that is not necessarily the most effective for student achievement. (Skria L. , 2009) Parent Teacher Associations (PTAs) in schools with more affluent parents have the capability to raise more funds than PTAs in less affluent area. Some districts have gone to allocation of resources to schools based on their need. (e.g., Clover Park School District (WA) and Portland Public Schools, OR)

Organizational Will is about what you change in the structure of the school system and the schools within the system. Bolman and Deal calls it reframing organizations to maximum effect. (Bolman, 1993), indicating that the structural frame helps establish and maintain formal roles and relationships, the human resource frame focuses on improving relationships, the political frame provides insight into managing the competition for power and scarce resources, and the symbolic frame addresses the need people have to find meaning in their work.

In the CPSD, some of the high school reform took the form of small learning academies with specific designations for example human services, communications, technology, science and math. Other reforms became school within a school where a large high school was reconstituted into four smaller independent schools. Still another reform was starting a school from scratch as a school with grades 5-12. This school phased in a couple of grades at a time. This school grew from 150 students to one with over 450 students and a waiting list to attend. It became the location of the

district's International Baccalaureate (IB) program. Putting this school in place took courage amid pushback from community and staff, which leads to Political Will.

### **Political Will**

Political Will is the courage to do what is right for our children. It is the determination to change the trajectory of students' lives from the policy level. In the CPSD, one of the first things we did as a superintendent and board team was to put a policy in place so that the position on every child being successful was clear. It was our equity and excellence policy. Because the position of superintendent is very tenuous, in order for change to be sustainable, there needed to be a policy in place so that the work would be secured.

The same passion for equity guided the work at the Oregon Education Investment Board (OEIB). The Board was formed by the Governor of Oregon to provide policy recommendations on where strategic investments should be made to ensure equity of outcomes in education. The Chief Education Officer established four subcommittees to begin this work. One of the subcommittees, Equity and Partnerships, took on the task of developing and recommending an equity lens from which the OEIB could review its work. The lens was approved for OEIB, as well as agencies throughout the state. (McEwen, OEIB Equity Lens, 2012) It now serves as a guide for school districts and organizations as they develop their policies on equity.

### **Summary of the Framework of the Four Wills**

The framework of the Wills evolved from my 44+ years as an educator. The premise of the four Wills is that when taken together, the collective will can be actualized to close the achievement gap for students who have not been successful in the public education system. In the United States, these are primarily students of color. The four Wills are not in priority order, but they must interface and are interactive. The four basic questions that frame the Wills are:

- Do you believe every child brings assets to school and that it is the responsibility of educators to address instructional delivery from that belief system (Social Will)?
- Do you understand the population of students with whom you are working and are you committed to ensuring their progress (Cultural Will)?
- Are you willing to redesign the organizational structure to ensure closing of the achievement gap for marginalized students (Organizational Will)?
- Are you willing to commit to policy at the governance level and have the courage to stand in the face of racism and criticism to make sure that every student is given the keys to their future (Political Will)?

When we have the belief, the understanding, the infrastructure, and the courage, we open the doors for transnational spaces. And we animate the collective will, the will that can eliminate global boundaries.

### **Transnational Spaces and the Framework of the Four Wills**

Robinson says, "What is at issue is the relation between our knowledge of the world and social structures. Social structures is becoming transnationalized; an epistemological shift is required in concurrence with this ontological change."

(Robinson, 1998) Robinson goes on to espouse Featherstone's (1990) point that "Human beings cannot interact in any meaningful way except through the medium of culture as shared symbols and adaptive systems, and a focus on "global culture" has an important contribution to make to transnational studies." (Robinson, 1998)

The meaningful interaction of cultures occurs in several ways, not the least of which is the interdependence of educational systems. Schools and districts continue to reach across geographical boundaries and interact with students in other countries, thereby creating transnational spaces. There are examples of "sister city" exchanges, foreign student study programs, journal exchanges and visits from various countries. During my tenure as superintendent, the district participated with the City of Lakewood (WA) in hosting students from Okinawa (Japan).

The students lived with families of middle school students, exchanging culture and establishing relationships. ( (McEwen, Weekly Sharing for October 17, 2003, 2003). During my high school days, when I was fortunate enough to have a foreign exchange student from Venezuela live with my family, exposing me to the value of interacting across cultures. Social media has allowed this to occur at an ever increasing rate. What is new is that technological changes have made it possible for immigrants to maintain more frequent and closer contact with their home societies. (Bruneau, 2010)

The University of Washington (Seattle, WA) had a teacher exchange program with Zayed University in Dubai (United Arab Emirates), where professors at the University of Washington went to Zayed University to teach master's level courses to students studying educational leadership. One of the major benefits of the exchange was the sharing of cultures. Visiting other countries provides a firsthand knowledge of cultures. The key is to be open to receiving the new experience in a nonpejorative way. There is a richness in experiencing other cultures. In addition to these benefits, the experience also solidified collective will in transnational spaces.

## Conclusion

The Wills framework posits the connection between transnational spaces and collective will. Again, the four Wills are:

- Social Will transcends geographical boundaries. When using a transnational space lens, Social Will is the belief that every student can be successful regardless of where a student is located in the world. It remains a moral imperative to have a belief system that embraces every student, without prejudice. When I was teaching at Zayed University, my first responsibility was to my students and the assets that each one brought to the educational system.
- Cultural Will calls for deep understanding of the culture of others. The value we put on others' culture speaks volumes about how we value ourselves. This requires a commitment to develop our individual response to others. Their destinies and my destiny were inextricably linked.
- Organizational Will requires a change in the infrastructure. Social media is accelerating infrastructure changes.
- Political Will commits to policy at the governance level to allow the interaction of students in social media space, and other mediums. It is the courage to ensure that education crosses boundaries and is considered from a global perspective.

The Social, Cultural, Organizational, and Political Will to educate every student is an idea whose time has come. Achieving transnational spaces in education is a matter of collective will.



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***Igbo Dialects Constraints in Indigenous Languages Education in Nigeria: A Case Study of Public Secondary Schools in Imo State Nigeria***

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**Abstract:**

Since the end of the Nigeria Civil War, Igbo studies have improved in the primary and secondary schools. This was boosted when the National Policy on Education (1977, revised 1981, 1998, and 2004) provided that all mother tongues including Igbo should be taught as core subjects in primary and secondary schools. However, the post civil war period has also witnessed some developments which have impacted negatively on the above provision and even though there seems to be increasing awareness of the relevance of mother tongue, the extent to which this has been realized in indigenous language education has not been appreciated. In this study, Igbo language teachers/students selected from 10 secondary schools across Imo state South- East Nigeria were used to access the impact of Igbo dialects constraints on the use of language in mother tongue education. The result shows that, dialect differences and controversy surrounding orthography and standardization are impacting negatively on the realization of mother tongue education in the state.

**Keywords:** Indigenous Languages, Dialect constraints, Languages Policy, Orthography and standardization.

## **Introduction**

The role and relevance of mother tongue in education has been established as the best medium of instruction. The Ife six project by Fafunwa in 1986 is a typical example.

However, negative attitude has been a major obstacle towards the adoption and realization of mother tongue education in Igbo Language area. In most cases, this is as a result of the preference of a more socially relevant second language(s). This could be viewed as negative attitude emanating from external factors.

Hence, despite the seeming awareness of the relevance of mother tongue education among Igbo speakers, the extent to which this has been realized calls for retrospective investigation.

It has been discovered that apart from external-oriented negative factor of preference of socially relevant language one internal factor that is hampering the study of Igbo language is the issue of dialects dilemma. This stems from the standardization and orthography controversy surrounding the use of the language in the academic circle. Though the controversy tends to have been solved its impact led to the negligence and abandon attitude towards the standard variety.

In Nigeria, many linguists and languages teachers have also identified negative attitude of native speakers as one of the factors hindering the proper use and development of most of our indigenous languages. Sheba (1991p.206) states that “except for some literate parents, only few would want their children to be taught school subjects in Yoruba language.” This is also the case with Hausa, Ibibio, Edo and Igbo until recently. In fact, Maduka in (Ejele,2004p.17) had painted a very gloomy case of negative attitude of the Igbos towards their language.

Ohiri-Aniche (2008p.15-38) reports that in Imo state, 7% of the children age six years to eleven years and 9% of them age five years and below do not speak Igbo. The corresponding figures for Igbo resident in Lagos are 35% and 52.5% respectively. In addition, 50% of parents in Imo state and 80% in Lagos state speak mostly English or a mixture of English and Igbo with their children. The implication of all this is that when the children themselves become parents they will not be able to bring up their own children to speak Igbo. Thus, within two to three generations (between 50-75 years) the Igbo language would have become extinct.

## **Statement of the Problem**

According to Uwalaka (2001), of all the languages of Nigeria, Igbo seems to manifest the greatest dialects dilemma. According to Nlem (2014), there are three major contributors to Igbo dialects dilemma, including, the missionaries, foreign scholars and Igbo linguists. These contributions have had negative impact on the study of Igbo language in the primary and Secondary Schools. There are conflicting interest in curriculum for the teaching and learning of language as a result of the dilemma which affects the standard variety. The standard Igbo variety is that which every speaker understands.

It is the variety that is used for teaching in schools. It is always accessible to the educated Igbo speakers.

## **The Overview of Igbo Standard Variety**

According to Emenanjo ( 2013 p.9-10) ‘the standard variety of any language is an ideal required to communicate across dialects. Because it is an ideal, it will have different realizations, conditioned by factors, like the dialect or idiolect of user(s), subject of discourse. Standard Igbo is a neo-dialect with meta-language. It is watered, propagated and perpetuated by all canons of language engineering seen in verifiable and quantifiable features like graphization, codification, modernization, standard, corpus development and meta-language for the sciences, technology, legislative usage, education, language and literature’.

On the account of all these features, therefore, standard Igbo has acquired the property of intellectualization; that is, ability of the dialect to be used to express the most abstract and most modern notions of science technology, philosophy, and discourse in the legislative practice, education linguistics and literature.

The school system, textbooks and public examination are standardizing agencies of written language all over the world. Despite all the above attributes of the standard Igbo variety, the attitude towards it is negative and superfluous from its speakers. The attitude of teachers who engage in teaching profession in selected schools in Imo state and students consulted further buttress the fact that the standard Igbo variety is facing serious dilemma in the school system

### **Methodology**

The study made use of the survey question as the major instrument and an observation guide as research technique. The questionnaire is devised by the problem of the investigation.

### **Validation**

The survey questionnaire was validated by the teachers of Igbo language in terms of form, content and readability of item before it was tried among secondary school students.

### **Procedure**

The researchers conducted the investigation and administered the questionnaires among intended respondents. There was a 100 percent turnout of accomplished survey instruments from teachers and students that responded to the questionnaire.

### **Population**

The target population is the Igbo native speakers in Imo State, South Eastern Nigeria. The stratified random sampling technique is adopted to select the population for the study among ten Secondary Schools including teachers and students.

## Respondents Of The Study

**Table 1: Distribution of schools**

School	Teachers	Students	Total
Holy Ghost College, Owerri	2	8	10
Owerri Girls Secondary School, Owerri	2	8	10
Government Secondary School Owerri	2	8	10
Emmanuel College Owerri	2	8	10
Akwakuma Girls Secondary School	2	8	10
Egbu Girls Secondary school	2	8	10
Comprehensive Secondary School Avu	2	8	10
Obazu Girls Secondary School Mbieri	2	8	10
Ara Secondary School, Umuguma	2	8	10
Army Day Secondary School Obinze	2	8	10
<b>Total</b>	<b>20</b>	<b>80</b>	<b>100</b>

Table I above shows that there were 20 teachers and 80 students that formed a total of 100 respondents across the selected secondary schools in the investigation.

### Presentation and interpretation of data

This section presents and interprets data gathered from 100 respondents across the selected secondary schools in Imo State. The data were presented in tabular form and interpreted following the sequence of the specific problems raised in the study.

- (i.) **Are you aware of the National Policy on Education (NPE) and its Language requirements?**

**Table 1**

Repondents	Response	Frequency	Percentage
Students	No	80	80%
Teachers	No	20	20%
<b>Total</b>		<b>100</b>	<b>100%</b>

The responses in table 1 reveals a complete ignorance by both teachers and students of the language provision of the National Policy on Education.

The National Policy on Education (NPE), (1977) revised 1981, 1998,2004 stipulates that all mother-tongues, including Igbo, should be taught as core subjects in Primary and Secondary Schools.

This to the researchers is a big challenge to the government and other stakeholders for the failure to intimate and familiarize teachers and students alike about the implication of the Policy/Language requirements of the learning and teaching of Igbo language. We believe that, if the awareness is there, the knowledge and the will among students and teachers will be the driving force towards a positive attitude on the language.

(ii.) **When do you start learning Igbo in School****Table 2**

<b>School Year</b>	<b>Frequency</b>	<b>Percentage</b>
JSS I - JSS3	10	20%
SSS1- SSS 3	40	40.5%
JSS I – SSS3	30	30.5
<b>Total</b>	<b>80</b>	<b>100%</b>

Our result divides the schools into three. In the first group, the study of Igbo representing 20% of the respondents, starts from JSS1 and stops at JSS3. The second group representing 40.5% , introduces the study of the language from SS1 to SS3, while the last group representing 30.5% introduces Igbo language learning at the beginning of JSS1 through SS3.

This shows non- conformity to the indigenous language teaching requirement of NPE. Consequently, there is lack of uniformity regarding the appropriate time and level at which the study of Igbo should commence and the extent to which it should be sustained.

(iii.) **The extent to which students are exposed to Igbo language study in school.****Table 3**

<b>Language</b>	<b>Time-table teaching periods</b>	
	<b>Frequency</b>	<b>Percentage</b>
Igbo	4 Periods per week	9% of the total learning periods
English	12 periods per week	25% of the total learning periods

From the result in table 3 in most cases, only 4 periods representing 9% of the total learning periods are being allocated per week to the study of Igbo language in the secondary schools.

On the other hand, a minimum of 12 periods presenting 25% of the total learning periods are for English language per week. This is despite the fact that English is largely the medium of instruction, except, Some cases with few teachers who teach in vernacular. This poses serious threat to the realization of the use of Igbo Language in education.

The medium of instruction plays an important role in the development of attitudes, values and language skills of a student. The daily exposure to English language which familiarize students with the various aspect of the language contribute in no small way to the negative attitude to Igbo language which add no value since it does not attract any benefit to its speakers.

Table 3 also reveals the fact that the student respondents were not exposed to Igbo language teaching and learning, as much as they were to English language at the same time.



The response in table 3 shows different stages depending on the school at which Igbo Language is introduced. Most schools do not start the teaching and learning of Igbo until later part of students' academic lives at the senior secondary level.

(iv.) **Which of languages is the medium of institution**

**Table 4**

Language	Frequency	Percentage
Igbo	20	20%
English	80	100%
Pidgin	-	-
Total	100	100%

The responses to the question indicate that English is the major language of instruction at all levels of the secondary school education. The use of Igbo Language as indicated by respondents; firstly, Igbo language is only used as medium of instruction during the teaching and the learning of Igbo language. Secondly, there are some teachers in some of the schools who indulge in code-mixing of Igbo when teaching some subjects with English. This is an idiosyncratic feature rather than a policy-motivated practice that is not common to all the Igbo teachers.

(v.) **Factors responsible for the negative attitude towards the use of Igbo Language in mother tongue education.**

**Table 5**

Factors	Frequency	Percentage
Dialects Diversity	80	80%
Non implementation of the language policy statement in the NPE	60	60%
Official function or role of English	100	100%
Lack of trained Igbo language teachers	100	100%

The respondents recognized all the factors in table 5 as playing effective roles in generating negative attitude in the use of Igbo in mother tongue education. 80 respondent representing 80 % opined that the dialect constraint rocking the Igbo language is a serious impediment on its role in mother education. Some Igbo writers in Aka weta and Ume (1982) and Okponku Abu employed different dialects other than the standard Igbo variety.

According to Emenajo ( 2013 p.10) some degree of competence in writing or transcribing the dialects is expected in doing so in their dialects. Writing in dialects promotes graphalects over the standard orthography. This is a serious problem in the Igbo in mother tongue education. How would teachers and students cope with the situation? A situation where a student is taught in a given Igbo dialect in preparation for an Igbo exam in the standard variety is an aberration. Our discovery shows code-mixing involving the standard Igbo variety and the dialect of the given Igbo teacher in all the schools visited.

Dictionaries in the language come in different dialects with varying meanings. There is urgent need to facilities harmony Igbo writers to respect and adopt the standard variety in their works.

The respondents blamed the challenges militating against the use of Igbo in Mother tongue education on the non-implementation of the language provision of NPE. The policy itself is problematic and one wonders how the Igbo language will thrive in an environment where English is the medium of instrument for all subjects except Igbo. If indigenous languages like Igbo is to be adopted, then it should be a gradual and planned policy process backed with the right political will. Unfortunately, what we have on ground does not encourage the use of Igbo in indigenous language education.

The major setback on the use to Igbo in mother tongue education is the function and role of English language in Nigeria. English is not just the language of education, it is also the lingua Franca, language of Government, administration and transaction. All these make the learning and acquisition of it an added value. Igbo though one of the major Nigeria languages does not play such roles and does not attract patronage from its learners.

### **Recommendations**

Based on the findings of this work, we recommend the following:

- That all the stakeholders in the promotion and development of Igbo language including the government, teachers, Linguists, non-governmental organizations, etc, should form a synergy for greater awareness among its members with respect to language provision in the NPE.
- Efforts should be made by the Ministry of Education in collaboration with Igbo Linguists to organize workshops/seminars for Igbo teachers at regular intervals to enhance their knowledge on the standard variety of the language and to review interferences coming from the local varieties.
- Efforts should be made to ensure that there is uniformity in the time for the commencement of teaching/learning of Igbo language in all the schools. A case where different schools choose different times to commence the teaching of Igbo in their schools does not make room for unified curriculum for Igbo language teaching.
- The use of Igbo in teaching and learning should be extended to other subjects other than Igbo language so that many students would begin to show interest in the language.
- There is need for regular training of Igbo teachers to keep them abreast with the knowledge and developments in the language.

### **Conclusion**

The use of a given language in education enhances its rapid growth. However, that process is a systematic one that requires the training of languages teachers in the standard Igbo variety. It also requires the creation of the awareness and the implementation of the Nigeria Policy on Education, There Should be a kind of harmony among Igbo writers to avoid the use of dialects instead the standard Igbo variety. The mass media , especially television and radio should be used as agents to disseminate the needed information in the Igbo language areas. The study of Igbo language should be made compulsory from JSS1 till a student get to SS1.

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***The Status Quo and Future of the Off-Campus Internship Programs for Students  
in the Departments of Electronic Engineering and Information***

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**Abstract**

Off campus internship has been regarded as an important facet of the industry-university collaboration for the education of the students. Its major purpose is to promote students' competitiveness and know-how in the future job market. Currently, among all the colleges and universities, the highest number of professional talents is trained in the department of electronic engineering and information science. Therefore, this research regards the chairs of the departments of electronic engineering and information science in various colleges and universities in Taiwan as objects of study. Investigated by questionnaires, it examines the current conditions of the practice of off-campus internships in various institutes of technology and universities of science and technology. The questionnaires, totally 101, were sent at random, and 71 were returned, for a response rate was 70%. Eventually, the findings indicated that more students conducted off-campus internship when they were juniors and seniors. Most students received 3 credits or more from their internships. The institutions of internships were mostly private companies arranged by the departments. Regarding the time for off-campus internships, most of them did it during the semester or summer vacation. More importantly, it was greatly helpful for the students to cultivate their professional and non-professional know-how. There were three recommendations were proposed. They have to adapt their attitude before been there and finish their task when they attend internship. After finish internship period, they have to finish their final report in the future.

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## Introduction

Accounting and Statistics, Executive Yuan on January 22, 2013, unemployment rate of young people in Taiwan (15-24 years old) was 12.66% and it was 3 times of the total average. Unemployment rate of university and above was 4.58%. Accordingly, many technological universities & colleges and industries are devoted to students' off-campus internship to allow students to have basic competency in workplace before graduation in order to effectively solve the problem.

Off-campus internship is regarded as an important channel for acquiring actual work experience (Barrows & Bosselman, 1999). It is also an activity for students to work in an actual work environment (Neill & Mulholland, 2003). Beggs, Ross, & Goodwin (2008) mention that it is necessary to allow students to review their career development during their internships and feel and complexity of the job market. In the milieu of the red-hot competitiveness in the labor market, the development of higher vocational education influences the enhancement of the country's competitiveness significantly.

Learning in internships, they can be cultivated to promote their own innovative abilities and competitiveness. More importantly, they can put the theories they learned at school into practice. Simply put, students can accumulate their work experience during their internship so that they can know more about their strengths and weaknesses and make up their deficiencies in their education as soon as possible to enhance their competitiveness in the job market or start their own businesses (Chen, Chang, & Hsiao 2007).

Chen et al. (2007) suggests that, based on the principle of complimentary resources and the sharing of resources, it is possible to establish the system of learning for students through industry-university collaboration to achieve triple-win collaboration. Likewise, students can obtain experience in the workplace at an earlier time to promote their competitiveness in the job market. Perhaps, it may be helpful to them in job seeking as soon as they graduate.

It is clear that the schools' active promotion of off-campus internship is beneficial to students, schools, and enterprises. Therefore, this research intends to know more about the conditions of off-campus internship conducted by institutes of technology and universities of technology with the chairs of the departments of electronic engineering and information science as objects of study.

Tested by questionnaires, it aims to explore the current conditions of off-campus internship of the students major in electronic engineering and information science in Taiwan.

## **Literature Review**

### **Definition and purpose of off-campus internship for students**

In order to plan educational trainings and cultivate talents, schools implement a series of measures in accordance with the policies. In a narrow sense, it is the collaboration between academia and industry. Through off-campus internships, students can have the opportunities to put the theories they learned at school into practices in different workplaces to enhance the results of learning and teaching. Internships are also regarded as the collaboration between the university and industry aiming to cultivate students' competitiveness (Alpert, Heaney, & Kuhn, 2009). Examining these definitions regarding off-campus internships, it emphasizes collaboration—the alliance between the school and the internship institute. Providing students with better education resources, it will be beneficial in their future career planning.

The “Guidelines for the Opening of Off-campus Internship Courses in Institutes of Technology and Universities of Technology,” the Ministry of Education (2009), encourages institutes of technology and university of technology to open off-campus internship courses to achieve the following goals:

1. Allow students to experience the workplace at an earlier time in order to cultivate a proper working attitude
2. Increase practical teaching resources at schools and job opportunities for students
3. Minimize the enterprise's cost in orientation training and reserve potential employees.

Off-campus internships allow students to obtain work experiences in workplaces at an earlier time. As result, they can make career planning as soon as possible. Seeking job opportunities of their interests, they can shorten in time in job hunting. In addition, schools can increase their teaching resources and narrow down the different between academy and industry. According to the research of Hite & Bellizi (1986), the students highly valued the off-campus internship experience and recognized that it is highly conducive to their future career development. Students also believe that off-campus internships are helpful to their futures. According to the project of Lucas,

Cooper, Ward, & Cave (2009), British students feel more confidence, and know more about business operations and skills when returning to schools from their internship venues. Therefore, the design of off-campus intern courses should be closely related to the industry so that students can learn more about professional knowledge and skills (Aggett & Busby, 2011).

### **Implementation of off-campus internship**

In the “Guidelines for the Opening of Off-campus Internship Courses in Institutes of Technology and Universities of Technology” (2009) announced by the Ministry of Education, it mentions that off-campus internships are either required or elected courses opened by institutes of technology or universities of technology, enumerated as follow:

**Summer courses.** Open off-campus courses with 2 credits or more. Students must participate as an intern in a single enterprise for 8 consecutive weeks at the minimum of 320 hours, including the scheduled forums and seminars at schools.

**Semester courses.** Open off-campus courses with 9 credits or more. Students must participate in an off-campus internship for 4.5 months or more. During the period, other than participating in the scheduled forums and seminars at schools, students must work full-time at the intern institutes.

**Academic year courses.** Open off-campus courses with 18 credits or more. Students must participate in off-campus internships for 9 months or more. During their interns, other than participating in the scheduled forums and seminars at schools, students must work full-time at the intern institutes.

**Medical and nursing courses.** During the semester, students attending a four-year college or five-year junior college must take 20 credits or more in off-campus intern courses. Students attending two-year junior technical college or two-year junior college must take 9 credits or more in off-campus internship courses. The hours of off-campus internship can be accumulated in accordance with the rules and regulations of different medical and nursing departments.

**International internship courses.** 1. International internship courses should either be semester courses or academic year courses. 2. The venues of internship should be areas other than China or on-board of ocean liners in international waters. Moreover,

first priorities should be given to the advanced or potential enterprises (including branches) operated by Taiwanese investors globally. 3. Students participate in these programs should pass professional tests and language proficiency tests. The intern institutes should be reviewed and accredited by the schools. More importantly, the work in the internship should be related to students' majors.

When planning off-campus programs, the schools should arrange suitable courses in accordance with students' practical needs because the time for taking these courses, the credits earned, and the requirements vary. Only by taking courses planned appropriately, can the students understand workplaces better to accomplish the goals of internship.

### **Current conditions of off-campus internships for students**

Executive Yen (2013) pointed out the achievements of Phase I of the "Technological-Vocational Education Reshaping Project" are exposed as follow:

#### **The number of funded internship students and actual number of internship students in 2010-2012.**

In 2010, the Ministry of Education funded 8,510 students studying at institutes of technology or university of technology to engage in off-campus internships. Nevertheless, the actual number of student that participated in off-campus internships was 38,273, occupying 22.4% of the graduates in 2009 academic year. In 2011, the Ministry of Education funded 8,217 off-campus internship students studying at institutes of technology or university of technology, and the actual number of students that participated in off-campus internships was 42,408, occupying 26.3% of the graduates in 2010 academic year. In 2012, the Ministry of Education funded 8,368 students studying at institute of technology or university of technology to engage in off-campus internships, and the actual number that participated in off-campus internships was 53,774 occupying 32.6% of the graduates in 2011 academic years.

#### **Ratio of off-campus internship courses opened by academic departments in 2010-2012.**

After the launching of Phase I of the "Technological-Vocational Education Reshaping Project," the number of off-campus internship courses increased significantly in the institutes of technology and universities of technology in Taiwan. Up to 2012, about



85.3% of the academic departments opened internship courses, indicating that the funding of the government institutions enhanced the intentions of the schools to implement internship significantly.

According to the literature above, after the implementation of the Phase I of the “Technological-Vocational Education Reshaping Project” by the Ministry of Education, there had been a significant increase in the number of schools implementing off-campus internships, indicated in the increase in the actual number of students and academic departments participated in internships.

## **Method**

In this research, questionnaires were used as the research method, with the departments chair in information science in Taiwan as objects of study. Questionnaires were sent at random. The questionnaire was complied with the questionnaire developed by Thompson (2011). This questionnaire, in English, was used to survey the conditions of off-campus internships in the department of accounting. In this project, the questionnaire was translated into Chinese and adapted to suit the purpose of this study. The questionnaire consisted of two parts. First was the basic information, including teaching seniority, with working seniority or not, affiliations, and the number of students at day school, of the participants.

Second was the conditions of off-campus internships, including whether were there students participating in off-campus internships or not, were there any particular requirements for students participating in off-campus internships, the year the students participated in off-campus internships, the number of students in a department that participated in off-campus internships, kinds of institutes for off-campus internships (government institutions, private companies, and family companies), how to obtain the opportunity for off-campus internships (sought by students, arranged by departments, arranged by schools’ business departments, and recruited by enterprises), manners of off-campus internship, credits for off-campus internship, accumulated credits for off-campus internships, items to be completed after internship, was off-campus internships required or elective courses, duration of off-campus internships, was it helpful for students to participate in off-campus internships, the degree of help for students participated in off-campus internships (work in professional discipline, work in non-professional discipline, and understand the condition of workplaces), whether the department certified by IEET or listed as Grade 1 in Assessment and Evaluation for Universities of Science and Technology,

and the highest degree offered by your department. After the questionnaires were collected, they were analyzed by SPSS to examine the current conditions of off-campus internship for the students in the institutes of technology or universities of technology in Taiwan.

### **Data analysis and discussion**

The samples of the questionnaires were completed by the chairs in the departments of information science in investigate the current conditions of the implementation of off-campus internship programs. In accordance with the survey of the Ministry of Education, there were 59 institutes of technology and universities of technology in Taiwan that had departments of information science and related disciplines. There were 144 chairs working in the department of information science and related disciplines. 101 questionnaires were sent, with 71 returned, for a recovery rate of 70%.

### **Sample and background analysis**

The analysis of the sample data regarding the department chairs are listed in Table 1. The variables of the department chairs in this study are consisted of four items: teaching seniority, working seniority, affiliations, and the number of students at day school in 2012 academic years.

Table 1 Analysis of personal background samples and variables

Background variables	Items	Quantity	Percentage (%)
Teaching experience	5 years (inclusive) or less	1	1.4
	6-10 years	6	8.5
	11-15 years	17	23.9
	6 years (inclusive) or more	47	66.2
Working experience	Nil	17	2.9
	5 years (inclusive) or less	42	59.2
	6-10 years	7	9.9
	11-15 years	2	2.8
Affiliations	College of electronic engineering	5	7
	College of information science	37	52.2
	College of engineering	29	40.8
Number of students in the day school in 2012	100 or less	3	4.3
	101-200	11	15.5
	201-300	13	18.3
	301-400	17	23.9
	400 or more	27	38.0

### Analysis of students that participated in off-campus internships

As shown in Table 2, from the questionnaires completed by the chairs, there are 69 departments that have implemented an off-campus internship program, occupying 97.2%. There are 52 departments that require students to participate in internship programs, occupying 75.4%. Most participate in internship in their junior years. In the 2012 academic year, most of the departments had 1-10 students joining the off-campus internship program, scoring the highest at 27.5%, in which 92.7% of students can earn credits from their internships. 12.5% of the students should turn in their reports on the internship after its completion. 7.8% of the students should complete the tasks required by the internship institutes, and 79.7% of them should turn in their reports on the internship after its completion.

In addition, there are 27 departments that regard off-campus internship as required courses; 37, elective courses. The duration of the internship ranges from 1 to 3 months, occupying 31.3%; from 3 to 6 months, 34.3%; and 6 months or more, 32.9%.

Table 2 Frequency of students engaging in off-campus internships

Background variables	Item	Quantity	Percentage (%)
Are there any students participating in off-campus internships?	Yes	69	97.2
	No	2	2.8
Are there any basic requirements to the students participating in off-campus internships?	Yes	52	75.4
	No	17	24.6
What is the level of students participating in off-campus internships in your department?	Freshmen or above	6	11.6
	Sophomore or above	10	1.9
	Junior or above	17	32.7
	Senior	14	26.2
	Graduate	0	0
How many students participated in off-campus internships in 2012?	Nil	5	9.6
	1–10	19	27.5
	11–20	16	23.2
	21–30	15	21.7
	31–40	5	7.3
Can students earn any credit from off-campus internships?	More than 40	14	20.3
	Yes	64	92.7
How many credits in accumulation can students earn from off-campus internships?	No	5	7.3
	0 credit	1	1.6
	1 credit	0	0
	2 credits	7	10.9
	3 credits	12	18.8
After completing	3 credits or above	44	68.7
	Turn in reports	8	12.5

off-campus internships, what are the items required to be fulfilled?	Requirements of the internship institutes and evaluations	5	7.8
	Both of the above	51	79.7
Your department regarded off-campus internship as:	Required courses	27	42.2
	Elective courses	37	57.8
In you department the duration of off-campus internships are	1 month or less	1	1.5
	1 to 3 months	20	31.3
	3 to 6 months	22	34.3
	6 months or above	21	32.9
Does your department hold any of these certifications?	IJET certification	19	26.8
	Class 1 in Evaluation of Universities of Technology	9	16.7
	Both of the above	29	40.8
	None of the above	14	19.7
What is the highest degree offered by your department?	Bachelor's	18	25.4
	Master's	45	63.4
	Doctor's	8	11.3

### **Manner of seeking internship institute**

In this section of the questionnaire, a Likert 5-scale point system is used. From 5 point to 1 point, it indicates the conditions in accordance with their frequencies. In Table 3, the score of government institutions is 1.12; private enterprise, 4.61; and own companies, 1.71, indicating that most of the students conducted their off-campus internship in private companies, with own companies coming second, and government institutions the least. Regarding the manner of seeking off-campus internship opportunities, it shows that arranged by the departments and business' recruitment score the highest at 4.09 and 3.05 respectively; the lowest was arranged by the schools' business sections and sought by students themselves. It also indicates that most of the students' off-campus internship opportunities are arranged by the departments and recruited by the enterprises in Table 3.

Table 3 Features and the seeking of off-campus institutes

Items	Questions	Average	SD
Off-campus internship institutes of students	1. Government institutions	1.12	.385
	2. Private enterprises	4.61	.752
	3. Own companies	1.71	.935
Ways of students seeking off-campus internship opportunities	1. Sought by students	2.27	1.105
	2. Arranged by departments	4.09	1.011
	3. Arranged by schools' business departments	2.78	1.284
	4. Enterprise recruitment	3.05	1.025

### Time for students engaging in off-campus internship

Depending on the schools, the planning of off-campus internship differs. Moreover, schools provide different time slots for students to participate in off-campus internships. Meanwhile, some schools even provide students with two or more times slots to participate with internship programs so that they can take these courses at times convenient for them. In Table 4, the distribution of time slot for off-campus internship is listed.

Table 4 Distribution for time slots for students' off-campus internship

Item	Coefficient	Percentage (%)
1. During the semester	51	73.9
2. Winter vacation	11	15.9
3. Summer vacation	59	85.5
4. After school	3	4.3

### Analysis of benefits for students' participation in off-campus internship programs

According to Table 5, regarding the analysis of the conditions of the off-campus internships, it indicates that most department chairs believe that off-campus internships are helpful to students' future careers.

Table 5 Analysis of the conditions of students' off-campus internship

Background variables	Item	Coefficient	Percentage (%)
Do you think is it helpful for students in their future careers to participate in off-campus internships?	Yes	71	100
	No	0	0

Table 6 indicates that the scores for promoting students professional performances, promoting students' non-professional performances, and allowing students to understand more about the conditions of workplaces are 4.18, 4.00, and 4.53.

Table 6 Analysis of department chairs recognition of the benefits for students participating in off-campus internship

Questions	Average	Standard deviation
1. Can promote performance in professional field	4.18	.487
2. Can promote performance in non-professional field	4.00	.561
3. Can allow students understand more about the conditions of workplaces in their fields	4.54	.502

### Conclusions and recommendations

This research examined the conditions of conducting off-campus internship programs in institutes of technology and universities of technology with questionnaire as method in order to understand the current conditions of conducting off-campus internship programs in institute of technology and universities of technology in Taiwan with the conclusions as follow.

## **Conclusions**

**Most of the students that participated in off-campus internship are junior and senior students.**

According to the research findings, most of the students that participated in off-campus internships are junior and senior students. It is deduced that freshmen are still trying to get familiar with the schools when they just enrolled. Regarding sophomores, they are still taking required courses in their disciplines.

**Most students can earn 3 credits or more after the completion of off-campus internship courses.**

For students, credits required for graduation are very important. Therefore, if the credits they earned from off-campus internship courses are too low, they will not have sufficient motivations in participating. Likewise, many schools offer three credits or more for students completing the off-campus internship courses to promote their motivations.

**Most students participated in off-campus internship programs work in private enterprises arranged by their departments.**

Most off-campus internship institutes are arranged by their departments. The major factor is that when the students participate in off-campus internship, most of the resources are provided by the departments. In addition, most of the off-campus internship institutes are private enterprises. Very few works in government institutions.

**The time for students' off-campus internship is concentrated mostly during the semester or summer vacation.**

According to research findings, most schools arrange off-campus internship courses during the semester or summer vacation mainly because they hope the students can have continuous and prolonged periods to work and learn in internship institutions to have more complete understanding of workplaces.



**Helpful to the students participated in professional and non-professional fields in off-campus internship.**

According to research findings, many department chairs think that it is helpful for students in their performances in both professional and non-professional fields in the future. In addition, it allows students to understand more about the conditions of workplaces in their fields. All department chairs have positive attitudes towards the benefits of off-campus internship.

**Recommendations****Students should adapt their attitude before joining off-campus internship.**

Before entering off-campus institutes, students should be fostered to be initiative, positive and self-motivated, it is important to change attitudes and behaviors. As a result, students will work well with others and able to work diligently during internship.

**Students should finish their tasks when attending internship.**

It is important that students supposed to finish tasks or missions given by off-campus advisors or mentors, through the time that students put all efforts focusing onto the tasks, they learn not only professional skills but also experiencing workplace environment. It is a great opportunity to foresee the situation of future employment.

**Students should accomplish final report after the end of internship.**

When finishing off-campus internship, students are required to make a final report regarding the reflections of being interns, any achievements during internship and introduction of off-campus institutes. From the assignments, students could oversee every details of internship, it is provided as key information that they can start to plan for own future career, and will be benefit when making decisions on employment.

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*Students' Experiences with Blended Learning Using a Flipped Classroom Approach*

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**Abstract**

Flipped classrooms reflect a specific approach to blended learning in which direct instruction is shifted outside the classroom through the use of digital technologies. Face to face classroom time is rather used for learning activities to provide opportunities for students to apply and engage more deeply with the knowledge acquired from online instructional resources. Given the dearth of research on the use and effectiveness of this new blended learning approach in higher education, there is a need to examine students' experiences in flipped classrooms. A study was thus undertaken using a mixed-methods research design. It involved 15 students enrolled in a 45-hour module of a Bachelor of Education programme designed and implemented using the flipped classroom approach. Half of the module sessions were delivered online and the remaining sessions were delivered face to face. The aim of the study was to explore students' experiences in a flipped classroom. Qualitative and quantitative data were gathered from students' online learning journal, online activity logs and questionnaires. Although it was the first time that the students' were participating in an online learning environment, data analysed from multiple sources indicate that they had more positive learning experiences than negative ones. The study findings contribute to the knowledge base for effective design and implementation of blended learning using a flipped classroom approach. Moreover, they inform practitioners and researchers of some of the factors that need consideration in the use of flipped classrooms with higher education students.

**Key Words:** Blended learning, Flipped classroom, Students' experiences

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## Introduction

The idea of a flipped classroom is not new, but recently has been gaining more attention as a result of technological, instructional and pedagogical developments. These developments are largely related to wider Internet access and emerging online technologies. The flipped classroom reflects a specific approach to blended learning. It has also been coined the terms inverted classroom and classroom flip. In a flipped class, the traditional setting of classroom-based learning is inverted, such that face to face direction instruction which involves delivery of content knowledge is shifted outside of formal class time through the use online technologies. Face to face class time is rather used for learning activities that are expected to provide opportunities for students to actively engage in knowledge construction through extensive interactions with peers and the teacher (Bergmann & Sams, 2012; Missildine et al, 2013).

Milman (2012) highlighted that in this approach rather than using valuable class time to introduce or explain a concept, the teacher can create a video lecture, screencast, or even a podcast to teach students the concept. The valuable class time can, thus, be used for more collaborative and engaging activities that are facilitated by the teacher. Besides video lectures, screencasts or podcasts, students can also be provided readings online. The students need to prepare for the face to face sessions by watching the videos, listening to podcasts and reading the assigned articles.

There is evidence from a few studies that the flipped classroom can promote learning to a greater extent than the traditional classroom (Deslauriers et al, 2011; Henderson, et al, 2012; Prober & Heath, 2012; Strayer, 2012). Nonetheless, most of these studies have been conducted for K-12 education. There is, thus, a need for research on flipped classroom in the context of higher education, including qualitative research studies that focus upon on students' learning experiences (Johnson, 2013; Galway et al. 2014; Abeyskera & Dawsin, 2015). Such studies will help in providing a more in-depth understanding of the effectiveness of the flipped classroom approach and subsequently assist teachers in designing more effective flipped classroom.

Another limitation of extant literature on research on flipped classroom in the context of higher education is that most studies involve the use of out-of-class time solely for students to engage with instructional resources such as video lectures, podcasts and readings. Very few studies have included online activities for students to complete during the out-of-class time. Brunsell and Horejsi (2013) pointed out that embedding active and engaging learning activities along with the online instructional resources provide a more complete classroom flip than simply uploading content materials. Moreover, Ash (2011) and Milman (2012) have expressed their concern about using solely video lectures for students to view online as it is not effective in shifting students' learning approach from a passive one to a more active one.

Given the above gaps in the literature, a research was undertaken on blended learning among higher education students using a flipped classroom approach. The flipped classroom involved the use of online activities along with online instructional resources for students to engage with during the out-of-class time. The aim of the study was to explore students' experiences with blended learning using a flipped classroom approach.

Although the flipped classroom approach has been gaining more attention, there is no single agreed definition of the term. Nonetheless, studies involving a flipped classroom approach have a number of common features (Abeysekera & Dawson, 2015):

- A change in use of classroom time;
- A change in use of out-of-class time;
- Activities traditionally considered as in-class work done out of class;
- Activities traditionally considered 'homework' done in class;
- In-class activities emphasise active learning, peer learning, problem-solving;
- Use of technology for content delivery.

Drawing on the literature and the design used for the flipped classroom approach, for the purpose of this study, the flipped classroom was defined as a pedagogical approach that involves:

- A shift of most information-transmission teaching out of class;
- Use of face to face class time for learning activities that are active and collaborative;
- Use of online technology for content delivery; and
- Use of online activities for students to complete out of class to fully benefit from online instructional resources.

## **Methodology**

### **Study Context**

This study was conducted in a teacher education institution (established since 1973) which has recently started offering courses on a blended mode. It involved a group of fifteen female students enrolled in the first semester of their third (final) year of a Bachelor of Education (BEd) programme for secondary school teachers. All the students were practising teachers who already hold a Teacher's Diploma and they are enrolled on a part-time basis in the BEd programme. Face to face classes for courses ran in the late in the afternoon on weekdays and in the morning on Saturdays.

The aim of the selected course was to deepen students' understanding of key research methodology concepts introduced in another research methodology course during the second year of the programme such that students can apply these concepts in their final year research project. Informed written consent to participate in the study was obtained from all students. Moreover, students were informed that their participation in the study would not affect their grades in any way nor the teacher's attitudes towards them. There was only one teacher responsible for the design and delivery of the course and she was one of the researchers.

The course usually runs over 15 weeks of 3-hour weekly sessions. For this study, the course was delivered using a blended mode, such that 7 sessions were delivered online and 8 sessions were delivered face to face. The course design and implementation were guided by the flipped classroom approach. Research shows that it is important for students to understand the essence of the flipped classroom in order to benefit the most from it (Gillboy et al, 2015). Thus, prior to the start of the course,

a 3-hour face to face orientation session was organised to familiarise students with the flipped classroom approach. The session focused mainly on the online learning environment, the structure of the flipped classroom approach, its underlying pedagogical principles and guidelines for the online sessions. Moodle was used as the learning management system (LMS) and hands-on activities were included during the session to familiarise students with the online learning environment.

Several researchers have argued that there is no right or single way to design and implement the flipped classroom provided that the approach reflects a shift of content delivery to outside of formal class time and the use of face to face class time for active and engaging learning activities (Bull et al, 2012; Nolan & Washington, 2013; Galway et al, 2014). In this study, the design of the flipped classroom approach was founded on cognitivism, constructivism and the extant literature.

The design of the course face to face sessions was founded on constructivist principles which lend themselves to knowledge construction through active and joint interactions between students, their peers and the teacher (Harasim, 2012). Learner-centred tasks were used to actively engage students and to give them the opportunity to apply and extend concepts addressed in the online sessions. Most of the activities during the face to face sessions involved group work. The teacher facilitated the group work, addressed students' queries and provided feedback on activities completed in class as well as online activities for which no online feedback had been provided. Opportunities were also provided for peer feedback.

The design of the online sessions were guided mainly by cognitivist principles. Content was delivered through different online resources – video clips, links to web sites, text-based lecture notes and Powerpoint slides. The relevant resources were structured and sequenced taking into account the prior knowledge of the students. In line with previous research findings (Ash, 2011; Milman, 2012; Brunzell & Horejsi 2013), online activities were included along with the online instructional resources to engage students online and to minimise passive learning which is more likely to occur when online sessions are limited to viewing videos or completing readings.

Students were required to attempt ungraded online quizzes to monitor their own learning after having engaged with the online resources. The quizzes provided automated feedback to each student once completed. Students were also required to post their most valuable learning experiences and challenges encountered in an online learning journal. Cognitivists such as Brown and Ferrara (Perry, 1999) recognize ungraded quizzes and learning journals as powerful learning tools to monitor one's learning progress. The role of the teacher was to facilitate discovery of new knowledge by providing the necessary resources and monitoring students online participation to ensure that everyone engaged with the online resources. Reminders were sent to students who had not accessed the relevant resources set for the week.

### **Research Approach and Design**

A mixed-methods research approach was used for this study. It reflects a pragmatic paradigm that is congruent with the researchers' view that research conducted in naturalistic setting should focus on selecting methods for data collection that best address the research questions than selecting methods that draw exclusively from the

qualitative or quantitative research paradigm (Tashakkori & Teddie, 2003). The pragmatic paradigm has emerged in response to the debate that quantitative and qualitative research approaches are mutually exclusive and is based on rejection of the forced choice between the two approaches. It supports a mixed-methods research approach that involves using an eclectic approach to methods of data collection and analysis to answer the research questions rather than restricting researchers' choice (Johnson & Onwuegbuezie, 2004). Different research designs can be used in mixed-methods research (Cresswell & Clark, 2011). In this study, a convergent mixed-method design was used. Quantitative and qualitative data were merged concurrently and compared to gain a more complete understanding of students' learning experiences with blended learning using a flipped classroom approach.

### **Data Collection and Analysis**

Quantitative and qualitative data were collected using different methods. Quantitative data were gathered from close-ended questions in two questionnaires and from online activity logs while qualitative data were obtained from students' online learning journal and open-ended questions in one questionnaire. The use of different methods of data collection allowed for triangulation and complementarity to ensure credibility of the study findings with respect to students' experiences with blended learning using a flipped classroom approach (Johnson & Onwuegbuezie, 2004). Triangulation was an ongoing process that involved the use of multiple data sources and checking for findings from different sources that converge and corroborate (Miles & Huberman, 1994). Complementarity was achieved by seeking elaboration and clarification of quantitative data from the questionnaires and online activity logs with findings from the online learning journal.

Prior to the start of the course, a questionnaire was administered face to face to all study participants to find out about their computer/Internet usage and skills, their previous online learning experiences, and their perceived benefits and challenges to engaging in an online learning environment. A second questionnaire was administered online to all students at the end of the course to gather quantitative data about their learning experiences during the face to face and online sessions, including their perceptions of the instructional resources and activities.

Both questionnaires included mostly close-ended questions; 5-point Likert scale items were used for the online questionnaire. Data collected remained anonymous and were analysed quantitatively in terms of descriptive statistics (frequencies and percentages). The second source of quantitative data was the students' online activity logs. These were accessed from the online learning management system at the end of the course to determine the online participation pattern of students. These logs kept a record of all the activities each student had performed online.

The online learning management system was also used by each student to post (in an online learning journal) their reflections on aspects of the sessions (online and face to face) they found most beneficial and the challenges they faced. The teacher had provided guidelines to students for the online learning journal, highlighting the need to be critical in their reflections and the benefits of such an activity to students and to the tutor. The journal provided qualitative data about students' positive learning



experiences and the challenges they faced, thereby elaborating and clarifying the quantitative data from the online questionnaire.

All data obtained were kept confidential during analysis and reporting. Qualitative data from the online learning journal were copied into MSWord Doc. The data were read and reread to acquire a general sense of patterns and themes. Both inductive and deductive methods of data coding were used. Data were first coded and grouped by preset categories identified from the online questionnaire, namely online experiences with online instructional resources, online activities, face to face activities and overall learning experiences. Within each category, data were then coded through an iterative process for emerging themes. Memos were written throughout the coding and interpretation process aiding in the identification of relevant themes. The eclectic data coding approach allowed for complementarity of qualitative and quantitative data.

## Findings

### Online learning experiences at the start of the course

Online learning experiences of students at the start of the course were gauged from analysis of data from the face to face questionnaire. Analysis of the questionnaire showed that all students had access to Internet and a PC or laptop at home; they used their PC or lap top at least once every 2 days. Five students reported using their PC or lap top several times a day. Internet was accessed by most of the students (n = 14) at least once every two days. One student reported accessing the Internet less than once weekly, although she does have regular access at home. The students rated their IT skills from fair (n = 5) to good (n = 10).

They were all participating in a course using an online learning environment for the first time. Nonetheless, all of them expressed their interest in engaging in an online course using blended learning as part of their teacher education programme and they anticipated several benefits. Students reported that the use of online sessions to replace some of the face to face sessions would save travel time for them. They felt that they could use this extra time to study at home and conduct online research in connection with the module content.

*'It will help to reduce travelling time which can be used for reading'*

*'I won't have to come so far for the f2f session.'*

*'I can stay at home and study'*

*'I will have more time for research work for the module'*

Working at home was perceived to allow for more flexibility of time, place and pace of learning; students could work at their own pace during their spare time.

*'I can work at my own pace'*

*'I will be free to work on my own during my spare time'*

*'More flexible working time at home'*

*'We can use our own time and work at our own pace when having online sessions'*

*'The student is free to manage her study and time'*

Opportunities for collaboration, including peer exchange of ideas, offered by the flipped classroom approach was another perceived benefit.

*'I can share ideas with others'*  
*'I will have ideas and opinions from others on work to be done'*  
*'Online sessions can be more interactive than face to face session'*

A few students also reported technology-related benefits as they will be required to use an online learning environment.

*'I will develop my ICT skills to study'*  
*'The online session will allow me to have access to new technologies'*  
*'If I encounter any problem in relation to the module content, I can immediately conduct an online search'*

While few students reported technology-related benefits, technology-related and technical issues were more commonly reported as challenges.

*'If I have Internet connection problems, I will face difficulties with the online sessions'*  
*'Technical issues may crop up'*  
*'I do not feel comfortable using the Internet'*  
*'I do not have very good ICT skills.'*  
*'What to do if there is a power cut?'*

Other challenges were related to being exposed to an online mode of delivery and lack of independent learning skills.

*'To be online can be difficult'*  
*'I will have to keep pace of my learning'*  
*'I need to have good self-motivation to do my work online'*  
*'I need to find the time for reading and completing the online tasks'*  
*'I don't know if I'll be able to understand and use whatever information is given in the online session'*  
*'I will have to judge the online information on my own'*

### **Learning Experiences with the Flipped Classroom Approach**

Learning experiences of students with blended learning using a flipped classroom approach were gauged at the end of the course from analysis of data from the online activity logs, the online questionnaire and students' online learning journals.

#### **Online Participation**

The online activity logs revealed that students participated actively online. Over the course of 15 weeks, there was a total of 10, 705 hits from students (student range of 403-1603), that is an average of about 102 hits daily. Students' online presence was also noted for weeks that were delivered face to face. On average, students logged in at least 3 times per week, with the highest online activity on Sundays.

During weekdays, students logged in mostly after 8 pm. Online time was largely spent on viewing and engaging with instructional resources and learning activities.

### **Experiences with Online Learning Resources**

Analysis of the post-course online questionnaire revealed that students' had largely positive experiences with the online instructional resources (see Table 1). All of them felt that the resources were meaningful and useful, and they had devoted much time and effort in engaging with them deeply rather than superficially. They also felt that the resources helped them to better understand the topics and to tackle the face to face activities. The latter were considered to be an important motivator for engagement with the online resources. Most of them were able to keep up with the resources.

Qualitative data from the online learning journal support students' largely positive experiences with the online resources. Students expressed their appreciation about the different types of resources used as illustrated by the extracts from their journals. Resources were found to be interesting, enriching, credible and clear. Moreover, students felt that the resources would help them for completion of their dissertation, a major component of the BEd programme.

*'The topics given online were interesting and will help us in our dissertation.'*

*'The video clip given online was very clear.'*

*'The video clips provided as resources were very interesting and I have viewed them several times and now I think I would be able to identify credible sources of literature and start to plan and prepare my literature review for my dissertation.'*

*'The information given on websites are important as very often we do not know which are the good ones'*

*'The resources given were enriching, the information given in stages in research, stepwise points were clear and precise as it will enable me to carry out the literature review part of my case study.'*

Table 1. Students' Experiences with Online Resources from Post-Course Questionnaire (*SD*= strongly disagree; *D* = disagree; *N* = neither agree nor disagree; *A* = agree; *SA* = strongly agree)

	SD (%)	D (%)	N (%)	A (%)	SA (%)
The content of the online learning resources was meaningful and useful.	0	0	0	8	92
I devoted much time and effort when engaging with the online learning resources.	0	0	0	58	42
After engaging with the online learning resources, I felt more competent to complete the face to face activities.	0	0	0	25	75
After engaging with the online learning resources, I felt more competent about the topic.	0	0	17	33	50
I read all the online learning resources for meaning rather than superficially.	0	0	0	42	58
I was able to keep up with the online learning resources (readings, videos) throughout the module.	0	0	17	33	50
I did not face any technical issues to access the online resources.	8	17	17	50	17
Setting in-class/face to face activities based on the content of the online learning resources was necessary in maintaining my engagement.	0	0	0	33	67
The workload was appropriate for the online resources and activities	0	17	17	50	17

The main challenges reported by students were related to difficulties to accessing the online resources and the workload. Only 67% of students reported that they did not encounter any technical issue to access the technical resources and felt that the workload was appropriate. Poor and unreliable internet connection prevented a few students from readily accessing the online resources.

*'Having no internet access to complete my work during week eight has disturbed much of my organization.'*

*'At times, internet connection was not accessible.'*

Some students felt that the workload was too much for the week. They reported in their journals that there were too much to read. For some online sessions, the notes were found to be bulky and students could not understand all the relevant concepts.

*'You have sent too much to read for one week! I have tried to complete the reading before coming to class. At times I didn't feel like reading but I forced myself to complete everything as I wanted to feel at ease during the face to face session.'*

*'During week six there was much reading to be done to get prepared for week seven.'*

*'Lots of readings. On week 8/9, the notes were bulky. Sometimes, I was confused and lost with different concepts of the research. It took much time to grasp the information.'*

### **Experiences with Online Activities**

All the students reported from the online questionnaire that they had very much enjoyed the online activities and they had found the activities relevant and useful with clearly stated instructions and expectations (see Table 2). Most of them (92%) had devoted much time and effort in engaging with the activities. Their positive perceptions of the online activities are supported by statements from their online journals. The online quizzes were found to be interesting and suitable self-assessment tools.

*'The quiz given for self-assessment was interesting.'*

*'The quiz was suitable to check our understanding.'*

*'The online activity was very enriching as the short answer questions help us to reflect and to recall what i have learnt before during the online session.'*

The main challenge was related once more to poor internet connection.

*'I have not attempted for the quiz as my internet connection at home was not good.'*

*'The online database given by tutor was not easily accessible and at times, I was lost while searching information.'*

Table 2. Students' Experiences with Online Activities from Post-Course Questionnaire (*SD*= strongly disagree; *D* = disagree; *N* = neither agree nor disagree; *A* = agree; *SA* = strongly agree)

	SD (%)	D (%)	N (%)	A (%)	SA (%)
I enjoyed doing the online activities very much.	0	0	0	50	50
The online activities were relevant and useful.	0	0	0	25	75
Expectations and instructions were clearly stated for the online activities	0	0	0	17	83
I devoted much time and effort to engage with the online learning activities.	0	0	8	42	50

### Experiences with Face to Face Activities

Students' experiences with the face to face activities were largely positive (see Table 3). All of them enjoyed doing the activities very much and felt that the activities were relevant and useful with clearly stated expectations and instructions. They reported that the face to face activities have deepened their understanding of key concepts and have helped them to feel more competent about the relevant topics.

Although online activities were positively perceived by students, 67% felt that the face to face activities were more interesting. A large majority (75%) stated that they would have preferred to have more face to face sessions. However, the lecture approach was not favoured for the face to face sessions with only 17% reporting that a lecture approach in face to face sessions would have been more useful than engaging with the online learning resources and activities.

Students' positive perceptions of the face to face activities are supported by statements from their online journals. Besides providing opportunities to check one's understanding and clarify misconceptions, students highlighted benefits related to the nature of the face to face tasks which allowed for collaborative work, sharing of ideas and getting peer feedback to be used for self-assessment.

*'I found the f2f session i.e the class activities valuable in the sense that it gave me the opportunity to check my understanding and knowledge on the topics.'*

*'The face to face session was helpful as in group work we could talk to each other and better understand the concepts.'*

*'There was active participation and sharing of ideas among peers.'*

*'Being assessed by peers allowed us to accept positive criticism and carry out a self-assessment.'*

*'Misconceptions were cleared while doing the face to face activities.'*

Table 3. Students' Experiences with Face to Face Activities from Post-Course Questionnaire (*SD*= *strongly disagree*; *D* = *disagree*; *N* = *neither agree nor disagree*; *A* = *agree*; *SA* = *strongly agree*)

	SD (%)	D (%)	N (%)	A (%)	SA (%)
I enjoyed doing the face to face activities very much.	0	0	0	33	67
The face to face activities were more interesting than the online activities.	0	8	33	42	17
Expectations and instructions were clearly stated for the face to face activities/tasks.	0	0	0	25	75
The face to face activities were relevant and useful.	0	0	0	8	92
The workload was appropriate for the face to face activities/tasks.	0	33	0	33	33
After participating in the face to face activities, I felt more competent about the topic	0	0	0	25	75
Engaging with the face to face activities was very helpful in learning the content and deepening my understanding of key concepts.	0	0	0	17	83
I would have preferred to have more face to face sessions.	8	0	17	42	33
Face to face lectures would have been more useful than engaging with the online learning resources and activities.	8	25	50	17	0

The main challenge for the face to face activities was related to the workload as highlighted in the comment below.

*'It was sometimes difficult to keep track with the flow of the session as it was too bulky.'*

## Overall Learning Experiences

Findings from Table 4 support the earlier positive experiences with the flipped classroom. Most of them (84%) are willing to do other courses using the flipped classroom approach. Although most students (91%) enjoyed the new learning experience and felt comfortable with the new ways of learning, analysis of online journal reflections reveal that the flipped classroom approach may not be appropriate for all learners, especially those with poor independent learning skills.

*'I was very much motivated to engage myself in an online study environment which is a new strategy of learning'*

*'Despite having some drawbacks, online learning was as effective as the face to face ones. Time was indeed the major challenge for the online learning.'*

*'Having part of the course as online sessions was beneficial as we are part-timers and this helped us to manage our time.'*

*'I need to encourage myself to become an independent learner as I prefer the face to face session to the online session.'*

*'If I have to evaluate myself after several weeks I will say that I am a very bad independent learner. I prefer to come to the M.I.E weeks after weeks rather than having online session. I feel that I would have preferred more face to face sessions.'*

Table 4. Overall Students' Learning Experiences from Post-Course Questionnaire  
(SD= strongly disagree; D = disagree; N = neither agree nor disagree; A = agree; SA = strongly agree)

	SD (%)	D (%)	N (%)	A (%)	SA (%)
I am willing to do more courses using a flipped classroom approach.	0	0	17	42	42
I enjoyed the new learning experience	0	0	8	33	58
I felt comfortable with the new ways of learning	0	8	0	33	58



## Conclusions and Implications

Findings from the online questionnaire and the learning journal reveal that students generally had positive learning experiences with the flipped classroom approach. All students found the online learning resources, online activities and face to face activities relevant and useful. They reported devoting much time outside the classroom to engage with the online learning resources and the activities. The high online participation was supported by the online activity logs.

Students also participated actively in the face to face sessions and some found the activities to be more interesting than the online ones and wished to have had more face to face sessions. Despite students' greater satisfaction with the face to face sessions, most of them expressed their willingness to be engaged in additional courses involving the flipped classroom approach. Moreover, even though it was the first time that students were participating in a blended learning course, most of them felt comfortable with the new ways of learning.

The course design using cognitivist principles to guide the development and implementation of the online sessions and constructivist principles for the face to face sessions can largely account for students' positive learning experiences. The relevance and usefulness of the learning resources and activities (online and face to face) are also key factors contributing to students' positive learning experiences. The study findings support the embedding of online activities in the online (out-of-class) sessions rather than limiting these sessions to video lectures and text-based resources.

Although students had largely positive experiences with the flipped classroom approach, a few challenges were also noted. Poor and unreliable Internet access was a major barrier to engaging online with the learning resources and activities. High workload to engage with the online learning resources was also reported as a challenge. The workload issue was a greater challenge for students who reported having poor independent learning skills. Thus, when designing blended learning courses using a flipped classroom approach, due consideration should be given to students' access to technology, their IT skills as well as their independent learning skills.

In this study a relatively small number of students was involved in the flipped classroom approach. The effectiveness of the flipped classroom with larger groups of students warrants additional research. Moreover, the role of the teacher in the effective implementation of a flipped classroom needs to be further explored. The influence of students' conceptions of teaching and learning (transmissive vs. constructivist) on experiences with flipped classrooms also needs to be given greater consideration in future studies.

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***The Effectiveness of a Suggested Program Based on English Songs on Developing Primary School Pupils' Vocabulary, Grammar and Their English Language Learning Interest***

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**Abstract**

This study aimed at investigating the effectiveness of using a proposed program based on English songs in developing sixth year, primary school pupils' vocabulary, grammar and their English language learning interest. Thirty pupils were chosen from a large population enrolled in Raniah governorate primary school, Saudi Arabia.

The present study used a pre- experimental pre- post group design. The research group was exposed to pre and post means of getting data. Tools of the present study included a written test in the acquisition of the target vocabulary, a written test in the acquisition of the target grammar, a suggested program and a language learning interest questionnaire.

Analysis of the data by means of the "t" Test for both the pre- post tests and the questionnaire indicated significantly better post achievement gains. The researcher concluded that the proposed program had a positive effect on the pupils' acquisition of vocabulary and grammar and their English language learning interest was enhanced. Finally, the study carries important implications and suggestions for further research.

**Keywords:** *English Grammar, English vocabulary, Effectiveness, Language learning interest*

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## **Introduction**

Nowadays teaching methods and forms got through many innovative changes during a period of several years. Mass development of information and communication technologies, new education programs, multimedia technology. All these urge teachers to improve English language teaching and use amazing tools to make their teaching more motivational, funnier and effective.

According to Slattery and Willis (2006) motivating learners in education is considered to be one of the most important fields. Pupil's success in the educational process is not determined only by his innate abilities but also by other stimuli. The task of the teacher is to support and develop these impulses. Motivation is one of these stimuli. Motivation helps to develop pupils positively. Suitable motivational activities of teachers can increase and maintain pupil's interest in learning, particular subject or other learning activities.

In order to appeal to young learners' learning styles, Ara (2009) stated that songs, rhymes and games can be very effective tools for teaching children a foreign language. These tools can be used in children's classes to utilize their natural ability to learn a language. Children learn better through interesting activities and for this reason songs, rhymes and games are very useful tools for teaching them a foreign language.

Saricoban et al. (2010) maintained that songs contain authentic, informal language that is natural to the ear. Songs offer precious resources that develop students' abilities in listening, speaking, reading and writing. Songs appear at every stage as well as age of human growth from infancy to childhood and into adulthood.

Curtain (2004) stated that "the main factor in building foreign language proficiency is the amount of time spent for learning the language. He stated, "When language learning begins earlier, it can go on longer and provide more practice and experience, leading ultimately to greater fluency and effectiveness".

Ara (2009) added; although children have immense ability to learn a language, the methods and techniques of teaching children are not same as they are for adults and a wrong method of teaching could bring a totally opposite result.

Brewster (2004) indicated that children learn a second language better if they have more opportunities to be exposed to it. They also acquire a language by using all their senses and by getting fully involved. They feel motivated and learn better if a natural and stress free environment can be provided in the language class.

## **Teaching Vocabulary Using Songs:**

Songs are not only means of creating a relaxed atmosphere, interest, enthusiasm but they are also an excellent medium for teaching vocabulary and the melody of the English language. Learning vocabulary is one of the key elements in learning a foreign language and has always caused students difficulties. Thornbury (2002) stressed the importance of learning vocabulary by stating that "Without grammar very little can be conveyed, without vocabulary nothing can be conveyed.

Saricoban & Metin,(2010) added that songs contains a variety of vocabulary that can easily be adjusted to the appropriate age or level of learning. It is full of phrases and

expressions that will prepare children for using genuine language. The creativity of songs encourages the students' imagination and enables original learning.

Polio and Duff (1994) posited that "There are numerous things that can be taught to young children through songs that will remain with them throughout their lives and there are songs to be found about most elementary concepts like letters, numbers, colors, weekdays, months, seasons, body parts and clothes that will make the lessons full of life and excitement. These different concepts can be taught to young learners in simple and effective ways.

### **Teaching Grammar Using Songs:**

According to Scrivener (2003) grammar is not just a dry list of facts and rules. It is in our heads and it is a living resource that gives us the ability to communicate our ideas and Feelings and to understand what other people say or write to us.

Scott and Ytreberg (1990) posited that young children are wonderful in absorbing new language. They can get maximum of language through games and activities that they find funny. Their success in learning foreign language does not depend on their knowledge of grammar. They can use grammatical structures very well, they can speak language clearly, but they are not able to say why they use particular structure. Some pupils are able to deal with simple grammar at the age of ten or eleven. Teachers, of course, should be aware of grammar and structures that they want their pupils to know. But they should teach just a minimum of grammar and what is important, the older pupils only.

Songs have long been recognized as fun and child-friendly tools in both First and Second Language Acquisition. Phillips (1993) addressed teachers who teach grammar by saying it is very important to do it in context. For children it is necessary to have lots of opportunities and chances to use the new language in their real lives. Pupils have to learn new structures and rules in depth; they should feel that they can use what they have learnt for everyday communication.

Harmer (1998) stated that it is not easy to learn a new structure the first time pupils meet it. The more times pupils are exposed to the structure, the more sense it will give them.

### **Language learning interest:**

Almost all modern theorists agree that interest is a crucial stimulator for learning. Oxford and Shearin (1994) analyzed a total of 12 motivational theories or models, including those from socio-psychology, cognitive development, and socio-cultural psychology, and identified six factors that impact motivation in language learning; Attitudes, Beliefs about self, Goals, Involvement, Environmental support and Personal attributes.

Some of the researchers such as Liuoliene and Metiuniene (2006) and Dorniyie (2003) stated that Literature classifies interest and motivation into integrative and instrumental. Integrative motivation refers to having an interest not only in the language, but also in the community who speaks the language, a desire to stimulate

the culture as well as the language .Instrumental motivation, on the other hand refers to the desire for learning the target language to use it as a tool to achieve non – interpersonal purposes such as passing an exam or obtaining a job.

Hidi (2006) stressed that interest may serve to jumpstart the struggling reader in any subject area because when learners are interested they are attentive and focused. Hence students feel joyful while participating in the interesting activities; therefore it is important to motivate their learning activities and intend to provide suitable learning activities and intend to provide a suitable learning atmosphere with the attempt to help students reinforce their learning interest on English learning. Dornyei (2002) stated that the learner’s enthusiasm, commitment and persistence are the key determinant of success or failure.

Four factors that can be dangerous to the learners’ interest, according to Harmer (1991) are the following:

1. Physical condition which means the atmosphere in class.
2. Method of teaching which refers to the way that students are taught must affect their motivation.
3. The teachers as the most powerful variable of motivation and demotivation can become a major part in demotivating the learners.
4. Success refers to the appropriate level of challenge designed by the teachers.

Brinton (1991) stated that in teaching and testing English songs the following should be taken into consideration:

- 1- An EFL teacher does not have to be a good singer or musician to use songs in the classroom.
- 2- Every song should be pedagogically meaningful and purposeful.
- 3- It is very important to grasp the fundamental qualities and special traits of songs before we can make the best of them to meet our demands.
- 4- In selection and use of songs, we must take into account such factors as student backgrounds and relevancy to the course syllabus, and linguistic skills to be trained.

### **Significance of the study:**

As a supervisor of the teaching practice in many schools the researcher observed the following:

- 1- Most of the teachers take classes by sitting all the time and giving children instructions to write something. As all instructions are given in Arabic, children did not get any input of spoken English.
- 2- Teachers encouraged memorization rather than the creative production of English language.
- 3- Grammatical rules were explained without context although they were supposed to follow communicative language teaching.
- 4- Not a single attempt was made for fun activities in any of the classes.

Reviewing the literature as well as having informal interviews with teachers and staff members helped the researcher disclose some interesting facts and reach these points

and see the needs of the present study. Based on literature reviewed, it is clear that the majority of studies on the use of songs in teaching vocabulary and grammar were conducted on native speakers.

To the knowledge of the researcher, empirical studies on Saudi learners using songs in teaching vocabulary and grammar are rare. This makes it necessary to conduct a study on Saudi learners. Very few Saudi- teachers who may have the knowledge of using songs in teaching vocabulary and grammar, they find themselves shy to apply it in their classrooms and the same thing for the students. Some of them think using songs is against the teachings of Islam.

#### **Statement of the problem:**

The problem of the present study can be stated in the following major question:

What is the effectiveness of a suggested program based on English songs in developing primary school pupils' vocabulary, grammar and their English language learning interest?

#### **Questions of the study:**

- 1- What is English songs-based program? What does literature say about teaching using songs?
- 2- How can English songs-based program be effective in developing primary school pupils' vocabulary?
- 3- How can English songs-based program be effective in developing primary school pupils' grammar?
- 4- How can an English songs-based program be effective in enhancing primary school pupils' English language learning interest?

#### **Objectives of the study:**

The present study aims at answering the previously stated questions.

#### **Research Hypotheses:**

- 1- There would be a statistically significant difference between the mean scores of the pupils on the pre-post test of the acquisition of vocabulary favoring the post one.
- 2- There would be a statistically significant difference between the mean scores of the pupils on the pre-post test of the acquisition of grammar favoring the post test.
- 3- There would be a statistically significant difference between the research group pre-post scores on the language learning interest questionnaire favoring the post one.

#### **Research procedures:**

- 1- Reviewing the pertinent research and literature.
- 2- Introducing a theoretical background.
- 3- Designing the frame for the training program.
- 4- Preparing the program based on English songs.
- 5- Building up the acquisition test for vocabulary and grammar and the language learning interest questionnaire.
- 6- Judging the validity and appropriateness of the program, tests and the questionnaire, by a jury of TEFL specialists.



- 7- Piloting the tests, the questionnaire and some parts of the program on a small group of pupils to measure their reliability and validity and duration. Then, modifying the program, the tests and the questionnaire in the light of the jury opinions and the pilot study.
- 8- Administering the acquisition tests in the vocabulary and grammar for pupils of sixth year primary and the language learning interest questionnaire prior to the treatment (pre-testing) to assess the acquisition of the pupils in vocabulary and grammar and their language learning interest before teaching the program.
- 9- Administering the acquisition test and the language learning interest questionnaire after the treatment (post- testing).
- 10- Analyzing the data statistically.
- 11- Discussing the results obtained.

#### **Limitations of the study:**

- 1- This study was limited to 30 male pupils, Raniah governorate primary school, Saudi Arabia. The researcher chose the sixth year pupils for the following reasons:
  - a- Sixth year primary pupils are learning English for the first time.
  - b- They are coming from totally different stages of education especially in studying a foreign language, they receive general courses.
  - c- Sixth year primary pupils, Raniah governorate primary school, Saudi Arabia has never received any instruction in teaching vocabulary and grammar using songs.
  - d- Most studies assured the fact that pupils of this age (12-16) have a strong tendency to participate in dramatic activities and they always prefer to do that spontaneously. Curtin (2004), Ara (2009).
- 2- The program consists of sixteen lessons for both vocabulary and grammar.

#### **Lessons for vocabulary:**

- 1- Alphabetical letters.
- 2- Numbers.
- 3- Parts of the body.
- 4- Colors.
- 5- Family members.
- 6- Days of the week.
- 7- Times of the day.
- 8- Classroom instructions.

#### **Lessons for grammar:**

- 1- Pronouns.
- 2- Verb to be.
- 3- Article (a-an).
- 4- Question words. (Who, when, what).
- 5- Can.
- 6- Plurals.
- 7- There is
- 8- Present simple.

The instructional time amounted to two months.

**Definition of terms:****English Grammar:**

The American Heritage Dictionary of the English Language offers the following definitions:

- a. The study of how words and their component parts combine to form sentences.
- b. The study of structural relationships in language or in a language, sometimes including pronunciation, meaning, and linguistic history. The present study defines grammar as the ability of the pupils to form correct sentences grammatically.

**English Vocabulary:**

The American Heritage Dictionary of the English Language offers the following definitions:

1. All the words of a language.
2. The sum of words used by, understood by, or at the command of a particular person or group. The present study defines it as the words, phrases which help the learner to form a sentence, understand English or express himself in a right way.

**Effectiveness:**

According to El-Gammal (1994)" It is the ability to achieve desired goals and outcomes. This study defines it as the ability of the proposed EFL Music- based program to develop sixth graders vocabulary and grammar skills and also enhance their English language interest.

**A song:**

Oxford (2000) defined it as a short piece of music with words you can sing. The present study defines it as a set of nicely rhymed words, accompanied by music that is usually repetitive.

**Language learning interest:**

According to Hidi (2006) learners are interested when they attentive and focused, which often results in better strategy use, deeper levels of comprehension and more reliable retrieval of information. According to this research: "Language learning interest refers to enjoyment and desire that sixth year primary school pupils will get toward learning the English language through the use of a suggested program based on English songs."

**Material and Methods:****1-The Experimental Design:**

The present study started in the first term of the academic year (2011-2012) and lasted for two months. Four hours a week were devoted to teaching vocabulary and grammar using the direct method in teaching.

**2- Group of the Research:**

- a- The Pilot group: A group of the thirty six year primary pupils.
- b- The Main group: Thirty six year primary pupils in Raniah governorate, Al-Taif, Saudi Arabia was randomly selected to participate in the experiment.

**3- Variables of the Research:**

- The independent variable is: Training six year primary pupils, Raniah governorate, Al-Taif, Saudi Arabia in effective program based on English songs.
- The dependent variables are:
  - Pupils' acquisition of English vocabulary.
  - Pupils' acquisition of English grammar.
  - Pupils' English language learning interest level.

**4- Tools of the research:**

- a- Program based on English songs.
- b- The acquisition of English vocabulary test.
- c- The acquisition of English grammar test.
- d- The English language learning interest questionnaire.

**Designing the program went through the following procedures :**

- Preparing the frame work of the program: The frame work of the program included general and behavioral objectives, content areas, teaching tools, teaching techniques activities and evaluation items.
- Evaluating the frame of the program by a jury of TEFL specialists to decide how far objectives content areas, and evaluation tools suit each other and how far the program suit group of the study and then suggested modification has been made.
- Building the whole program.
- Judging the whole program by the same jury for its general form and content.
  - The content of the program included two parts; vocabulary and grammar. It contains sixteen lessons. Eight lessons related to vocabulary and eight lessons related to grammar. The program begins with general objectives and branches out into a number of behavioral objectives. Each lesson starts with a number of behavioral objectives and includes a guided practice and an independent practice. In each lesson the teacher models the strategy using the think aloud technique. The lessons end with evaluation exercises to assess pupils' progress. The researcher adapted the material of the program from different resources.

**Criteria of selecting the materials:**

According to Texas center for reading and language Arts (2000) there are certain criteria for selecting the material:

- a. Be at the students' level which means the students' ability to decode about 80to 90% of the words correctly.
- b. Have themes and supporting details.
- c. Have one main idea in the topic.
- d. Provide context that help students connect information.
- e. Familiarity of the topics to the pupils.
- f. Suitability for testing the vocabulary skills.
- g. Linguistic difficulty and length.

**Evaluation technique:**

Two types of evaluation were used in the present research: formative and summative. The procedures of formative evaluation consisted of a set of questions given to the pupils after each lesson to assess the pupils' acquisition. The second type of evaluation is summative it is considered the end of the experiment taking the form of the post administration of the tests and the questionnaire to assess the pupils' acquisition of vocabulary and grammar and their language learning interest.

**- Duration of the suggested program:**

Sixteen hours divided into 16 sessions, two sessions a week.

**- Instructional Aids:**

- A computer or a laptop was used.
- Classroom board.

**- Validity of the suggested program:**

Verifying the validity of the program, a copy of the objectives, the program, and the tools teaching techniques was submitted to a panel of jury to determine the face validity of the program and to decide on:

- Deriving and stating the general and behavioral objectives of the program.
- Judging the validity of the objectives by a jury of five staff members as for:
  - Linguistic stating of the items.
  - Belongingness of behavioral objectives to the general goals.
  - How far the objectives can be achieved.
  - How far the objectives suit the subjects of the study.
  - Appropriateness of the methodology used in the teaching.

**- Piloting the program:**

The researcher conducted a pilot study that lasted one month. The researcher implemented the first five lessons of the program. The pilot study aimed at ensuring the clarity of instructions, suitability of the linguistic level of the material to the subjects and determining the time the pupils need to complete each lesson as well as the approximate time needed for the whole program. Tools of the study were also administered to the pilot study.

**An achievement Test in the Acquisition of vocabulary:****Objectives of the test:**

It was designed to assess students' achievement level in the acquisition of vocabulary.

**Construction of the test:**

The test consists of 47 items. These items represent the specific objectives of the program.

**Procedures of designing the test:**

1. Identifying the objectives of the test.
2. Suggesting items of the test and judging them by jury members.
3. Modifying the test according to the jury members' suggestions.
4. Piloting the test to ensure the clarity of instructions, suitability of linguistic level to the subjects.

Pupils need 90 minutes to answer questions of the test. The items of questions as following: a - Blank-filling. b - Multiple-choice. c - Matching. d - Dialogues. e - Sentence making.

The former three types are mechanic drills aimed at the conceptual instill and habituation of the targeted vocabulary and grammar, while the other two are communicative types of drills aimed at enhancing students' active and natural use of the language learned from the songs.

**Reliability of the test:**

In order to establish its reliability, the test was administered to a pilot sample of thirty six year primary pupils one month later the test was re-administered by using the test retest method. The reliability coefficient of the test is (0.78).

**Instructions of the test:**

Test instructions are written in English and Arabic because it is the first time for them to be tested. They are brief simple to understand and free from any possible ambiguities.

**Scoring the test:**

Two scores were allotted for each correct answer.

**Time of the test:**

The average time of this test was (90) minutes.

**An achievement Test in the Acquisition of Grammar :****Objectives of the test:**

It was designed to assess students' achievement level in the acquisition of grammar.

**Construction of the test:**

The test consists of (27) items. These items represent the specific objectives of the program. The questions were selected on the bases of the following criteria:

- 1- Familiarity of the questions to the pupils.
- 2- Suitability for testing the grammatical skills.
- 3- Linguistic difficulty and length.

**Procedures of designing the test:**

- 1- Identifying the objectives of the test.
- 2- Suggesting items of the test and judging them by jury members.
- 3- Modifying the test according to the jury members' suggestions which were:
  - Repeating the songs more than one so that the pupils understand them and answer questions .
  - Replacing some difficult words with easy ones to suit the pupils' level.
  - Restating some sentences and questions in the test.

**Piloting the test:**

To ensure the clarity of instructions, suitability of linguistic level to the subjects and to determine the validity and reliability and time limit, results indicated clarity of instructions and suitability of test's linguistic level to the subjects. Pupils need (90) minutes to answer questions of the test. The items of the test are the same as in the vocabulary test.

**Reliability of the test:**

In order to establish its reliability, the test was administered to a pilot sample of thirty six year primary pupils one month later the test was re-administered by using the test retest method. The reliability coefficient of the test is (0.84).

**Instructions of the test:**

Test instructions are written in English and Arabic because it is the first time for them to be tested.

**Scoring the test:**

Two points were allotted for each correct answer.

**Time of the test:**

The average time of this test was (90) minutes.

**The language learning interest questionnaire:****Designing the questionnaire:**

To build the language learning interest questionnaire the researcher reviewed literature and previous studies that have dealt with language learning interest.

- Some modifications were suggested.
- The final version of the questionnaire after modification included nine statements.

#### **The pilot experiment of the questionnaire:**

The questionnaire was administered to group of thirty six year primary pupils in order to recognize the following:

#### **The validity of the questionnaire:**

The researcher used the following:

##### **Logical validity:**

That was based on following suggestions of a group of experts in the field and making required modifications in the light of their direction concerning :

- The suitability of the pupils for the purpose of the questionnaire.
- The elimination or modification of any ambiguous or any inappropriate statements,
- The addition of certain statements.

##### **Reliability of the questionnaire:**

The reliability coefficient was (0.83) which is significant at (0.01). Thus the reliability coefficient of the questionnaire was shown to be acceptable.

##### **Significance of questionnaire responses:**

The questionnaire responses were assigned the scores (1-2-3-4-5) to represent the items (strongly agree – agree- agree to some extent – disagree – strongly disagree).

## Findings and discussion:

### 1- Discussing First Research Hypothesis : Table (1)

**T – Test Results of the Mean Scores Obtained by Pupils on the Pre-Post test of the Acquisition of Vocabulary**

Administration	No. of Subjects	Means	Standard Deviation	Degree of freedom	"t" Value	Statistical significance
Pre	30	7.16	3.82	29	9.8	**0.01
Post		17.95	4.19			

Table (1) shows a comparison of the mean scores gained by the research subjects in the pre-post test of acquisition of vocabulary. The obtained "t" value (9.8) is significant at (0.01). This supports the first hypothesis and affirms that the pupils' acquisition of vocabulary underwent a considerable improvement as a result of being trained by the suggested program. This result is in agreement with a large number of studies conducted in the past decades as they revealed the relationship between acquiring vocabulary and English songs. Orlova (2008), Iliciukiene (2005), El-Hadidy(2003), Tharwat ( 2008). They recommended that songs should be included in TEFL for the following reasons:

- 1- Adding variety and enjoyment to the language lesson.
- 2- Improving pupils' pronunciation.
- 3- Presenting a topic, a language point, lexis, etc.
- 4- Providing a relaxed atmosphere inside the classroom.
- 5- Providing a variety and fun to learning.
- 6- Teaching vocabulary.
- 7- Teaching grammar.
- 8- Enhancing long term memory.
- 9- Helping teachers get closer to their pupils.



**Discussing the second research hypothesis:**

**Table (2)**  
**T – Test Results of the Mean Scores Obtained by Pupils on the Pre-Post test of the Acquisition of Grammar**

Administration	No. of Subjects	Means	Standard Deviation	Degree of freedom	"t" Value	Statistical significance
Pre	30	5.24	2.70	29	12.62	**0.01
Post		15.73	3.48			

Table (2) shows a comparison of the mean scores gained by the pupils in the pre-post test of acquisition of grammar. Comparing the results based on pre-post- test shows the pupils achieved a high significant degree of improvement in favor of the post- test performance. Mean scores of the pupils in on the post- test were significantly higher those on the pre- test. The obtained "t" value (12.62) is significant at (0.01). This supports the second hypothesis and affirms that the pupils' acquisition of grammar improved as a result of being trained by the suggested program. Therefore, it can be concluded that the suggested program highly affected the pupils' acquisition of grammar. This result is in agreement with a large number of studies conducted in the past decades as they revealed the relationship between acquiring grammar and using English songs. Scrivener (2003) and Brewster (2004)

**Discussing the third Hypothesis:**

**Table (3)**  
**T – Test Results of the Mean Scores Obtained by Pupils on the Pre-Post Test of the Language Learning Interest Questionnaire**

Administration	No. of Subjects	Means	Standard Deviation	Degree of freedom	"t" Value	Statistical significance
Pre	30	5.18	2.96	29	10.43	**0.01
Post		12.30	2.11			

Table (3) shows a comparison of the mean scores gained by the pupils in the pre-post test of language learning interest questionnaire. Mean scores of the pupils in on the post test were significantly higher those on the pre- test. The obtained "t" value (10.43) is significant at (0.01). This implies that the pupils' language learning interest was enhanced after they have received a program on English songs this was supported by some of previous studies. Campbell (2007), Slattery and Willis (2006) Dornyei (2003) ,Hidi (2006) ,Dornyei (2002).

### **Steps Followed in Teaching program**

The following procedures were followed the lessons:

- 1- Asking pupils to go through the main objects of the lesson.
- 2- Brainstorming the pupils to produce the most relevant known words.
- 3- Giving the pupils a short presentation about the content of the lesson.
- 4- Dividing the pupils into pairs to enable them to learn from each other, the pupils were supposed to demonstrate what he / she understands.
- 5- Asking the pupils to work in groups to dramatize, act the roles.
- 6- Asking the pupils to relax and speak naturalistically.
- 7- Asking the pupils direct questions to test their background.

### **Conclusion:**

Throughout the discussion of the results, it has become clear that training six graders primary pupils on a suggested program on using English songs in teaching vocabulary and grammar had a significant role in improving pupils' vocabulary and grammatical skills. This is reflected in the significant "t" value of the test as a whole. The program proved to be effective.

### **Recommendations:**

- 1- Using songs could be used in teaching EFL in all the stages of the lesson.
- 2- Training EFL primary teachers to use songs in their lessons. .
- 3 –Text books should be accompanied with CDs to encourage pupils and parents to use them at home.
- 4 -It is suggested that curriculum designers and practitioners rely heavily on materials that encourage using songs in teaching EFL.

### **Suggestions for Further Studies:**

- 1- Replicated the present study to be administered to a wide number of pupils.
- 2- Applying the research to students of prep school..
- 3- Empirical studies are needed to investigate if using English songs is influenced by personality factors (e. g. age, gender, learning style, etc.)
- 4- Determining the long term effect of training in effective English songs.
- 5- Empirical research is needed to examine the relationship between English songs and language proficiency.

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***From Conceptualization to Reflection: A Transnational Model for Preparing and Ensuring Robust Clinical Experiences in Teacher Preparation Programs***

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**Abstract**

The Association of Teacher Educators (ATE) suggests that “standards of practice for teacher educators should represent agreements about what teacher educators should think about, know, and be able to do (ATE, 2003). “Building knowledge about teacher preparation, as in any field of scholarly inquiry, requires ambitious and creative approaches to empirically examining causal relationships. It is very important to connect what occurs in preparation programs to the characteristics of their graduates, to the ways those teacher-graduates interact with their students, and to learning outcomes for those students” (National Research Council, 2010). The most important demonstration of this critical integration of academic content knowledge, pedagogy, subjects, the use of research-based, scientifically proven strategies and assessment practices, and the understanding of the culturally and linguistically diverse learning needs of students at various developmental levels is during the supervised clinical practice experience. Therefore, guiding teacher candidates in thinking about, planning, implementing and reflecting on their teaching practices require a systematic approach. This transnational model provides such an approach for ensuring robust clinical experiences for pre-service teachers as they navigate the journey from student to professional teacher. Although teacher preparation programs vary in design and developmental levels, this seven-step process for clinical practice addresses these differences and can be easily adapted for use with varying student populations across the globe.

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## Introduction

Teacher candidates must acquire and demonstrate that they have the professional knowledge, skills, and dispositions to interact successfully with diverse learning communities. Not only are colleges and universities expected to produce teachers to fit the mold of “highly qualified,” but they are also required to demonstrate that their education degree programs include extensive practical experiences for teacher candidates (NCATE, 2008, CAEP, 2013).

For early childhood teacher preparation, candidates must demonstrate knowledge and understanding of child development from birth through age 8 and the central value of play in the lives of children. They should be skilled in “academic disciplines or subject matter areas, including understanding of content/core concepts/ tools of inquiry, and applications in curriculum development” (NAEYC, 2001). However, it is through multiple early field and clinical experiences that “candidates are best able to translate knowledge into deep understanding and professional skills” (NAEYC, 2008).

Clinical practice experiences, the supervised internship in teacher preparation programs must be “carefully administered, sequenced, and supervised in all areas of the elementary curriculum” and should provide candidates with experiences in a variety of diverse settings. Candidates should also have a broad knowledge base, be adept at creatively using appropriate materials and resources, including technology, and should be able to collaborate effectively with other professionals in the field in order to enhance student learning (ACEI, 2002, 2007).

For candidates pursuing special education as a career path, the Council for Exceptional Children (CEC) requires that “all special educators are well-prepared, career-oriented professionals with the conditions that allow them to provide individuals with exceptional needs the most effective interventions and that encourage entering special educators to become career-oriented special education professionals” (CEC, 2002, Gersten, Keating, Yovanoff, & Harniss, 2001; Darling-Hammond and Baratz-Snowden, 2005). Demonstration of preparedness is observed through the clinical practice experience when aspiring special educators translate their theoretical knowledge base in practical situations.

This transnational clinical practice model for teacher candidates is one that is rigorous in many ways. First, it ensures that candidates acquire in-depth knowledge of all the critical academic content areas: English Language Arts, Mathematics, Science, Social Studies, the Arts, Health Education and Physical Education to teach all students. Teachers need to “understand subject matter deeply and flexibly so they can help students create useful cognitive maps, relate one idea to another, and address misconceptions. Teachers need to see how ideas connect across fields and to everyday life. This kind of understanding provides a foundation for pedagogical content knowledge that enables teachers to make ideas accessible to others” (Shulman, 1987).

Second, it ensures that teacher candidates acquire knowledge and skills in special education to meet the needs of diverse and exceptional learners. “Teaching in ways that connect with students also requires an understanding of differences that may arise from culture, family experiences, developed intelligences, and approaches to

learning” (Grimmet & MacKinnon, 1992). To help all students learn, teacher candidates need to think about what it means to learn different kinds of material for different purposes and how to decide which kinds of learning are most appropriate in different contexts. Teachers must be able to identify the strengths and weaknesses of different learners and must have the knowledge to work with students who have specific learning needs (Shulman, 1992).

A third area of rigor involves a series of early field experiences that precede the clinical practice experience to ensure that candidates know how to collaborate with school partners, design and implement multiple learning and assessment tools, including the use of technology, and engage in action research and supervised practice with individual and small groups of learners in diverse settings. “Teacher candidates get a more coherent learning experience when they are organized in teams with experienced teachers and college faculty. Experienced teachers deepen their knowledge by serving as mentors and teacher leaders. The early field experiences in partner schools help to create the synergy between theory and practice, while creating the move from the pre-professional to the professional role for candidates as they construct knowledge that is more useful for both practice and ongoing theory building” (Darling-Hammond, 1994).

Fourth, the model includes collaborative and interdisciplinary seminars and workshops to enhance candidates’ content, pedagogical and professional knowledge, skills and dispositions. Acquiring this sophisticated knowledge and developing a practice that is different from what candidates themselves experienced as students requires learning opportunities for teacher candidates that are more powerful than simply reading and talking about new pedagogical ideas (Ball & Cohen, 1996). Teachers learn best by studying, by doing and reflecting, by collaborating with other teachers, by looking closely at students and their work, and by sharing what they see. The interdisciplinary seminars provide this professional development experience for pre-service teacher candidates.

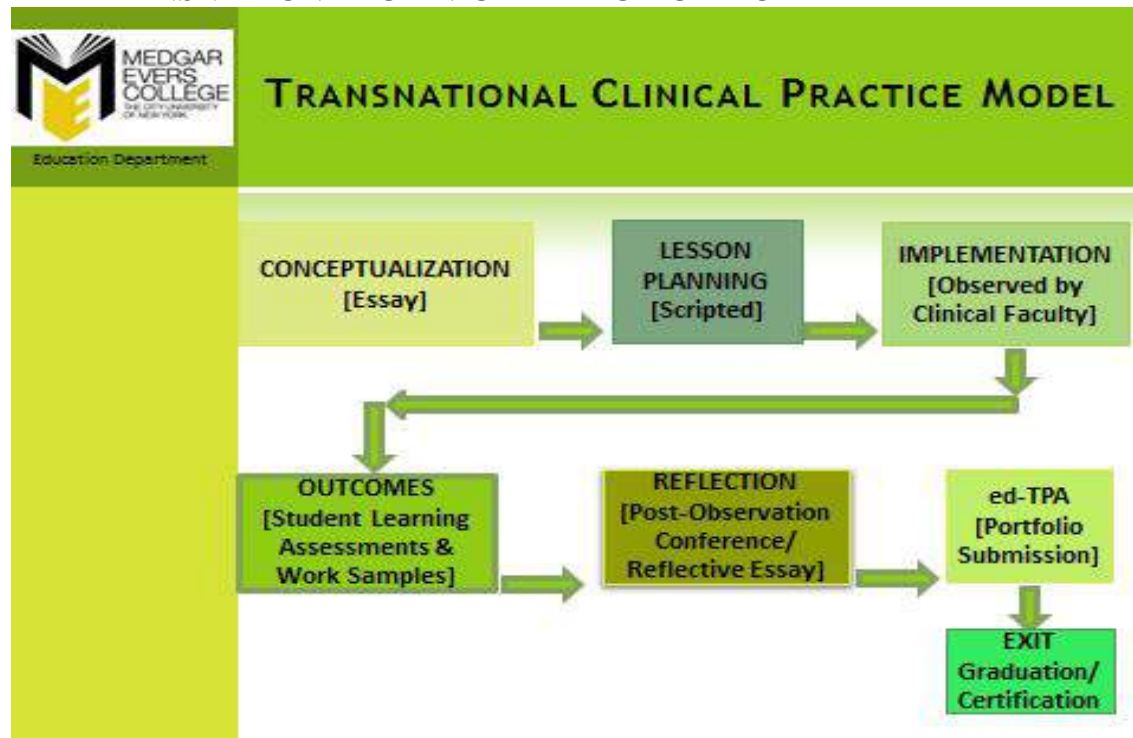
The pressure for enhanced teacher preparation is directed primarily by the results of performances on national assessments. However, teacher education and professional performance are much more complex than test scores. For students with disabilities, for example, the chances of achieving proficiency in academic content areas are even more daunting. Confounding the problem is the fact that most of the schools under review for failure to meet content standards are those schools identified as “high-need” – comprised of minority overrepresented groups of students – students with language differences and other socioeconomic disadvantages. The correlation between cultural competency and content knowledge and skills is evident. Medgar Evers College has addressed these issues in its teacher preparation programs and continually evaluates candidates’ ability to develop and teach developmentally appropriate, culturally and linguistically responsive lessons to students in urban schools.

The pinnacle of teacher preparation is the Clinical Practice experience, which emphasizes the integration of theoretical constructs, acquired knowledge, skills and dispositions into carefully structured supervised experiences that develop the proficiencies required for “highly qualified” teachers. This process provides opportunities for pre-service teacher candidates to engage in preparing and delivering



content-rich and standards-based academic instruction for diverse learners in inclusive and special education settings. To achieve this goal, candidates engage in a process that starts with *conceptualization* and ends with *reflection* to demonstrate what they know, understand, and can teach.

### THE TRANSNATIONAL CLINICAL PRACTICE MODEL



### Precursor to Instructional Planning and Delivery: THE CLASSROOM PORTRAIT

Candidates are required to submit a School and Classroom Portrait to their College Clinical Supervisor during the first week of Clinical Practice. This Portrait provides a snapshot of the setting in which candidates are student teaching and includes details about the school/setting, administration, community, student profiles, resources, and activities. More importantly, the classroom portrait provides information about the characteristics and needs of young children and students so that clinical faculty can accurately judge whether candidates are catering to all the diverse needs of their learners in their conceptualizing and planning of instruction. In addition, a technology inventory informs the clinical faculty and the candidate about the resources available to support their instructional practices or the need to provide additional technology resources, including assistive and augmentative technology to implement lessons. This section closely aligns with the *Context for Learning* segment of ed-TPA.

### Components of School and Classroom Portrait

- ✚ Demographics of School/Community
- ✚ Demographics of Classroom
- ✚ Special Characteristics of Students, Teachers, Families
- ✚ Technology Inventory

## **STEP 1: CONCEPTUALIZING ESSAY [ASSESSMENT PART I: PLANNING]**

During **Conceptualization**, candidates are required to articulate their knowledge of content garnered from general education liberal arts and sciences curriculum, education foundations, professional and pedagogical coursework, and discuss ideas for each observed lesson with the cooperating teacher. The Conceptualizing Essay and Lesson Plan are done simultaneously to comprehensively reflect the thought process used for planning instruction for diverse learners. On completing each conceptualizing essay and the lesson plan, the candidate submits these planning documents to their college supervisor who reviews their work, assesses it for readiness to implement and provides feedback to the candidate. The college supervisor uses a prescribed assessment rubric to evaluate the candidate's conceptualizing essay and lesson plan. This evaluation is also formally discussed during the pre-conference meeting between the college supervisor and the candidate to ensure that the candidate is confident about the lesson objectives and teaching points as articulated in the written planning documents, as well as to provide opportunities for clarity of any recommendations made by the college supervisor and cooperating teacher.

### **Components of the Conceptualizing Essay**

- ✚ The academic and non-academic content to be learned by the students
- ✚ The purpose and use of the content for students
- ✚ The Common Core Learning goals addressed in the lesson
- ✚ The Candidate's alignment with specialty professional Standards
- ✚ The Candidate's knowledge base that influences the lesson (courses, literature, theories, research-based strategies, etc.)
- ✚ Any special characteristics about the students that will influence how candidates develop and implement the lesson, e.g. ELL, disability areas, special accommodations, modifications, differentiation, etc.

## **STEP 2: LESSON PLANNING**

Teacher candidates are required to adopt an inclusive stance to planning instruction for their learners. By inclusive, the author posits that a combined focus on general education curriculum content (academic subject areas) as well as individualized curriculum goals (based on the individual learning needs of students) form the basis for instructional planning. The aim of each lesson is to ensure that subject area knowledge is adapted to meet the individual needs of all learners. A lesson plan format helps to guide candidates in addressing all the various components to consider when planning instruction for diverse learners with diverse abilities. This guide also serves as an audit for instructional planning in that it allows candidates to zero in on the key considerations for each lesson. The components of the conceptualizing essay and lesson plan are closely aligned with specialty professional association Standards and assessments to ensure robust practice.

## Feedback and Revisions

Prior to teaching an observed lesson, candidates meet with both their cooperating teachers and college supervisors to discuss their ideas for each lesson based on their classroom portraits, learning goals and curricula content to be covered by students in their respective settings. Using a **Planning Rubric**, candidates receive detailed and descriptive feedback from first the Cooperating teacher and then the College Clinical Supervisor on their lesson plans and conceptualizing essays. Candidates use this feedback to make adjustments or revisions before teaching each lesson.

### STEP 3: IMPLEMENTATION OF LESSON [ASSESSMENT PART II]

**PART II** of the clinical practice assessment includes **three subsections** that focus on: (a) **demonstration of culturally and linguistically responsive teaching skills**, (b) **application of developmentally appropriate academic content**, and (c) **candidate dispositions as they interact with students**. These dimensions are aligned mainly with CEC Skill-Based Standards from the CEC Initial Level *Skill Sets* in the Individualized General Education Curricula (IGC). During observation sessions, teacher candidates are evaluated by partner school cooperating teachers and college clinical supervisors on the dimensions listed below.

#### *(a) Demonstration of Teaching Skills*

**Teaching Students with Diverse Needs** - Candidates' lessons must reflect their awareness of the diverse characteristics presented by the students they are teaching and show that they are implementing adequate supports for them [**CEC 2: ICC2K1, ICCEK2**].

**Using Adaptations for Diverse Learning Differences** - Candidates' instructional delivery must show how they use individualization, differentiation, accommodations and modifications to meet the individual learning styles and needs of their students [**CEC 3: ICC3K5**].

**Using Effective Strategies to Promote Active Engagement in Learning**, including Technology-Enhanced Instruction – Candidates' lessons must highlight the use of evidence-based effective strategies, including the use of technology to teach requisite academic and nonacademic content. They must demonstrate their abilities to select, adapt and use these strategies efficiently to promote active student learning [**CEC 4: ICC4S3, 1GC4S1, IGC4S7, IGC4S10**].

**Practices and Behaviors of Developing Career Special Education Teachers** – Candidates' demonstration of teaching students with ELN must reflect their abilities to manage their classrooms effectively using positive behavioral intervention and supports, restating behavior expectations with students, and providing clear instructions for smooth transitions from activity to activity. Candidates must demonstrate positive teacher attitudes towards their students, other teachers and paraprofessionals in the classroom [**CEC 5: ICC5S1, ICC5S5, ICC5S15**].

**Effective Communication** – Candidates must model effective language with their students and use communication strategies and resources that promote student understanding of subject matter as well as enhance student communication skills,

including the use of alternative and augmentative communication systems, when and where necessary [CEC 6: ICC6S1, ICC6S2, ICC6S4].

**Using Effective Instructional Plans** – Candidates must show connections to the scope and sequence and identify the learning objectives they are addressing in their lessons based on NY Content Area Curriculum. Their lessons must reflect adaptations of instruction and environment, and incorporation of instructional and assistive technology as needed to meet the individual needs of their students [CEC 7: ICC7S1, ICC7S9, ICC7S11, ICC7S12, ICC7S13, ICC7S15, IGC7S1, IGC7S2].

**Using Appropriate Assessments for Instruction** - Candidates must demonstrate their use of Curriculum-Based Assessments, as well as informal assessments throughout their lessons to monitor students' understanding and mastery of subjects. They must show how they use assessment results, such as anecdotal notes to inform and guide their instruction, and provide feedback to students [CEC 8: ICC8S2, ICC8S4, ICC8S8; IGC8S3].

**b) *Content Area Knowledge and Skills***

**Application of Developmentally Appropriate Academic Content**

Teacher candidates must demonstrate proficiencies in teaching academic content to students with diverse learning needs. As such, they must show how they integrate and adapt instruction, assessments and environments, including making appropriate modifications and accommodations to meet the individual needs of their students. These considerations are aligned mainly with specific elements from the Individualized Common Core and General Curriculum of CEC Standards 4 – Instructional Strategies, 7- Instructional Planning, and 8-Assessment. Candidates must demonstrate and are evaluated on their abilities to teach lessons in the following four academic content areas, including the use of instructional and assistive technology:

**(i) English Language Arts** – Candidates must demonstrate the use of reading methods that are appropriate for students with disabilities (IGC4S4) and guide students in identifying and organizing critical information (IGC4K7). They must teach students to use important concepts, vocabulary and content across the general curriculum (IGC4S13) and use strategies and techniques to strengthen and compensate for any deficits in perception, comprehension, memory and retrieval (IGC4S11). When teaching ELA content, candidates must demonstrate the use of systematic instruction to teach accuracy, fluency, and reading comprehension as well as writing (IGC4S14, IGC4S16). CSE candidates must evaluate their teaching of ELA and show how they are monitoring the progress of their students during and after teaching each lesson (ICC8S8).

**(ii) Mathematics** – The main objective of teaching mathematics to students is to increase their accuracy and proficiency in math calculations and applications (IGC4K6), and as such, candidates must demonstrate the use of appropriate methods to teach mathematics to students with ELN (IGC4S5). Candidates must use appropriate adaptations and technology (IGC4S7), use responses and errors to guide instructional decisions and provide feedback to students (IGC4S12), and use task analysis approaches (ICC7S5) when teaching mathematics content to students with ELN. Candidate must demonstrate ways that they are evaluating and modifying instructional practices in response to ongoing assessment data (ICC7S15), and show

their modified and differentiated individualized assessment strategies that they use to evaluate instruction and monitor progress of their students with exceptional learning needs (ICC8S4, ICC8S8).

**(iii) Science** – In teaching science content, candidates must demonstrate their abilities to select, adapt, and use instructional strategies and materials according to the characteristics of their students (ICC4S3). They must use appropriate adaptations and technology (IGC4S7), and identify and teach essential science concepts, vocabulary, and content across the general curriculum (IGC4S13). Candidates must demonstrate the use of task analysis (ICC7S5), and prepare and organize their materials to implement science lesson plans (ICC7S11). Candidates must develop, modify and use individualized assessment strategies to accommodate the unique abilities and needs of individuals with exceptional learning needs (ICC8S3), and evaluate instruction and monitor progress of their students during their lessons (ICC8S8).

**(iv) Social Studies** – Candidates must demonstrate their abilities to select, adapt, and use instructional strategies and materials to teach social studies content based on the characteristics of their students (ICC4S3). They must show that they are able to develop and select instructional content, resources, and strategies that respond to cultural, linguistic, and gender differences (ICC7S8), use appropriate adaptations and technology (IGC4S7), and identify and teach essential social studies concepts, vocabulary, and content across the general curriculum, including teaching students about diversity (IGC4S13). Candidates must prepare and organize their materials to implement social studies lesson plans (ICC7S11) so that all students are purposefully engaged in the lessons. Candidates must evaluate instruction and monitor progress of their students during their lessons (ICC8S8).

**(c) Candidate-Student Interactions: Dispositions Assessment**

Candidates are also assessed on 13 dispositions to evaluate their competencies in working with diverse students. The disposition competencies are aligned with CEC Standards 4 and 5, but specifically to elements in the Core Curriculum and the Individualized General Curriculum. Elements in Standard 4 that are addressed assess candidates' modeling of self-assessment, problem-solving and critical thinking strategies as they teach students to use these techniques (ICC4S2) and their ability to modify the pace of instruction and provide organizational cues for students (IGC4S6). Candidates are required to demonstrate the use of student responses and errors to guide their instruction and provide timely feedback to students (IGC4S12). In reinforcing effective candidate-student interactions during instruction, elements of Standard 5 are assessed. Candidates must ensure safe, equitable, positive and supportive learning environments by giving students equal turns (ICC5S1), encourage active participation in individual and group activities by providing individual help, affirming students' correct responses, giving praise and citing the reasons for praise, and teaching students how to give and receive meaningful feedback from others (ICC5S4; IGC5S4). Candidates must model respect and use skills to resolve conflicts (IGC5S5), and create an environment that encourages self-advocacy, positive intracultural and intercultural experiences for students by listening to them and accepting their feelings (ICC5S9, ICC5S13). College clinical supervisors and cooperating teachers provide adequate feedback on dispositions to candidates so that they can continually grow into their professional roles as teachers.

## **OBSERVERS' FEEDBACK – POST OBSERVATION CONFERENCE**

A post-observation conference with the candidate, cooperating teacher and the college clinical supervisor is held immediately after each observed lesson to provide timely feedback to the candidate regarding professional demonstration of instruction. Following this conference, candidate must **submit reflections on student outcomes** based on assessments used during lesson implementation, including **samples of student work** and **data tables**. Candidates must also **write a reflective essay** that summarizes the practical experience and their self-evaluation of their instructional delivery.

### **STEP 4: OUTCOMES [PART III: STUDENT LEARNING OUTCOMES].**

Candidates are required to use assessment data and feedback from observers to reflect on their practices as teachers of students with diverse learning needs. **PART III** of the Clinical Practice Assessment focuses on Outcomes of each observed lesson and reflection on student learning. Candidates must show how the students' performance data tables from the evaluation of each lesson taught inform them about what children know, learned and need to practice more, about which children master the content taught, which ones are getting it but need more practice, and which students may need a re-teaching of the concept. Candidates' extension activities are included so that students gain more opportunities in and beyond the classroom environment to generalize and maintain knowledge of concepts learned. Teacher candidates in conjunction with their cooperating teachers continue to review and incorporate prior knowledge in subsequent lessons to monitor students' progress and to ensure that all students master the content.

By engaging in the above activities, **CEC Standards 4, 8, 9 and 10** are further addressed in candidates' assessment and reflections on student work, and on their self-reflections for all lessons taught. Having collaborated with their cooperating teachers and, sometimes, grade level curriculum teams (CEC 10: ICC10S9, IGC10K4), candidates must discuss how their assessments confirm children's learning, how children varied in their responses to the assessments and why, and provide possible revisions to the assessments given the results and their own thoughtful critiques (CEC 8: ICC8S5, ICC8S7).

In their overall self-reflections, candidates are required to reflect critically on lessons taught to consider how to provide more productive learning opportunities for children and how to shape their own teaching to do so (CEC 9: ICC9S8, ICC9S9, ICC9S11). They must consider in these reflections how the children in their classrooms differ and how that knowledge informs them about using families, colleagues and the larger school community, as well as the larger surrounding community to support children's learning (CEC 4: ICC4S4).

### **STEP 5a: REFLECTIVE ESSAY [PART IV: REFLECTION]**

Teacher candidates are required to reflect on the outcomes of each lesson. In their reflective essay, candidates discuss the outcomes of the lesson in relation to how they conceptualized and implemented it. They reflect on the feedback from their cooperating teacher and clinical supervisor during the post-observation conference as well as their own feelings about what worked and what they could have done differently. Candidates analyze the student performance data to further understand the impact of their instruction on student learning. They discuss how they will use this information to enhance their own practice and improve student learning in future lessons (CEC 9).

In addition to reflecting on their own teaching and student outcomes, candidates also reflect on other dimensions that influence their clinical experiences, including classroom management practices, their dispositions and their collaboration with classroom personnel. As special educators, teacher candidates are required to demonstrate their ability to work collaboratively with other professionals and support personnel to ensure that all children have appropriate and adequate support and guidance during instruction (CEC 10). They must also demonstrate the appropriate dispositions to promote social learning and engagement among students and show that they know and can use research-based behavior management strategies to maintain a positive learning environment (CEC 5).

### **STEP 6: TEACHING VIDEO [ed-TPA Submission]**

One of the most authentic assessments of instructional delivery and its impact on student learning is through the review of videotaped lessons. From 2007, this model emphasized this element of teacher preparation as part of the reflective process. CEC Standards 3, 8, 9 and 10 are further addressed in candidates' assessment and reflections on student work, and on their self-reflections for all four lessons taught. Having collaborated with their cooperating teachers and, sometimes, grade level curriculum teams, candidates must explain how their assessments confirm children's learning, how children varied in their responses to the assessments and why, and provide possible revisions to the assessments given the results and their own thoughtful critiques.

In their overall self-reflections, candidates are required to reflect critically on lessons taught to consider how to provide more productive learning opportunities for children and how to shape their own teaching to do so. They must consider in these reflections how the children in their classrooms differ and how that knowledge informs them about using families, colleagues and the larger school community, as well as the larger surrounding community, to support children's learning.

Candidates are required to videotape two lessons they conduct over the one-year experience of Clinical Practice. In the past, the videos were watched only by candidates and their college supervisors. During January, 2008 semester in which candidates attended winter intercession workshops provided through a US Department of Education Office of Special Education Programs (OSEP) grant, the videos were used as a way to reflect on the first semester of clinical practice before candidates proceeded to their second semester-long experience. There was great

success with this, and this practice was incorporated into the model so that this video critique and deconstruction became a regular part of all candidates' learning.

Videos are accompanied by a copy of the candidates' lesson plans, so that candidates can talk about and reflect on the relationship between planning and implementation. However, the entire video is viewed so that candidates can talk about motivation in learning, classroom climate, lesson and demonstration effectiveness, and dispositions. Candidates also learn how to talk critically about teaching and learning. This kind of critique is used constructively to improve teaching, not to destroy the confidence of the candidate. All of this has had a positive effect on how well candidates are learning to teach: viewing videos together brings out the areas for explicit assessment, so that everyone is privy to this knowledge and candidates are exposed to how their peers teach. Such knowledge assists their own teaching by providing positive models and ways to reimagine what candidates already can do.

### **STEP 7: PROFESSIONAL PORTFOLIO PRESENTATION AND EXIT CONFERENCE**

The Exit process is the informal discussion between each candidate and clinical faculty about the overall clinical experience and includes the candidate's evaluation of placement sites and their cooperating teachers. It is where candidates provide evidence of their knowledge, skills, and dispositions related to professional practice of teaching and learning. They review their lesson packets, student outcomes data, the feedback from cooperating teachers and clinical faculty, their prior reflections on the observed lessons and write a new reflective essay of their growth in the professional field. This self-evaluation also includes their assessment of how they met professional standards based on their respective specialty organizations, always with the constructive eye on lessons learned and areas for improvement.

### **CONCLUSION**

The *Conceptualization to Reflection* Transnational Clinical Practice model for teaching diverse students has proven to be a useful tool in the evaluation of teacher candidates' knowledge, skills and dispositions in the following ways:

1. It shows candidates' ability to think deeply about appropriate and effective instruction for diverse learners;
2. It shows candidates' own knowledge of subject matter as they prepare lessons in all critical academic content areas;
3. It shows candidates' ability to connect theory to practice as they utilize some of the scientifically proven approaches and research-based strategies for teaching all students, including students with various disabilities;
4. It reflects candidates' attitudes towards teaching students in various settings and under practical, real-life circumstances; and
5. It reflects candidates' ability to work collaboratively with others in the entire school community to meet the needs of ALL students.

With the recent adoption of ed-TPA (2013) as a New York State requirement for initial teacher certification, this model was well ahead of the curve in adopting frameworks for assessing effective teaching. Candidates will already have had the



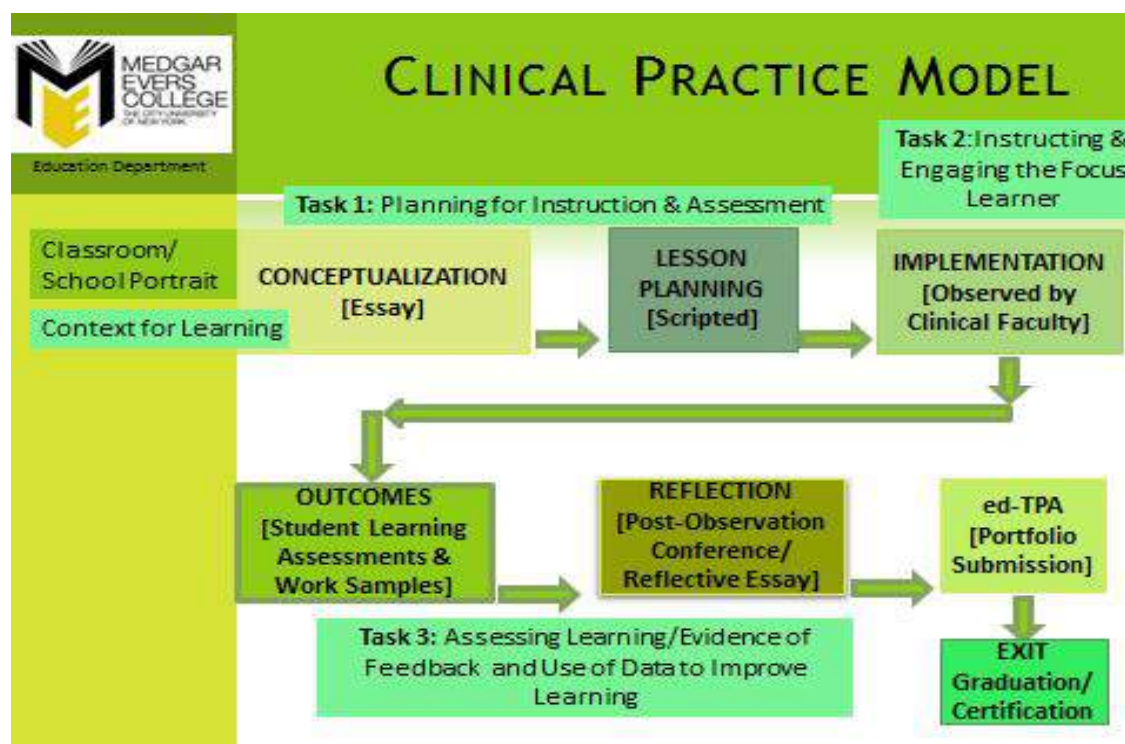
experience of conceptualizing and contextualizing the art of teaching, receiving and giving constructive critique and engaging in reflection on and about their formal evaluations of their teaching. These practices have led to increased recruitment, hiring and retention of dual-certified teachers graduating from Medgar Evers College into “high need” public and charter schools serving diverse students, including English Language learners and students with disabilities.

According to Ronfeldt (2012), “Teachers who learned to teach in field placement schools with higher proportions of black, poor, and low achieving students were no more or less effective as permanent teachers, nor likely to remain teaching in NYC schools.” However, the College’s emphasis on serving these underserved groups contributes to the consistent pattern of recruitment and retention of its teachers in Central Brooklyn and environs. From 2008 to 2013, 90-95% of graduates gained employment in urban schools and retained their positions, while 80-85% continued graduate studies towards the professional licensure and tenure track. MEC’s teacher candidates reflect the characteristics of the students they serve and bring to their practice the first-hand knowledge of the students they serve and provide the cultural responsiveness to teaching them.

The *Conceptualization to Reflection Clinical Practice* model was piloted in 2004 and was tested and revised over the years as feedback from cooperating teachers, partner schools, candidates, clinical faculty and professional accreditation organizations helped to refocus and refine the assessment instruments. The result of this continuous improvement in the clinical practice experiences for teacher candidates is a very intensive and comprehensive process that takes teacher candidates *from conceptualization to reflection* over a one-year period of on-site supervised teaching practice, working with diverse learners in different settings in urban schools.

This model shows a very close alignment with the new ed-TPA framework for teacher certification in some US States, including New York State, as it includes all aspects of the requirements for effective preparation, thereby providing validation for this model as a “best practice” (see *Figure 2*). Moreover, recent editorial reviews of this model (*American Journal of Educational Research, 2015*) agree that it can be easily adapted to satisfy the clinical requirements for teacher education programs, since it takes into account and pays particular attention to first identifying the complex and diverse needs of today’s learners, and uses this information to create positive learning experiences for both students and beginning teachers.

*Figure 2: Alignment of Transnational Clinical Practice Model with ed-TPA Components*



More importantly, what began as a unique departmental process has morphed into a transnational model since it was tested in many different settings in a State and City with the most diverse student population, including students with a wide range of developmental, learning, social, economic, cultural and linguistic differences. Understanding and knowing how to connect pedagogy and culturally different learning styles positively impacts students both socially and academically (Gay, 2002). Therefore, this Transnational Clinical Practice Model has valuable implications for teacher educators, clinical supervisors and cooperating teachers as they share the responsibility for shaping culturally and linguistically responsive teachers for schools across the globe.

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***The C.L.E.A.R. Framework for Successfully Educating and Empowering Diverse Student Populations***

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**Abstract**

Breaking the visible and invisible barriers that impede the success of school-age children of racially and linguistically diverse communities requires that we have a clear framework that allows for their academic and holistic success. The C.L.E.A.R. approach is a culturally responsive framework designed by this author, based upon a yearlong qualitative research study of urban youth of color. This model was designed and based upon teachers' best practices of student learning, engagement and overall success. C.L.E.A.R. represents (C) culturally relevant pedagogy (Gay, 2010; Ladson-Billings, 2009); (L) listening to students' voices and needs deeply and meaningfully; (E) empowering excellence continuously and consistently, (Hilliard, 2006; Ladson-Billings, 2009); (A) assessing students' thinking, knowledge, and understanding, (Darling-Hammond, 2010) and; (R) implementing routines and structures to create a learning environment conducive to academic, social, and emotional success (Noddings, 2005). The C.L.E.A.R. model asserts that these are critical components for developing instructional materials and sustaining successful learning communities for racially and linguistically diverse students.

**Keywords:** Culturally responsive; diversity

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## Introduction

Breaking the visible and invisible barriers that impede the success of school-age children of racially and linguistically diverse communities requires that we have a clear framework that allows for their academic and holistic success. The C.L.E.A.R. approach is a culturally responsive framework designed by the author, based upon a yearlong qualitative research study of urban youth of color. This model was designed and based upon teachers' best practices of student learning, engagement and overall success. C.L.E.A.R. represents (C) culturally relevant pedagogy (Gay, 2010; Ladson-Billings, 2009); (L) listening to students' voices and needs deeply and meaningfully; (E) empowering excellence continuously and consistently, (Hilliard, 2006; Ladson-Billings, 2009); (A) assessing students' thinking, knowledge, and understanding, (Darling-Hammond, 2010) and; (R) implementing *routines* and structures to create a learning environment conducive to academic, social, and emotional success (Noddings, 2005).

The C.L.E.A.R. framework stems from a research based after school learning program titled Kamili Ville, a year long African centered afterschool program designed for urban youth of African descent. Kamili is a holistic model, which espouses five elements of the whole self: ancestral, spiritual, social, mental and physical. This model allows for the full development of students, as opposed to narrowly focusing on the mental self. If practitioners desire comprehensive results, our approach but reflect a strength based and holistic frame.

## Getting C.L.E.A.R.

The C.L.E.A.R. model asserts that these are critical components for developing instructional materials and sustaining successful learning communities for racially and linguistically diverse students. The framework provides educators, and practitioners, who seek assistance in affectively educating all children a practical conceptual frame to support and develop academic success and overall wellbeing. Research findings demonstrated that, when employed, the framework created a safe and equitable learning space that allowed for self-expression, self-efficacy, engendered hope and optimism and provided transformative healing to children of color (Johnson, 2011). Educators can employ the C.L.E.A.R. approach to increase instructional effectiveness and enhance their daily and general pedagogical practices. Students can greatly benefit from this approach and receive an education that empowers them to see themselves as relevant and valid in school curricula programming and in their overall education.

The C.L.E.A.R. framework supports teachers' pedagogical development and seeks to increase student learning. Comprehensively stated, it provides: 1) critical components for developing instructional materials and sustaining successful learning communities; 2) strategies to educators and practitioners who seek assistance in effectively educating all children; 3) educators and practitioners a practical conceptual frame to support and develop academic success and overall wellbeing; 4) an approach to increase instructional effectiveness and enhance daily and general pedagogical practices; 5) students with an education they can greatly benefit from as this approach empowers and allows students to view themselves as relevant and valid in school curricula programming (Gay, 2010; Ladson-Billings, 2009); 6) a holistic paradigm

(Akbar, 2007) for practitioners working with racially, ethnically and linguistically diverse populations and (7) gives clear, specific, trans-contextual elements to include when educating students. Table 1 below illustrates the C.L.E.A.R. framework, along with how it was utilized in Kamili Ville.

**Table 1**

*C.L.E.A.R. Framework*

C.L.E.A.R. Component	Empirical Evidence Through Kamili Ville
C—Culturally Relevant Pedagogy	Specific use of an African-centered model for urban African youth
L—Listening to our students and showing them continuous care. This helps to affirm their self-worth. Our children need to know that we can hear them and learn from them.	Kamili provided the space for students' voice within a caring community. Students were able to engage in a conversations ranging from pop culture to provocative dialogues on life, love, spirituality and their role and location in the community and the world.
E—Empowering Excellence	Taught lessons that allowed students to see images of their ancestors as mighty people as well as provided current images and lessons of African youth who are making successful contributions to society. These lessons empowered students to envision themselves as successful people.
A—Assessment	Assessed student thinking and understanding through formative methods such as journal writing, surveys and conversations. Doing a research project also served as a summative assessment as students engaged in an in-depth project that assessed various academic skill sets.
R-Routine and Structure	Students meditated prior to the homework help portion of Kamili every time we met. During the enrichment session of Kamili everyone present read the Kamili Creed. This meant that visitors also read the Creed if they were in the room. There were other routines such as journal writing and whole group share that became routine practices in Kamili.



## **Findings and Implications**

### **C-Culturally Responsive Pedagogy**

Lack of self-knowledge is a powerful destructive tool. Students are acutely aware of the marginalization and exclusion of their ancestral history from school curricula. Kamili students expressed the hurt, confusion and anguish this caused. One Kamili student noted, *“They need to have more programs like this. I think that would be good because a lot of students across the country and around the state they don’t know enough about themselves...”*

Using culturally responsive pedagogy to build ancestral knowledge and understanding, as well as knowledge of self, helped develop positive racial and cultural esteem. One participant explained, *“Sometimes when people are...insecure about themselves they tend not to participate in class and they tend not to work their hardest or do the best they can do, because they’re so worried about their insecurities and what people are gonna say about them. And socially it’s a horrible experience.”*

### **L-Listening to students’ voices and needs deeply and meaningfully**

The Kamili research project found that relationships and safety matter to students of color. Educators, parents and practitioners can either nurture or negate students’ holistic needs based upon the rapport and environment that is established. Learning environments must be conducive to self-expressiveness and give voice to students. A participant elaborated, *“express yourself and... how you really feel and be yourself around people...so I think that Kamili is a way for us to express ourselves and act like we are human beings. At first I didn’t know that I could just like be myself and it would come out as such a good like reward to being yourself. It is a way to express yourself and a way to umm celebrate like your culture and express yourself and write down like your true feeling.”*

### **E-Empowering Excellence**

Practitioners must model and demonstrate excellence consistently and continuously. In and out of the classroom teachers must show racially and ethnically diverse students positive images and examples of successful adults of color. Nurturing the mental self and developing critical thinking skills builds self-efficacy. As noted by one Kamili student, *“It [Kamili] taught me kinda how to stand up for myself a little bit more, but without being violent about it...I feel like more, like I walk a bit bigger and I have more pride because I know where I came from cause I really didn’t know that and I, and I know that um that our people are like super important.”*

### **A-Accessing and Assessing students’ thinking, knowledge, and understanding.**

There is power in (de) constructing knowledge of self and cultural identity as it allows students to transcend the paradox of African identity (or other racial/ethnic minorities) in the urban U.S. One Kamili student stated, *“[Kamili] has made me more confident about myself because... I used to come in here like with low [self-esteem]. I would always felt bad about myself... I would always criticize...every detail about me... there is something wrong and Kamili has changed that, cause Kamili [taught me that] even though you are different you make mistakes you can learn from them.”*

### **R-Routines and Structure**

One of the most troubling issues affecting urban youth of color is the ability to hope and envision themselves as successful people within an oppressive society. Creating routines and structure that gives space for students to center themselves and attend to their emotional needs, trans(form)s their consciousness and gives them the ability to hope and envision an optimistic life. Daily Kamili students would sit quietly upon entering, this was a time of mindfulness. In addition, we would recite the Kamili Creed, which grounded students and reminded them of the expectations and guidelines for our program and for leading a positive healthy lifestyle. Such routines and structure created an environment of clarity and cooperative learning. Poignantly one student said, *“Kamili Ville is like a place where we talk about things that happen in the world and how they affect us and then how it changes us and how we can fix ourselves so we can represent our community.”*

### **Conclusion**

Employing the C.L.E.A.R. method can enhance practitioners’ pedagogical practices as this model helps to ensure a safe and equitable classroom where students’ holistic needs are nurtured and developed. In addition, school leaders can also use this model to create a rich and equitable school culture and climate. Teachers who wish to be effective should employ the C.L.E.A.R. principles in their instruction, intention, planning, and implementation of their daily lessons and curriculum units. In turn, their students will benefit from being given tasks with C.L.E.A.R. principles, in which they understand the objectives and purpose of the lessons in which they are engaged.

It is important that practitioners reflect on their own practice and examine how this work might impact all youth who struggle with various aspects of identity. C.L.E.A.R. can be used as a model for educators and activists who wish to bring about transformation and deep-seeded change.

Practice, theory and research involving youth of color must : 1) Empower students and take a strength based approach; 2) Be holistic and attend to students’ mental, ancestral, physical, social (emotional), and spiritual selves; 3) Incorporate students’ culture and cultural learning styles; 4) Be C.L.E.A.R. There is depth of genius that is often hidden in our young people. When healing communities of love and care are created, youth feel empowered to express their deepest desires, fears, and goals. The shame and self-loathing that plague so many of our youth can be reduced and eventually eradicated through a holistic African worldview that validates their ancestral history and heritage. Youth of color will feel secure in who they are physically, mentally, and socially when their ancestral history is taught and their spirits are developed and set free. Self-liberation and actualization will not be possible in urban schools until the whole child is nurtured. Without this component, transformation and change will remain a distant vision.

I invite readers to do a reflective read of this work as the concepts extend beyond African and urban communities. All students need to feel safe; thus, one can utilize lessons learned from Kamili Ville—a holistic, African-centered program—to create transformative change and help others in a journey of self-love and liberation. We have the power to make choices that empower and create revolutionary transformation.

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***Teaching Beyond the Borders: Using the ELT Classroom to Raise Students Social Awareness***

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"Human existence depends upon compassion, but curiosity and knowledge without compassion is inhuman and compassion without curiosity and knowledge is ineffectual"

Victor Weisskopf, A nuclear physicist.

## **Introduction**

In our time where war prevails and women and children suffer different faces of abuse and when the environmental conservation needs the awareness of citizens, the need is urgent to modernize our approaches while teaching to solve these dilemmas. The English language teachers are in a unique position to promote the idea of global citizenship through their work (Wilkins, 2000; Alakkawi, 2012). The present study suggests a way to teach writing interactively to enhance the students' awareness of their responsibility as citizens. It relies on the civic values as a meaningful, realistic content since research (Wilkins, 2000; Dorfman, L.R., & Cappelli, R. 2007) indicate the need for informing and raising students' awareness of the global civic issues in an attempt to create a new global citizen who is aware of his social responsibility.

Consequently, the present study is an attempt to raise the students' awareness of their social responsibilities while teaching writing. Thus, students can value the quality of good work and environmental conservation. Moreover, they become aware of the human rights including women's rights and children's rights. Finally, they practice - in their writing class - important life skills such as negotiation and tolerance. It is a needed attempt to regain the role of the teacher as an educator who does not only teach according to latest techniques but also as an active educator who reshapes the minds and souls of his students on his struggle to reform the society.

## **Review of literature:**

The present study focuses on two integral dimensions as a background of this study; the first is in the field of social responsibility. The second is in the field of writing since it is the means by which the goals of the present study are achieved. The present study clarifies the value of enhancing the awareness of social responsibility while teaching writing and how it can be promoted by positive interactions with peers and teachers and how it provides students with additional incentives to achieve.

Teaching Social Responsibility means intentionally teaching young people to understand themselves, each other, and the world to help teachers create classrooms where students can air and solve conflicts, discuss controversial topics, have a say in what and how they learn, ask questions and engage in dialogue. They are sometimes moved to action as a result of their study( Shapiro,2011; Swami, 2009).

Kathryn Wentzel(2012) clarifies that social competence at school can be a relation between social responsibility and academic achievement. She also illustrates that students' social responsibility is not only a valued outcome in and of itself but it can be instrumental in the acquisition of knowledge and the development of cognitive abilities.

Even if social responsibility can't be taught directly as knowledge, it can be "caught" in a variety of ways--through observations of the behavior of students, friends and others; through reading and discussions; through a sense of injustice that demands

personal action. It can also be caught through schools that encourage community service in some form or through immersion in a class project that, whatever its success, can transform a person's life (Weissbour, 2009; Shapiro, 2011).

As for the second dimension it is recommended that writing should be taught interactively. Writing is a vitally important skill to teach and learn since writing is a foremost means of communicating ideas. It is an essential classroom activity since students are tested in written form in the final exams (Clark, 2012, p. 4).

Effective teaching of writing should include negotiation of the rules and mechanics of writing while maintaining a focus on factors such as organization, form and features, purposes and goals, and evaluation of the communication between the author and the reader (Harris, Graham, Mason, & Friedlander, 2008, p. 3).

In the United States, modern writing instruction illustrates that students need to write clearly and for a wide variety of real-life purposes (Graham & Perin, 2007, p. 22). Thus, writing instruction should focus not only on the correctness of forms and conventions but also on helping learners to practice a wide variety of forms and genres, with the ability to adapt to different purposes (Graham & Perin, 2007, p. 25).

Writing involves a range of skills that need to be developed using various strategies: focusing on the topic, organization, elaboration, style, and conventions. Writing skills, provide students with more opportunities to succeed by finding areas of strength and weakness. Writing skills also make expectations visible to students, helping them become critical readers of their own writing as well as those of others (Alakkawi, 2012; Bowen & Cali, 2007).

Berninger (2004) explained that the main goals of writing instruction should be broader than merely teaching sentence syntax and should have “genre-specific discourse writing skills and strategies for writing for multiple purposes” (p. 738). Berninger stated that writing instruction should include completing long-term writing assignments, feedback, and report writing, especially for content subjects that reflect social issues. Creative writing is essential in enabling students to express original ideas and give them opportunities to experiment with various genres, such as poetry and plays.

Clark (2012), on the other hand, stated that “an important goal for a writing course is to help students develop an effective writing process” (p. 1).

Thus, in the writing class a variety of strategies can develop those cognitive processes: (a) thinking aloud; (b) providing multiple-step algorithms for students to apply in their independent writing; (c) props such as “think-plan” sheets to help students plan before writing and “think-revise” sheets to help students revise after writing a draft; and (d) scaffolding (i.e., guided assistance and feedback) (Berninger, 2004, p. 734).

Graham and Perin (2007) stressed that writing skills are an important indicator for academic success and a basic requirement for participation in different areas of life. (P. 11).

Bowen and Cali (2007) clarified that the style is not a matter of right and wrong; instead, it is a matter of what is appropriate for a particular setting and audience. Furthermore, word choice, sentence fluency, and the writer's voice all contribute to

the style of a written text; writers should choose the exact word to convey meaning (Bowen & Cali, 2007, p. 19).

Peha (2002) provided a full description of the writing strategies involved in the writing process: prewriting, drafting, sharing, revising, editing, and assessing. During prewriting, students are engaged in activities that help them decide their ideas. Drafting strategy helps students establish their writing by organizing these ideas. Moreover, the sharing strategy is considered the most valuable and enjoyable stage in the writing process; there are different ways to organize sharing, such as whole-class sharing, small-group sharing, and partner sharing. The revising strategy is the point in the writing process where writers benefit most from sharing the ideas. Editing is considered a demanding task because the writer should edit the written text by following the rules in terms of grammar, style, and mechanics(p.4).

Prior (2006) stated that writing is a mode of social action and not only a means of communication; it participates in making particular kinds of people, institutions, and cultures (p. 58).

Harmer (2001) commented that “writing is a cooperative activity” to refer to an activity in which students share the stages of writing as partners or in groups. One of the advantages of cooperative writing is that the lecturer can give more detailed, constructive feedback since s/ he deals with a small number of groups rather than individual students (Boughey, 1997, as cited in Harmer, 2001, p. 260). Harmer clarified that cooperative writing is useful when teaching students the process of writing since reviewing and evaluation are enhanced by having more than one person working on the same text (p. 260). In addition, cooperative writing helps students generate more ideas that can be valued. Thus, writing in groups can be greatly beneficial for students not only in developing their writing skills but also in reforming their ideas, discussion, and peer evaluations (Harmer, 2001, p. 260).

MacArthur, Graham, and Fitzgerald (2006) clarified that writing is a powerful tool since the power of writing is captured in the famous quote: “The pen is mightier than the sword” (p. 1). They claimed that writing makes it possible to gather, preserve, and transmit information. Further, writing provides an important means of personal self-expression.

Jalaluddin et al. (2011) clarified that the main aspects which teachers can use to help students improve their writing proficiency are teacher’s questioning, commenting, and giving clues; in addition to students’ involvement in the process of planning, drafting, revising, and editing ( p. 185). They described writing as “a social and a cultural activity that must be seen in its social and cultural context” (p. 184).

To sum up, it can be concluded from the two previous dimensions of the theoretical review that the interactive writing approach is helpful in breaking poor writing habits. In addition, it is considered an easy, successful method for involving students in a process of inquiry which modifies their ideas and enhances their awareness of their social responsibility.

### **Statement of the Problem**

Social responsibility of citizens is needed to improve our societies. Students need to learn differently to achieve this goal by acquiring skills that help them to think critically, to inquire, to engage in dialogues and to listen attentively. They can learn skills in conflict resolution.

On the other hand, most EFL learners have difficulty mastering language skills, especially the writing ones, which are considered a problem that the English language learners face in their attempt to achieve language proficiency (Clark, 2012).

Thus, the present study suggests a method for teaching writing where students listen to each other, read each other's ideas which are written by a member from each group on the board. They also discuss the different ideas with democratic practices and practice important life skills such as negotiation and tolerance before they finally write their final drafts.

### **Research Questions**

The present study answers the following questions and sub-questions:

**Research Question 1.** To what extent is teaching writing interactively effective for developing writing skills among Saudi female students at the secondary school level?

The following sub-questions generated from this main question:

Research Sub-Question 1.1. Does teaching writing interactively influence the organization of Saudi female secondary school students' writing?

Research Sub-Question 1.2. Does teaching writing interactively influence the content of Saudi female secondary school students' writing?

Research Sub-Question 1.3. Does teaching writing interactively influence the style of Saudi female secondary school students' writing?

Research Sub-Question 1.4. Does teaching writing interactively influence the mechanics of Saudi female secondary school students' writing?



**Research Question 2.** To what extent does teaching writing interactively influence Saudi female secondary school students' writing strategies?

The following sub-questions generated from this main question:

Research Sub-Question 2.1. Does teaching writing interactively influence Saudi female secondary school students' brainstorming strategy?

Research Sub-Question 2.2. Does teaching writing interactively influence Saudi female secondary school students' planning strategy?

Research Sub-Question 2.3. Does teaching writing interactively influence Saudi female secondary school students' drafting strategy?

Research Sub-Question 2.4. Does teaching writing interactively influence Saudi female secondary school students' revising strategy?

Research Sub-Question 2.5. Does teaching writing interactively influence Saudi female secondary school students' editing strategy?

Research Sub-Question 2.6. Does teaching writing interactively influence Saudi female secondary school students' evaluating strategy?

### **Definitions of Terms**

**Interactive writing.** As defined by Williams (2009), interactive writing is a theoretically grounded instructional approach. Throughout the lesson, the teacher treats the students as apprentice writers: The teacher first explains what writers do and then scaffolds the students' ability to engage in those behaviors, both through thinking and physical writing (p. 15).

According to Williams (2009), it includes several stages of development; prewriting or brainstorming, planning, drafting, revising, editing, and evaluating (p. 9).

**Brainstorming:** Defined by Nagin (2012) as a prewriting activity that helps the writer invent content and generate ideas, images, or viewpoints.

**Planning:** Defined by Nagin (2012) as a step which involves reflection on the material produced during prewriting to develop an overall design to achieve the aim of the paper. Planning also involves finding support for a topic and blocking out a rough organizational structure.

**Drafting:** It occurs when the writer begins to develop content through the sustained production of connected sentences. The goal is to begin realizing and shaping the content of the piece in a form that allows the writer to explore and understand the subject's territory (Nagin, 2012).

**Revising:** it is the activity of checking context, making connections, and assessing impact. It involves making changes to match the plan of the text (Harmer, 2001).

**Editing:** Nagin (2012) defined editing as focusing on sentence-level concerns, such as punctuation, sentence length, spelling, agreement between subject and verb, and style.

**Evaluating:** It is the activity of assessing the draft or subsequent drafts (Harmer, 2001).

### **Teaching Social Responsibility:**

It means intentionally teaching young people to understand themselves, each other, and the world; to help teachers create classrooms where students can air and solve conflicts, discuss controversial topics, have a say in what and how they learn, ask questions and engage in dialogue, and are sometimes moved to action as a result of their study (Weissboured, 2009)

Social responsibility is an ethical framework which suggests that an individual has an obligation to act for the benefit of society at large.

### **Participants in the Study:**

The subjects of the present study were randomly selected from 2<sup>nd</sup> grade secondary school students. Sixty female students were divided into two groups; thirty for the control group and thirty students for the experimental one. The age of the students ranged from 16 to 18 years old. They had similar backgrounds.

### **Design of the Study:**

A quasi-experimental design was applied to determine the effectiveness of teaching writing interactively on developing students' writing skills. The duration of the experiment was eight weeks. The two groups-control and experimental-were tested before and after the experiment.

The independent variable of this study was using the interactive approach (by applying the strategies of brainstorming, planning, drafting, revising, editing, and evaluating).

The dependent variables were the writing skills and students attitudes towards the ideas of social responsibility.

Both groups had identical pre- and post-tests. The experimental group had a pre- and post-questionnaires and an attitudinal questionnaire.

### **Instruments of the Study:**

Several instruments were used in this study:

- 1- Pre- and post-tests: Prepared by the researcher (See appendices 1 & 2)
- 2- Pre- and post- questionnaire of the suggested strategies for teaching writing. (See appendix 3).
- 3- Attitudinal questionnaire. (See the results part).
- 4- A scoring rubric: The scoring rubric was developed by Algarni and Alakkawi (2013). It was used to score the students' essays in the pre- and post-tests of both groups. (See appendix 4).

### **Teaching Method and Procedures**

The time allotted for the experiment was eight weeks, during which the students were led through six strategies for teaching writing interactively by brainstorming, planning, drafting, revising, editing, and evaluating. Thus, students learn to communicate with others and think aloud. Moreover, practice peace resolution skills while thinking critically. The steps of the suggested method are:

=> Brain storming activity.

=> Writing ideas in note forms in a first draft.

=> Discussing the ideas that are written in note forms on the blackboard to be seen by all students.

=> Choosing new ideas from the ones written on the board.

=> Writing the second draft in complete sentences. This includes the ideas that students are convinced with from the ones on the blackboard.

=> Editing & Proof reading.

Consequently,

=> Reducing the teacher's marking load.

=> Finding the teacher as an educator.

=> Ability to integrate the four language skills; Listening, speaking, reading before students write their final draft under the teacher's guidance. Moreover, students become aware of the ideas focusing on their social responsibility.

The teacher can open a dialogue by speaking about his or her experiences in taking action on public issues. S/he can then propose for discussions and journal writing as described above.

As a post writing stage, students can reflect upon different ideas mentioned in the class. Then, the teacher has them interview people with different perspectives. This stage encourages students to reflect more on the different ideas discussed. It also leads to personal development regarding; anger management, attention management, critical thinking, emotional intelligence as clarified by Wentzel (2012).

## Data Analysis

The data was analyzed according to the present research questions and sub-questions and reported in the form of tables with a narrative explanation.

Two research questions and 10 research sub-questions were analyzed with the Statistical Package for the Social Sciences (SPSS) at the  $p = .01$  level of significance.

Results of the pre Test: Table 1

Group	N	Mean (M)	Std. deviation SD	<i>t</i>	Df (Degree of freedom)	Sig.
Exp.	30	1.46	0.68	0.72	58	0.01
Control	30	1.43	0.81			No significance

Results of the post Test: Table 2

Group	N	M	SD	<i>t</i>	Df	Sig.
Exp.	30	3.16	1.14	4.24	58	0.01
Control	30	1.8	1.24			significant

Data was collected to determine whether there was a significant difference between the posttest scores of the experimental group and those of the control group.

Data in Table 1 revealed that there was no significant difference between the experimental group and their peers of the control group in the pre writing test.

Data in Table 2 revealed that there was a statistically significant difference between students' writing skills of the control group ( $M = 1.8$ ,  $SD = 1.24$ ) and in the experimental group ( $M = 3.16$ ,  $SD = 1.14$ ) based on their posttest score data. The statistically significance difference was not only at 0.05 but it showed significance difference at 0.01. This result of the posttest indicated significant development in the experimental group students' writing skills as a whole, with an overall mean of 3.16 compared with 1.8 for the control group.

The following tables prove that the experimental group results showed significant difference at the level 0.01 compared to their peers of the control group in the different categories of the post test. The results are as follows:

Independent Samples t-Test – Posttest (Organization)

Group	N	M	SD	<i>t</i>	Df	Sig.
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Exp.	30	3.9	0.37	6.8	58	0.01
Control	30	2.1	1.1			

*Independent Samples t-Test – Posttest (Content)*

Group	N	M	SD	<i>t</i>	Df	Sig.
Exp.	30	3.7	0.91	4.87	58	0.01
Control	30	2.5	0.93			

*Independent Samples t-Test – Posttest (Style)*

Group	N	M	SD	<i>t</i>	Df	Sig.
Exp.	30	3.5	1.3	4.23	58	0.01
Control	30	2.2	1.1			

*Independent Samples t-Test – Posttest (Mechanics)*

Group	N	M	SD	<i>t</i>	Df	Sig.
Exp.	30	3.93	0.37	4.13	58	0.01 Significant
Control	30	2.8	1.3			

*Independent Samples t-Test – Pre-Questionnaire (Writing Strategies)*

Group	N	M	SD	<i>t</i>	Df	Sig.
Exp.	30	20.33	3.27	0.99	58	0.01 No significance
Control	30	19.46	3.49			

*Independent Samples t-Test – Post-Questionnaire (Brainstorming Strategy)*

Group	N	M	SD	<i>t</i>	Df	Sig.
Exp.	30	5.1	1.2	2.1	58	0.01
Control	30	2.2	1.4			

*Independent Samples t-Test – Post-Questionnaire (Planning Strategy)*

Group	N	M	SD	<i>t</i>	Df	Sig.
Exp.	30	4	0.76	11.41	58	0.01
Control	30	1.7	0.77			

*Independent Samples t-Test – Post-Questionnaire (Drafting Strategy)*

Group	N	M	SD	<i>t</i>	Df	Sig.
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Exp.	30	3.5	1.3	2.8	58	0.01
Control	30	2.6	0.95			

*Independent Samples t-Test – Post-Questionnaire (Revising Strategy)*

Group	N	M	SD	t	Df	Sig.
Exp.	30	3.8	0.64	10.6	58	0.01
Control	30	1.8	0.77			

*Independent Samples t-Test – Post-Questionnaire (Editing Strategy)*

Group	N	M	SD	T	Df	Sig.
Exp.	30	3.8	0.87	8.8	58	0.01
Control	30	1.9	0.85			

*Independent Samples t-Test – Post-Questionnaire (Evaluating Strategy)*

Group	N	M	SD	t	Df	Sig.
Exp.	30	4.1	0.69	6.9	58	0.01
Control	30	2.3	1.2			

**Results of Attitudinal Questionnaire (Evaluation of the Program)**

*Post-Questionnaire – Evaluation of the Program for the Experimental Group*

c. Evaluation of the program					
<b>1. The Writing Program</b>	Very	Much 156	Somewhat	Not	Not at all

	much			much	
1.1. How much do you like the interactive approach to be used in the writing classes?	40%	50%		10%	
1.2. How useful is the interactive approach in modifying your ideas?	60%	35%	5%		
1.3. How easy is the interactive approach in modifying your ideas?	80%	15%		5%	
<b>2. Strategies</b>	Very useful	Useful	Somewhat	Not useful	Not useful at all
2.1. How useful are the following strategies <b>in improving your ideas?</b>					
2.1.1. Brainstorming	70%	15%	5%	10%	
2.1.2 Planning	80%	5%	10%	5%	
2.1.3 Drafting	50%	30%	10%	10%	
2.1.4 Revising	40%	30%	5%	20%	5%
2.1.5 Editing	60%	30%		10%	
2.1.6 Evaluation	70%	25%	5%		

The previous table includes the percentages of agreement and disagreement for all questionnaire items. This questionnaire was given only to the experimental group to evaluate the experiment. Regarding the students' attitudes towards the suggested method in relation to modifying their ideas; Most students liked it (Very much: 40%; Much: 50%), and some of them (10%) did not like it much. Most of them found it useful (Very Much: 60%; Much: 35%), and 5% found it somewhat useful. Eighty percent of the participants found it very easy to use when learning writing, while 15% found it easy, and 5% found it not easy. Regarding the students' opinions on the strategies used to develop writing skills, most of them found all the strategies very useful (brainstorming: 70%; planning: 80%; drafting: 50%; revising: 40%; editing: 60%; evaluation: 70%). Some of them found all the strategies useful (brainstorming: 15%; planning: 5%; drafting: 30%; revising: 30%; editing: 30%; evaluation: 25%). Some found the strategies somewhat useful (brainstorming: 5%; planning: 10%; drafting: 10%; revising: 5%; evaluation: 5%). Although the majority of the participants found the strategies useful, some found them not useful (brainstorming:



10%; planning: 5%; drafting: 10%; revising: 20%; editing: 10%). Finally, 5% of the participants found the revising strategy is not useful at all.

Thus, the results of the study proved that teaching writing interactively was successful. Further, it improved the experimental group students' writing skills and changed their way of thinking to be critical and deeper regarding the ideas of their social responsibility. They also could value the quality of good work and practiced important life skills such as negotiation and tolerance.

### **Conclusion and Implications:**

The present study is an attempt to solve the problems in the field of teaching writing and enhancing the students' awareness of their social responsibility to reform the minds of the new generation. Thus, students can value the quality of good work and environmental conservation. Moreover, they become aware of the women's rights, children's rights and practice in the writing class important life skills such as negotiation and tolerance.

Even if social responsibility can not be taught directly as knowledge, it can be "caught" in a variety of ways through discussions; through a sense of injustice that demands personal action and through teachers and schools that encourage community service.

Social responsibility takes intention and attention and time to happen. Thus, students should be given opportunities to take part in the processes of group decision making.

The present study helps teachers to create classrooms where students can air and solve conflicts, discuss controversial topics, have a say in what and how they learn, ask questions and engage in dialogues and are sometimes moved to action as a result of that context of learning.

The present study is an attempt to find the English language teacher as an educator who is capable of teaching writing in a way that improves students' writing skills and at the same time enhances students' awareness of their social responsibility.

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**Appendix 1 ( Pretest)**

Class: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Write an essay of approximately 200 words within 50 minutes on the topic of the time when you made a difference in someone’s life. What was the situation? What did you do? How did it make you feel? Where there obstacles to face? How did you overcome them?**

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**Appendix 2 ( Posttest)**

Class: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_



**A. Writing Strategies.** Please read the following statements very carefully. Then put a  $\checkmark$  in the appropriate column that indicates the extent to which you agree with the statement.

<b>A. Students' Writing Strategies in English:</b>	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree <sup>s</sup>
	5	4	3	2	1
1. It is easy to brainstorm for ideas when writing in English.					
2. I know how to plan before writing in English.					
3. I know how to draft when writing in English with my group.					
4. I know how to revise a draft when writing in English.					
5. I know how to edit a draft when writing in English.					
6. I know how to evaluate my essay when writing in English.					

### Appendix 5 (Scoring Rubric)

Skills	Advanced 4 points		Proficient 3 points		Partially proficient 2 points		Unsatisfactory 1 point	
	Organization		All ideas are organized around a central topic.		Most ideas are organized around a central topic.		Ideas are loosely organized around a central topic.	
		Ideas are connected and presented in a clear, logical order.		Ideas are connected and follow a readable order.		Some ideas are connected but order disrupts the reader.		Ideas are not connected and writing does not have a logical order.
Content		Has a clearly defined central idea.		Has an identifiable central idea.		Has a vague central idea.		Does not have a central idea.
		Provides only relevant and clear information.		Provides mostly relevant information.		Provides some relevant information.		Provides little information or mostly irrelevant information.
		Elaborates with specific and interesting details.		Details are largely general, brief or obvious.		Limited use of details.		Repetitious/no details.
Style/Fluency		Uses a variety of words to begin sentences.		Uses some variety of words to begin sentences.		Uses a limited variety of words to begin sentences.		Uses the same word to begin almost every sentence.
		Effective use of simple and complex sentences.		Uses a complex sentence.		Only uses simple sentences.		Incomplete/rambling sentences.
		Writing creates a situation that is engaging and compelling.		Writing is clear and personable.		Words are very general/formulaic and do not suggest a		Too few words to gauge a voice.

				voice.	
	Uses active verbs, precise nouns, and colorful adjectives.		Heavy use of simple verbs, everyday nouns, and adjectives.	Repeats many of the same words throughout writing.	Uses words that are inaccurate, lifeless, or mechanical.
Mechanics of Writing	<b>Error free</b>		<b>Nearly error free</b>	<b>Numerous errors</b>	<b>Pervasive errors</b>
	<b>Punctuation:</b> simple and complex sentences.		<b>Punctuation:</b> simple and complex sentences.	<b>Punctuation:</b> simple and complex sentences.	<b>Punctuation:</b> simple and complex sentences.
	<b>Capitalization:</b> proper nouns and sentence.		<b>Capitalization:</b> proper nouns and sentence.	<b>Capitalization:</b> proper nouns and sentence.	<b>Capitalization:</b> proper nouns and sentence.
	<b>Spelling:</b> No excuse words and phonetically correct.		<b>Spelling:</b> No excuse words and phonetically correct.	<b>Spelling:</b> No excuse words and phonetically correct.	<b>Spelling:</b> No excuse words and phonetically correct.
	<b>Grammar:</b> subject-verb agreement		<b>Grammar:</b> subject-verb agreement	<b>Grammar:</b> subject-verb agreement	<b>Grammar:</b> subject-verb agreement







***Information and Communication Technology (ICT) Integration in Education: A Holistic Framework***

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**Abstract**

The constant evolution of ICT integration in K-12 settings has been accompanied by research into the relative effectiveness and efficiency of technology to enhance learning and achievement. Based on the literature surrounding the integration of ICTs in pedagogical contexts, this paper provides a constructive reading of the current state of educational technology integration in k-12 settings by taking Bronfenbrenner's Systems Theory as a starting point to understand the ecological subsystems and/or multi-level factors such as pedagogical, social, cultural and structural contexts impacting on the integration of ICT in the classroom. Analysis of ICT in education using Bronfenbrenner's systems theory allows us to be aware of the messages in sub-ecologies when integrating ICT at the classroom level so that collisions or opposite signals do not materialize. We have come to expect that technological tools improve learning by default. Technology is not the be-all and end-all. It is just a tool. We need to let education lead technology. Before integrating technological tools in education, all stakeholders including teachers should have a vision and a clear plan of how to implement that. It is all about technology being led by pedagogy and not the other way around. Unless we make sure that the whole sub ecological systems supporting ICT integration in educational settings do not have contradictions, we will forever stay in the trap of ICT being 'oversold and under-used,' as Larry Cuban says (2001).

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## Introduction

Technology is key to meeting globalization needs, advancing Canada's economic status, promoting political accountability, and enhancing our young adults' educational opportunities (Information Technology Association of Canada, 2013). The knowledge and communication breakthroughs that society can achieve using information and communication technologies (ICT) are vast. Institutions in Canada are accordingly investing in ICT tools in an attempt to develop citizens who are ready to face the challenges of the 21st century where media, manufacturing industries and commerce have become increasingly technology-oriented (Raby, Karsenti, Meunier, & Villeneuve, 2011). Indeed, the integration of information and communication technologies (ICT)<sup>1</sup> in educational settings in North America has reached a point where one is hard pressed to find a classroom devoid of any digital technology.

Despite the fact that digital technology potentially facilitates new approaches of teaching and learning, it cannot guarantee per se that effective and appropriate learning outcomes are achieved (Kirkwood & Price, 2005). Several studies claim that the way in which technology is being supplemented or utilized to aid teaching instruction in the classroom can lead to either higher or lower student achievement (Becker, 2001; Edwards, 2003; Gray et al., 2001; Lei & Young, 2009; Stallard & Cocker, 2001; Tienken & Maher, 2008).

Previous research often ignored the systemic nature of ICT integration, including the role of school characteristics (Tondeur, Devos, Houtte, Braak, & Valcke, 2009, p.224). Contextual factors are paramount in 'facilitating' the use of ICT for teaching and learning, thus making its use in the classroom more accessible (Tondeur, Devos, Houtte, Braak, & Valcke, 2009). Tondeur et al. claim that ICT integration in education is influenced by certain characteristics of the school such as structural characteristics which constitute the infrastructure, planning and support systems, as well as cultural characteristics which include school vision and mission. "[A] mere focus on teacher characteristics could lead to 'individual blame' rather than 'system blame' when focusing on explaining variables related to limited ICT integration.

The goal of this paper is to present a theoretical framework that can be useful in engaging critically with the literature on ICT implementation in pedagogical contexts. This will help develop new understandings of the debates surrounding ICT integration in education. In education, which acknowledges the fact that the classroom exists in a much larger, complex framework of direct and indirect environmental forces, the environment is not composed only of the teacher and the students surrounded by classroom walls. Through a multilayered perspective to technology integration in education, stakeholders will be provided with the necessary foundation to develop richer understandings of the current educational technology integration in pedagogy and, perhaps most importantly, towards realizing the educational potential of these technologies engaging in the teaching and learning process.

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<sup>1</sup> For the purpose of this paper, ICT in educational settings is used simultaneously with educational technology to refer to the use of technology for communication and information processing purposes to impact the knowledge of learners.

## Theoretical Framework

Bronfenbrenner's ecological systems theory (1979) presents a useful theoretical lens to engage critically with the literature surrounding ICT integration in schools. Bronfenbrenner's theory accounts for the person, the various nested environments, and the interaction between the two in the examination of that child's interaction with technology in the classroom. Bronfenbrenner claims that "a child's ability to learn to read in the primary grades may depend no less on how he is taught than on the existence of and nature of ties between the school and the home" (Bronfenbrenner, 1979, p.51). In his theory, Bronfenbrenner (1979) emphasizes the importance of individual-environment interrelations and the mutual effects of these interactions on the resulting relationships. It necessitates that we look further than individual settings to see how environmental sub-systems are related to each other, and how they interact and influence the development of the student in the center (for a visual, please refer to Appendix A).

Urie Bronfenbrenner (1979) stresses the importance of accounting for the environment, the person, and the interaction between the two when studying human development. The layers of distinct yet interrelated environments or ecological systems surrounding the child at the center include: the microsystem, the mesosystem, the exosystem and the macrosystem. The microsystem embeds the structures with which the child has direct contact. These include the family, home, school, peers and neighborhood settings. The mesosystem includes the interrelations between the child and/or the microstructures surrounding the child, such as the link between a child's family and their school.

The exosystem delineates the larger social system surrounding the child and has an indirect impact on the child. These include but are not limited to the parents'/guardians' workplace, local government, school board and the like. As for the macrosystem, it demarcates the cultural context in which individuals develop, including the broader cultures, beliefs and ideologies. "[The macrosystem] is viewed as a manifestation of overarching patterns of ideology and organization of the social institutions common to a particular culture or subculture" (Bronfenbrenner, 1979, p.8). Bronfenbrenner considers that this holistic approach to ecological subsystems surrounding the child is an indication of possible predominant ecologies and ideologies existent and interactive with the child and the shared structures of a particular culture (Bronfenbrenner, 1979).

As scholars investigating an educational technology subject, Bronfenbrenner's contextual delineation leads us to discover new connections and allows us to demonstrate the complexity of ICT integration in education. Bronfenbrenner's perspective talks about the interplay of the individual with the structural, academic and social environment. We are focusing on this broader concept of the theory drawing parallels from this conceptual approach to synthesize a holistic framework to the integration of ICT in a student's classroom.

This paper is not a suggestion that all educational technology researchers would benefit from Bronfenbrenner's theory as a lens in their analysis on ICT integration in the classroom. However, using Castell's (2000) words, it might be helpful to consider this perspective a 'disposable theory' – a theoretical lens that is helping us at this

specific time and context in the construction of an analytical framework that could benefit further research in the field of ICT integration in pedagogical settings.

### **Bronfenbrenner's Nested Systems of Influence**

Bronfenbrenner's systems theory has been utilized many times by educationalists to analyze students' development and progress in topics such as academic achievement, dropouts, effects of small class size, and the role of media and technology with regards to the academic needs of at-risk students (Ceci & Konstantopoloulos, 2009; Jordan, 2005; Mammen, Baur & Richards, 2009, and Bogg & Finn, 2008).

As shown in the visual (see Appendix A), the student is at the center, surrounded by several subsystems that are labeled according to the child's proximity and time spent in those environments with the closest being home and school contexts. It is important to note that although the visual denotes a defined circuit of sub-ecological systems surrounding the student, in reality, those systems may interact with the child and/or other surrounding systems in more than one dialectical trajectory.

### **Student-level Analysis**

Prensky's digital nativism articulation introduced more than ten years ago in his essay titled *Digital natives, digital immigrants* (see Prensky, 2001) still continues to be debated in the literature and research discussions related to ICT integration in education. Indeed, a quick Google search<sup>2</sup> to the term "Digital Native" produced 621,000 documents to be viewed. According to Prensky, digital natives do not consider educational technology to be an added device or learning tool, it is their language. They grew up with technology in an environment built around the internet, smart phones, instant messaging and computer games.

As such, Prensky (2001, p.2) claims, "Digital Natives are used to receiving information really fast. They like to parallel process and multi-task. They prefer their graphics before their text rather than the opposite. They prefer random access (like hypertext). They function best when networked. They thrive on instant gratification and frequent rewards. They prefer games to serious work". Prensky's concept of digital nativism argues for a new teaching approach to better suit digital natives, where the students will teach themselves and the teacher (i.e. the digital immigrant) will only play the role of the facilitator on the side.

Searching for empirical evidence to back up the digital nativism argument, we placed the term "Digital Native" in the ERIC database<sup>3</sup>. The search resulted in 175 hits thereby signalling a huge difference with the findings<sup>4</sup> we obtained earlier. What is also interesting is that this new search resulted in studies with contrasting results

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<sup>2</sup> The search was executed by placing the term "Digital Native" in the browser "google.com" on the morning of February 25, 2014

<sup>3</sup> The search was executed by placing the term "Digital Native" in the following website "eric.ed.gov" on the morning of February 25, 2014

<sup>4</sup> The comparison of findings are based on the comparison of the 621000 hits on Google for the search "Digital Native" vs. 175 hits for the term "Digital Native" via Eric database.

regarding the digital generation. For example, Kennedy, Judd, Dalgarnot and Waycott (2008) conducted a large-scale survey of 2096 secondary and postsecondary students in Australia for their access to, use of and preference of technology. Their findings reveal that the “Net generation” is heterogeneous and divided into four types of technology users such as power users, ordinary users, irregular users and basic users.

Elsewhere, Jones, Ramanau, Cross and Healing (2010) report very similar results. Similarly, Jones et al. surveyed 596 “Net Generation” students, for their use of technologies across five academic institutions in England and found that the “Net Generation” students are not “homogeneous” at all in their use and appreciation of ICT with a lot of variations and divides across the age band. In fact, they discovered that technology use does not necessarily decrease as students become older (Jones et al. 2010). Contentions between Prensky’s digital nativism argument and its empirical justification make us agree with Ito et al. (2008) who advocate “be[ing] wary of claims that a digital generation is overthrowing culture and knowledge as we know it and that its members are engaging in new media in ways radically different from those of older generations” (p.4).

### **Immediate Environment-level Analysis**

To understand the complex impacts of ICT on learners, it is important to analyze how students act, interact and react to technology manipulation in their closest surrounding ecosystems, such as the home and school.

#### **Home-level analysis.**

Media is becoming a pervasive force in our students’ lives at home. The Kaiser Family Foundation Study (2010) states that, on average, children aged 8 to 10 are exposed to media eight hours per day and teenagers more than 11 hours per day. The existence of ICT equipment in students’ bedrooms tends to augment that reported total number of hours (Kaiser Family Foundation, 2010). Furthermore, participating students in the Kaiser Family Foundation study (2010) report that many parents tend to have few rules when it comes to the use of ICT equipment.

According to the report titled *Connected Minds* published by the Organisation for Economic Co-ordination and Development (OECD, 2012), there are many types of online risks that students are exposed to through Internet browsing and online participation. Online risks include: consumer related risks (such as online marketing and deceptive transactions), content and contact risks (cyber bullying and cyber pornography) as well as privacy and security risks (such as digital footprints and the like). Moreover, O’Keefe’s (2011) report advises caregivers to understand the consequences of unsupervised and prolonged media exposure. The report also accentuates the necessity of teaching students as well as caregivers safety guidelines including media literacy and digital citizenship guidelines so that families understand healthy usage of ICT.

In addition, in December 2013, the American Academy of Pediatrics (AAP) published a policy statement declaring that certain media exposure needs to be accompanied by literacy and safety guidelines in order to promote knowledge, skills and social connectedness. This is not the first policy statement that concerns an array of

hazardous effects of media emanating from unsupervised and/or prolonged media exposures. Previous American Academy of Pediatrics policy statements have targeted other potential risks linked to children's media exposures that include violence (AAP, 2009), sex exposures (AAP, 2010), and obesity (AAP, 2011). In light of this, negative as well as positive affordances of media exposures must be taught to teenagers as well as parents since ICT is a pervasive force in students' lives outside school.

### **Classroom-level analysis.**

Various researchers claim that ICT may help in enhancing student engagement simply by bringing in devices that children enjoy and use for entertainment when they are out of school (Dede, 2005; Oblinger, 2003; Papert, 1993; Strauss, 2000; Tapscott, 1999; 2001; Zemke, 2001). Engagement can be briefly defined as "being attracted to work, persisting despite challenges and obstacles, and taking visible delight in accomplishing that work" (Schlechty, 2005, p.7). Kuh (2009) explains the significance of student engagement by saying that "years from now, one of the storylines of the first decade of the twenty-first century likely will be the emergence of student engagement as an organizing construct for institutional assessment, accountability, and improvement efforts" (p. 5).

Various researchers have claimed that sustaining high engagement levels in the classroom has never been easy (Klem & Connell, 2004). Small and Vorgan (2008) argue that educational technologies, when integrated well can improve a student's memory and perceptual learning potential. "Shared community spaces and inter-group communications are a massive part of what excites young people and therefore should contribute to [the students'] persistence and motivation to learn" (Mason & Rennie, 2007, p.199).

A recent study by Karsenti and Collin (2012) has investigated students' and teachers' perceptions of the use of laptops in elementary and secondary schools in Quebec English Schools. Their survey of 2,712 students from (grades 3-11) and 389 teachers shows that the perceived use of available laptops appears to be particularly conducive to student learning. It appears that most of the teachers were able to integrate teaching techniques to give technological tools a focus in the process of writing and hence contribute to students' learning. The authors list other benefits such as a higher student engagement ratio, immediate access to a plethora of information and resources. That being said, Karsenti and Collin (2012) report that major obstacles reported by teachers and students are the availability of up-to-date technological equipment and managing classrooms.

However, the laptop research results do not mirror the 2013 research results of Karsenti and Fievez (2013). In the latter, the authors investigated Quebec students' and teachers' perceptions of the use of iPads in Quebec school contexts. The results of their massive survey consisting of 6,057 students and 302 teachers from 18 different schools in Quebec offer a positive skew to the use of iPads in the classrooms in terms of 'cognitive potential' (p.5). That being said, results are not as positive as the Karsenti and Collin (2012) survey. Karsenti and Fievez (2013) claim that school students still enjoy many educational uses of ICT since they promote access to information related to the course and also because they allow communication and collaboration with the course instructor and colleagues. The use of available ICT

tools, in addition to an integrated platform with frequently updated course information, appears to be particularly conducive to student learning. However, certain challenges exist. These include students getting distracted by the iPads with some reporting a lowering of grades because of the distraction. In addition, teachers need more training and preparation time. And last but not least, students seem to avoid lengthy writing tasks because of the lack of spell check and similar advantages available on the laptops. According to the authors, the iPads provide an essential contribution to students' learning, only when they are used well by teachers. Karsenti and Fievez (2013) end the report with a set of recommendations to school stakeholders in order to guarantee the successful integration of iPads in classrooms. These recommendations address students, teachers, parents, programmers and researchers. They also target by priority, training and familiarizing all stakeholders in using iPads for scholarly purposes such as reading, writing, creativity and accessing information.

Reviewing research studies investigating ICT integration in pedagogical settings, we cannot but notice that most of these articles end with recommendations for teachers to undergo professional development on how to implement or utilize technology in their teaching plans (Kanaya, Light, & Culp, 2005; King, 2002; Silvernail & Buffington, 2009; Swan & Dixon, 2006; Swan, Kratcoski, Mazzer, & Schenker, 2005). This is one objective stakeholders need to put in place for successful ICT integration in classrooms because many studies warn that there is a lack of proper professional development workshops given to teachers to implement ICT in their teaching (Kleiman, 2000; Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Zucker & Hug, 2007).

Teachers will be more willing to implement these technologies in their classrooms if they know not only how to use these technologies but also how to implement them in their teaching plans. However, teachers need more than professional development workshops to help them utilize these technologies. They also need research that shows them how these various technologies can be incorporated in their daily lesson plans and the benefits of learning they can cultivate out of doing that (Samarawickrema, Benson & Brack, 2010). If teachers do not buy into these technologies, they will remain just a fashionable add-on in our curricula.

### **Provincial and National-level Analysis**

The school district environment is an outer layer that limits and shapes the immediate settings of the student through its implementation of local education policies. These local school board policies regulate the functioning of schools and define the roles of caretakers, teachers, principals, and all other stakeholders present in the home and school environments. These in turn are affected by provincial policies and education acts.

In Québec, media-related objectives are currently found under cross-curricular competencies in the Québec Education Program: Elementary and Secondary Education

(retrieved from [http://www1.mels.gouv.qc.ca/sections/programmeFormation/index\\_en.asp](http://www1.mels.gouv.qc.ca/sections/programmeFormation/index_en.asp)), where students are encouraged to learn the necessary skills “to exercise critical



judgment” when acting and responding to facts and happenings around them. Students are also expected to be taught how to discern “other people’s opinion” and how the latter could impact their judgment.

Media literacy components are also present under the English Language Arts subject in the Québec Education Program: Secondary Cycles One and Two (retrieved from [http://www1.mels.gouv.qc.ca/sections/programmeFormation/index\\_en.asp](http://www1.mels.gouv.qc.ca/sections/programmeFormation/index_en.asp)), where students have to “represent [their] literacy in different media” incorporating oral, written and text formats.

While researching media-related objectives in provincial educational acts and curricula, we were struck by the absence of ICT objectives under various subject matters. Researching further, we found that this is referred to by researchers as the inability of technology to integrate fully in the subject matter ‘subculture’ (Selwyn, 2011). This articulation of technology vs. subject matter curricula integration may be better analyzed in the light of Lave and Wenger’s Situated Learning theory. Lave and Wenger (1991, p.101) state that “ the artefacts used within a cultural practice carry a substantial portion of that practice’s heritage ... Thus understanding the technology of practice is more than learning to use tools; it is a way to connect with the history of the practice and to participate more directly in its cultural life”. ICT integration in subject matters needs time and practice, that is, enough time for teachers and students to immerse the technology in the culture of that subject matter creatively and effectively, and translate that into effective ICT integrated instruction.

### **Broader Ideologies-level Analysis**

The integration of educational technology in pedagogical contexts is not an independent force (Brown and Murray, 2003). The global development discourse and the shrinking of the world to a small village have played an important part in the debate on integrating ICT in education. The argument set forth by techno-advocates and supporters of ICT integration in education hovers around integrating ICT in classrooms in order to respond to the needs of the Information Age in terms of global economic system requirements, new job employment markets as well as communication needs of the 21<sup>st</sup> century (Ananiadou & Claro, 2009). Technology development in that sense aids in the advancement of a nation’s communication, economy, labor and production (Thomson, 2005).

Consequently, those aforementioned changes in global measures have changed the way we look at technology and education. ICT in education has become the symbol of efficiency and effectiveness within the education system. While technology is being pushed forcefully into education systems, ICT integration does not emanate specifically from the needs of the schools, students, or the teachers. Developed as well as developing countries have "techno-centric, utopian and economic driven mindset towards [tech integration in education] (Zhao et al. 2005, p.674).

Aside from the unjustifiable costs, given the conflicting results of some education technology investments (Bennett et al., 2008; Cuban, 2001; Sawchuk, 2009; Weston & Bain, 2010), some schools do not even have the necessary infrastructure to integrate the newly bought technological equipment in their premises. In his book, *School and Schooling* Selwyn (2011) describes how in England when the government

furnished all schools with smart boards, some institutions had Victorian premises with very high ceilings that smart board cables could not hang onto. The end result was smart boards dangling 1.5 meters above the floor that were difficult for teachers and students to use properly. Parent committees had to intervene and fund schools with wooden stools for the students to be able to reach the boards (Selwyn, 2011). This is a prime example of buying ICT tools not catered for the needs of the schools and the students.

From an environmental sustainability issue, the situation is even more problematic. Electronic waste currently represents that largest growing waste system. Duan, Miller, Gregory, Kirchain and Linnell (2013) report that the United States discarded around 258 million electronic devices to the waste system in 2010, with only around half of that amount able to be recycled (Duan, Miller, Gregory, Kirchain & Linnell, 2013). According to the United Nations, the unrecyclable parts contaminate land water and air since most of technological devices are made from lead mercury and other highly toxic materials (Duan et al., 2013). In light of that, the UN has launched the Step initiative (see [www.step-initiative.org](http://www.step-initiative.org)), a fifty-member organization designed to raise public awareness regarding electronic wastes.

ICT integration therefore needs to arise directly from the needs of students and not simply be forced on our students because of the “unchecked fear of missing the fast ICT train to global prominence” (Zhao, Lei & Conway, 2005, p.673). We believe there is a need to cross to a ‘post-digital technologies’ (Selwyn, 2014) era where we are not bewildered by the technology anymore. A ‘post-digital technologies’ era in education means stakeholders are conscious, critical and self-reflexive of all actions when it comes to technology integration in education and when it comes to the connections to their surrounding environment.

It also means that technology is used not only to connect to the worldwide world but also to connect us as humans and as education stakeholders at different levels of subsystems. A ‘post-digital technologies’ era in education means we realize that technology may not help when integrated if it does not fit the culture of the school, the needs of the students and the society as a whole. Last but not least, the ‘post’ era hopefully will have the benefit of all the sciences we have been developing and research we have been analyzing to secure the benefits of ICT integration in education.

### **Conclusion and Recommendations**

While there are many more things to learn with regards to the educational technology literature covering each of Bronfenbrenner's subsystems, this review outlines the benefits of broadening our lens when investigating ICT integration in education to include multi-level contextual factors so that we identify elements that may be impacting the integration of technologies in teaching and learning settings.

For one thing, we can notice the tensions at the student-level analysis between the digital nativism claim and the empirical evidence that shows a more heterogeneous generation. Students will benefit immensely from digital literacy and digital citizenship by being able to use ICT effectively, safely and to its full potential. Students and parents need to know the negative and positive affordances of media exposure. At the classroom level analysis, we can see that teachers need ample time,

resources, practical training and support to integrate the tools in their lesson plans successfully. At the same time, we notice how structures such as school boards and provincial ministries do not completely integrate ICT in most subject matters' curricula. ICT is left primarily to be integrated in languages curricula and cross-curricular competencies. An analysis of the tensions between provincial curricula and the integration of ICT in subject matters other than languages and cross-curricular competencies is also outlined. Finally, a major factor that pushes towards integration of ICT in schools is delineated by globalization and the need to teach our kids to Information Age skills. We also recognize the push from socio economic environments and employment sector including markets and industry. This push in turn is putting pressure on the schools to embed technology in classrooms.

An analysis of ICT in the classroom using Bronfenbrenner's systems theory allows us to be aware of the messages in one sub ecology and try to make it better by adding to it from other sub ecologies or by providing interventions to secure countermeasures. We have come to expect that technological tools improve learning by default. Technology is not the be-all and end-all. It is just a tool. We need to let education lead technology. We need teachers to guide its way into children's education. Before integrating technological tools in education, all stakeholders including teachers should have a vision and a clear plan of how to implement that. Unless we make sure that none of the sub ecological systems supporting ICT integration in the classrooms have contradictions, we will forever stay in the trap of ICT being 'oversold and under-used,' as Larry Cuban says (2001).

As such, the following set of recommendations was developed for all stakeholders involved in the process of ICT integration in pedagogical contexts to reflect on the situation from a holistic perspective. These recommendations are nested into Bronfenbrenner's interconnected subsystems so that resulting change will impact those delineations surrounding the child and hence create change at several sub-system levels. Recommendations are to be followed in parallel and not in sequence in order to ensure maximum effectiveness and progress.

**Student-level recommendations:**

1. Learning how to use ICT tools is not enough. In order for students to benefit from technology they should also learn to use ICT safely and in meaningful ways. Caregivers at home and school should teach them how to surf safely. That is the only way to give our students learning opportunities. It is also essential to teach all caregivers at home and at school.
2. ICT should be used by students to create knowledge not only to facilitate communications or to access information.

**Immediate environment-level recommendations:**

1. Pedagogy should precede technology. As such, technological pedagogical programs and games should be developed by educators and not technologists.
2. Professional development and teacher training should incorporate ICT training in subject matters. Teachers need to know and be trained in how to incorporate technology in their lesson plans and subject matters. They need to have criteria for its implementation in the classroom and not only be trained in using the machine.

3. For each and every investment of ICT in the school, there should be a clear monitoring and evaluation scheme for progress, development and efficiency in education. ICT integration in the classroom should be a step-by-step process. Rushing and missing steps do not help.

**Broader community-level recommendations:**

1. ICT in education should not be about which educational institution has more equipment or which are more recent. Governments should monitor public and private institutions to manage inequalities due to the ICT industry and private education. Quality education is a public right for all citizens. Provincial and national government should make sure that the aim of schooling is the construction of a society based on non-exploitative relations and social justice, thereby making life qualitatively better for all citizens.

2. When integrating ICT equipment in schools, budgets should include updating school infrastructure, ongoing professional development of teachers, and ensuring the presence of full-time IT support in each and every school.

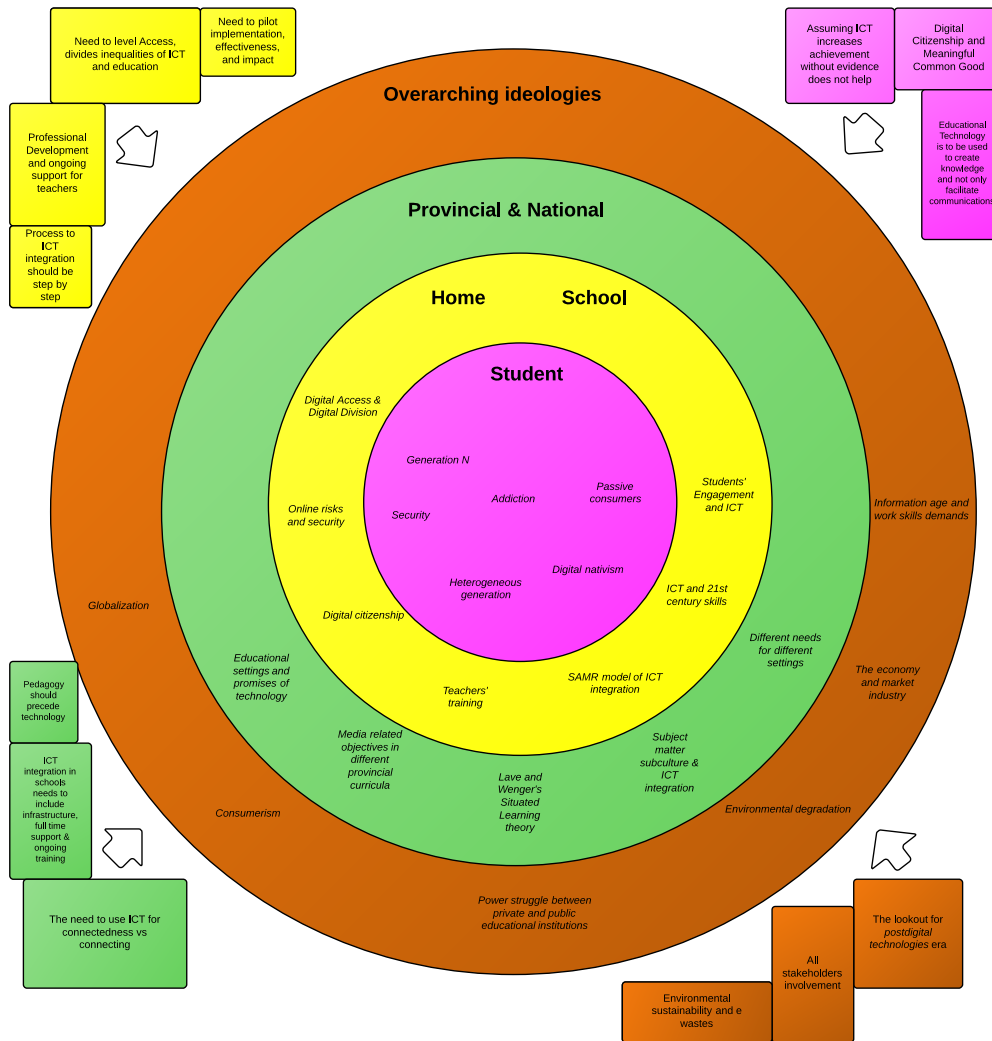
**Overarching ideologies-level analysis:**

1. We believe it is our duty to let students recognize the hegemony of those ideologies by letting them problematize and reflect upon these ideologies.

2. There is a need for governments to take into consideration environmental sustainability issues and the minimizing of electronic waste when implementing ICTs in educational institutions.

# Appendix A

## ICT INTEGRATION IN EDUCATION: A HOLISTIC APPROACH



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***A Study of Interactive Influence of Brain-Based Learning and Hemisphericity of Students of Standard VIII on their Academic Achievement in Biology, Study Habits and Stress***

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Brain-based learning is an interdisciplinary answer to the question of, “what is the most effective way of the brain’s learning mechanism?” (Jensen 1998). Brain-based learning is an effective teaching technique that represents abstract or complex content matter in to simple and meaningful scaffolds and it has the potential to delay the learning plateau since it provides great scope for interaction among and between students and teacher.

### **Brain-based learning requires three interactive elements:**

Relaxed alertness, Immersion and Active processing.

**Relaxed alertness:** Learning environment should give possibility for taking safe risks to increase the learning at the highest level. Sense of safety that accepts a risk at suitable level is a part of being relaxed.

**Immersion:** It is the students’ focusing on the context. When the wholeness and connecting to each other are inevitable, the students have to use local memory systems to discover the context.

**Active Processing:** In active processing, teachers should work with the students purposefully because the students need to connect and innately the knowledge both meaningfully as a character and conceptually harmonious.

### **The study includes the following variables which can be operationally defined as:**

**Academic Achievement:** refers to the total scores obtained by an individual as measured on the test constructed by the researcher in the selected topics from the subject of Biology of std. VIII.

**Study Habits:** For the purpose of the present study, study habits has been operationally defined as the tendency of a student to study when the opportunity of study is given and the way of studying in test taking skills, text book study, time management, nutritional aspects of the study, note taking skills, concentration and memory, analytical thinking and problem solving and vocabulary skills.

**Stress:** It is defined as a reaction to any event in which environmental demands, internal demands or both tax or exceeds the adaptive resources of a student.

### **Aims of the Study**

The broad aim of the study was:

To ascertain the interactive influence of Brain-Based learning and Hemisphericity on Academic Achievement in biology, Stress among students and Study Habits of students.

## Objectives of the Study

- To develop an instructional package based on brain-based learning
- To analyze the hemispheric preferences of students of experimental and control groups.
- To compare experimental and control groups on pre-test scores of the following variables: Academic Achievement, Stress, Study Habits of students.
- To compare experimental and control groups on post-test scores of the following variables: Academic Achievement, Stress, Study Habits of students
- To ascertain the interactive influence of Brain-based learning and hemispheric preferences of the experimental group on the following variables: Academic Achievement, Stress, Study Habits of students

## Hypotheses of the Study

The hypotheses formulated in the study were:

- 1) There is no significant difference between experimental and control groups on pre-test scores of the following variables: Academic Achievement, Stress, and Study Habits of students
- 2) There is no significant difference between the experimental and control groups on post-test scores of the following variables: Academic Achievement, Stress, and Study Habits of students
- 3) There is no significant interactive influence of brain-based learning and hemisphericity of the experimental group on the basis of following variables: Academic Achievement, Stress, and Study Habits of students

## Methodology

Quasi-Experimental method was selected for the study. The design adopted was factorial design, the pre-test, and post test quasi-experimental design. Experimental group constituted students which are selected randomly and they underwent experimental treatment namely brain based learning strategy.

## Sample

The study was carried out on a sample of 240 students from 4 schools in which two were private-aided 120 students and two were private-unaided 120 students.

- Three stage sampling technique was used at the first stage, stratified random sampling was used for selecting private-aided and private un aided schools.
- At the second stage, through simple random sampling (lottery method) schools were assigned to the experimental and control groups and
- at the third stage, the sampling technique used was incidental sampling in order to select students.

## Tools

Educational Hemisphericity (Venkataraman 1996), Study Habits Inventory Scale (Ferris, 2001), Stress (D'souza, 2007), Raven's Progressive Matrices, Achievement Test in Biology (Researcher-made) Personal Data Sheet

## Instructional Material

Lessons based on Brain-Based learning and Lessons based on lecture method.

## Techniques of Analysis of the Data

t-test, ANOVA, ANCOVA were used for the analysis of the data

## Significance of the Study

- The researcher found that the teaching would be highly effective if the teachers start using the principles of brain research in their classrooms.
- The findings of the study have a major bearing on the curriculum planners to explore new dimensions to keep students as well as teachers abreast with new explosions in research.
- It also provides scope for self-organized and self-directed learning along with interactive and collaborative learning and learning become authentic and situated learning.
- The findings of the research brought advantages of a holistic view of the classroom, taking the physical and affective dimensions of learners into account if their cognitive side is to function optimally.
- The incorporation of brain-based learning and hemispheric dominance is an effective way to broaden both the goals and the range of tools at disposal for teaching in the Indian context.
- The present study on brain-based learning and hemisphericity shows that it has got a significant influence on student's academic achievement, their stress level and it has the potential to make a remarkable change in students study habits also.
- The research finding supports that it develops dynamic interaction and more teacher-pupil collaboration, which leaves scope for better stress management options, which is a burning issue in the education sector.

## Major Findings of the Study

- Comparison of Pre-Test Scores on academic achievement, stress and study habits of Experimental and Control Groups shows that there is no significant difference in the pre-test scores of experimental and control groups on academic achievement, stress and study habits.
- Comparison of Post-Test Scores on Academic Achievement of Experimental and Control Groups shows there is a significant difference in the post-test scores on academic achievement of students of experimental and control groups.
- Comparison of Post-Test Scores on Stress of Experimental and Control Groups shows that there is significant difference in the post-test scores on total stress of

experimental and control groups. The obtained t ratio 20.61 is greater than 2.58 and hence is significant at 0.01 level.

- Comparison of Post-Test Scores on study habits of Experimental and Control Groups shows that there is significant difference in the post-test scores on study habits of experimental and control groups. The t- value obtained for the post-test scores on study habits is 27.42 which is greater than 2.58. Hence it is significant at 0.01 level.
- The null hypothesis states that there is no significant interactive influence of treatment and gender on academic achievement. The technique used to test this null hypothesis is the two-way classification of analysis of variance, (ANOVA). Since the F- ratio with respect to gender is found less than the table values hence it is found that there is no interactive effect of treatment and gender on Academic Achievement.
- There is no significant interaction effect of treatment and gender on total stress.
- There is significant interaction effect of treatment and gender on study habits of students.
- There is no significant effect of levels of intelligence on academic achievement and there is a significant interaction effect of intelligence and treatment on academic achievement and also found that there is no significant interaction effect of intelligence on stress and study habits.
- There is no significant interaction effect of hemisphericity and treatment on Academic achievement, stress and study habits of students.

### **Conclusions of the Study**

- There is an effect of the treatment on academic achievement in biology of VIII students.
- A significant variation is found in the stress levels of students from the experimental groups
- There is a significant effect of treatment on study habits of students from the experimental groups
- The treatment is effective in improving the academic achievement in Biology, reducing the stress levels of students and thereby enables better study habits among students.
- There is no effect of gender on academic achievement, stress- academic stress, examination stress and social stress and total stress.
- There is no effect of intelligence on academic achievement, stress- academic stress, examination stress, social stress separately and in total stress.
- There is a significant effect of intelligence on study habits of students. Moreover a significant interaction of intelligence (low and average IQ ) on academic achievement and study habits of students.
- There is no significant effect of hemisphericity on academic achievement, stress-academic stress, examination stress and social stress and total stress and study habits of students.
- There is a significant interactive effect of hemisphericity (right hemisphericity) on academic achievement and social stress of students.



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## *Comparing Elements of Electronic Curriculum and In-Person Training*

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### **Abstract**

**Introduction:** Today, the doubling rate of science, the utilization of new technologies, and consequently, the increased need for education and the resulting increased costs have prompted educational organizations and institutions to implement new educational solutions. E-learning is one of these solutions. The characteristics of an e-learning curriculum were compared to those of a conventional education curriculum using Francis Klein's model.

**Methods:** This research used a qualitative approach. Data were collected through structured interviews with 20 university professors using the purposive and convenience sampling method and were examined and analyzed using the qualitative methods.

**Findings:** Results showed that in the process of developing an e-learning curriculum, formulation of the curriculum objectives, content selection and organization, determining the learning activities, learners' groupings, and assessment methods were not addressed, and conventional education had a more favorable condition regarding these factors. However, e-learning curriculum had a more favorable condition in the factors of time, location, teaching strategy selection, and materials and resources.

**Conclusion:** Since a systemic approach is integral to the success of a curriculum, it is essential that the factor that ranked lower in this study be considered in redesigning the e-learning curriculums.

**Keywords:** Curriculum, e-learning curriculum, conventional education, Klein's model.

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## Introduction

Rapid, significant developments in information and communication technology (ICT) have influenced various fields in industry, agriculture, and services, as well as human resources education and training. Therefore, ICT has grown to be an integral part of the workplaces and classrooms, and business practices have altered communication and learning.

The art and science of education has integrated with the growth in ICT and created a new approach known as e-learning (Aury, 2005). Computer-based instruction, computer-assisted instruction, web-based instruction, web-based training, web-based learning, online learning, virtual learning, and other similar concepts, with all their slight or significant differences, are all concepts that appear in educational systems in the current decade. These concepts are all subsets of e-learning (Allen, 2006).

King, Young, Drivere-Richmond & Schrader (2001) argued that there is a difference between e-learning and electronic instruction, i.e., e-learning is wider than electronic instruction which is limited to the instructor and learner. Several definitions have been proposed for e-learning; however, e-learning is generally known as the approach to curriculum planning, in which computer and Internet tools are utilized in addition to the learner-oriented techniques (Singh, 2003).

With the introduction of ICT, higher education systems faced multiple challenges worldwide. Efficiency and effectiveness of higher education in various countries has been affected by the infrastructural viewpoint of epistemology on knowledge-building on the one hand, and application of convergent technologies in the world and the globalization as well as the need for addressing sustainable development of countries on the other hand. During the past centuries, universities have had a traditional view on knowledge and have developed curriculums in a way that knowledge has been considered due to its nature. According to this viewpoint, the need to incorporate the educational concepts and contents in curriculums existed merely in the framework of knowledge transfer to students (Bazargan, 2007).

However, thanks to the recent developments, the practical value and application of knowledge have also been addressed, and there has been an emerging view which should be considered in developing a curriculum. In addition, the applications of convergent technologies, such as bio-technology, nanotechnology, ICT, and cognitive sciences have increasingly changed the expectations of universities in the process of globalization.

This global culture has inadvertently influenced the development in countries and has challenged the universities at the dawn of the third millennium. Therefore, over the past two decades and in most countries around the world, there has been a special sensitivity towards aligning the curriculums of higher education with the developmental needs and higher education programs quality improvement. This has necessitated evaluating the quality of universities and other higher education institutes in most countries (Thomas, 2004).

The social evolutions of the recent century have made the interest in global education almost universal and inclusive as it is an effective factor in exploiting previous knowledge, increasing knowledge, and creating skills necessary for people to live better. Today, most experts believe that one of the factors in the development of any society is providing public education. However, given the increasing population, most

countries are faced with shortage of qualified teaching staff, the need for face-to-face communication between teacher and student, the need to increase the educational space, and the limited capacity of conventional educational systems. These countries are not able to provide public education using the conventional educational systems. Therefore, e-learning system is a tool which can provide public education (Akhondi, 1996). Kahen (2001) argues that although presenting the higher education courses electronically is promising, it is viewed rather cynically compared to other educational methods of the 21st century. Quantitative development of e-learning, as a new method of distance learning, has faced with many challenges such as students' learning, teachers' teaching methods, planning, and management evaluation methods. Some of the challenges are exclusive to developing countries, and some are common concerns in all countries. Additionally, academic failure in distance education is yet another challenge facing e-learning (Rekkedal *et al.*, 2003).

The available statistics show that academic failures in e-learning are approximately between 18% and 54% which is much higher than the conventional educational (Park and Choi, 2009). Literature shows multiple factors namely infrastructural, networking, cultural, psychological, and social factors are the underlying factors of success or failure of e-learning. However, the most influential factor is curriculum design. Today in Iran, there are numerous universities that offer e-learning as a complementary training.

In the early 2000s, many universities have entered this field, and there are now more than 20 universities and higher education institutes offering such services. The history of e-learning dates back to two decades ago in the world and one decade ago in Iran's higher education. One of the main, common challenges is students' dropouts and academic failure. High academic failure rate in countries having best technological infrastructures has received academic interest as a fundamental issue.

Doherty (2006) stated that academic failure rate is higher in e-learning compared to conventional education. Different rates have been reported; however, a 32% academic failure in e-learning is widely cited. Although academic failure is natural in both conventional and electronic education, when it increases, it becomes one of the biggest problems in the educational institution and a reason for their inefficiency. This leads to the loss of customers and the bankruptcy of the educational institution in a competitive market. In newly founded systems, such as e-learning, this problem would undermine the entire system and their universal acceptance as a form of education.

An educational system, as an objective phenomenon, has both quantitative and qualitative dimensions. Its balanced growth requires both qualitative and quantitative growth parallel to each other. Growth of an educational system while neglecting quality issues inhibits creativity eventually causing loss of human and financial resources (Ghourchian, 1994).

Given the development of e-learning in Iran and the allocation of millions of dollars to it, lack of knowledge about strengths and weaknesses of existing programs and curricula and not attempting to manage the neglected aspects of the curricula cause the loss of people's material and spiritual capital and will result only in a waste of time and energy. Daniel (2006) stated that various aspects should be considered in the e-learning quality evaluation. The most important factors are the educational

pedagogy, curricula, learning materials, learning support services, and learners' evaluation system.

The present study focused on evaluating the quality of these two educational systems based on the curriculums, and the comparisons were performed only regarding this dimension. Researchers have always faced with the problem of evaluating the curricula as the effectiveness of educational programs (i.e. the changes created in learners) cannot be measured precisely. Researchers have always faced challenges in evaluating the curriculums and teaching plans. However, researchers and planners have attempted to minimize this uncertainty by developing several models (Taghipour-Zahir, 2006).

Several models have been developed to assess curriculums such as Akker model, Eisner model, Ash model, Hilda Taba model, Feyersien model, Decker Walker model, and Klein model. Each model has a specific method regarding assessment approaches and objectives. The present research is based on the Klein model which was presented in 1986 and comprehensively evaluates a curriculum as a whole. The model consists of three views of curriculum, curriculum elements, and the quality of the curriculum. The focus of this research was on curriculum (9 curriculum elements), and electronic and conventional education curriculums were compared accordingly.

Several studies in Iran (Hormozi, 1994; Akhondi, 1997; Pashaei, 2005) and other societies (Gumundsdottiri, 2003; Kanwar and Koul, 2007; Parker, 2007; Rossi, 2011) were conducted which addressed and evaluated particular aspects of electronic and conventional education curriculums while neglecting some main elements of curriculums. The main question of this study was what differences exist between the elements of the electronic and conventional curriculum based on the professors' views according to the nine elements of the Klein's model (objectives, content, materials and learning resources, teaching strategies, learning activities, grouping, location, time, and evaluation) in universities.

### **Materials and Methods**

This qualitative research was conducted using content analysis in the University of Medical Sciences, Islamic Azad University, Payame Noor University, University of Applied Science and Technology during an eight-month period. Data were collected through unstructured interviews with 20 professors of the universities who had at least three years of teaching experience with modern technologies and had a thorough knowledge of these technologies and methods.

In other words, purposive and convenience sampling was used to select professors who were more competent to respond to questions regarding both theoretical and practical aspects. Books, articles, and documents available in libraries, literature, and the Internet were studied using the documentary method, and the Delphi method was used to examine the professors' responses. At first, the professors' entire opinions were collected using semi-structured interviews.

The approval and rejection of these predictions and their generalizability (external validity) were re-examined. The Delphi method was used because evaluations can be performed both qualitatively and quantitatively, and the Delphi method has both quantitative and qualitative characteristics. Because it is based on first-hand data, and also, quantitative analyses can be conducted on the data. On the other hand, the

Delphi method can be used to collect ideas and facilitate consensus among those who share a particular knowledge and are not necessarily in a direct confrontation, and, therefore, collective judgment of experts regarding a particular issue can be presented.

Data collection was conducted using longitudinal panel study. Twenty eligible individuals were selected as Delphi members, and interviews were conducted in a three-month period. Each interview was recorded and written word by word and coded manually as soon as possible. Interviews were continued until data saturation and lack of new information. The interview questions were initially in-depth and unstructured, and after that, they were unstructured and open-ended. Duration of each interview was 35-55 minutes depending on the flow and condition of the interview.

Twenty interviews were conducted at two stages. Responsive validity method was used to obtain validity and credibility. Modification comments were used to compare the researcher's understandings with what was actually meant by the professors. Another solution for obtaining validity and credibility was the control by experts where a researcher and an experienced professor in the field of qualitative research reviewed and examined different aspects of the study. After the face-to-face interviews, the main ideas of professors in response to the research questions were extracted using content analysis, deduction, and induction techniques, and 38 ideas were determined.

Once the median and quartiles were calculated, the position of each professor in the overall responses was communicated to them in order for them to adjust their comments to reduce the distance from median and move away from the first to fourth quartiles to achieve a consensus. Hence, the extracted ideas were presented to the professors through a questionnaire, and they were asked to comment on the strengths and weaknesses of the 34 ideas. At the next stage, the professors' comments were examined, and 14 ideas were excluded based on the strengths and weaknesses. After being modified, 20 ideas were presented to professors in the form of a questionnaire.

They were asked to evaluate the ideas and score them on a 0-5 basis. Results were classified based on Klein's model, and the elements of electronic and conventional curriculums were compared accordingly. Data analysis was conducted using comparisons which were constant and concurrent with data collection. The text of each interview was read several times and after breaking the text, the contents or themes, as the smallest meaningful constituent elements, were extracted, coded, and classified. In the end, the common ideas were identified after determining quartiles, frequency tables, and descriptive statistics, and using professors' consensus, the elements e-learning and conventional curriculums were evaluated based on the Klein's model.

## **Findings**

Table 1. Frequency distribution of the studied sample by university

University	Frequency	Percent	DensityPercent
University of Medical Sciences	6	30	30
Islamic Azad University	3	15	45
Payam-e Noor University	6	30	75
University of Applied Science and Technology	5	25	100
Total	20	100	-

As seen in Table 1, 30% of the University of Medical Sciences professors, 15% of the Islamic Azad University professors, 6% of the Payam-e Noor University professors, and 25% of the University of Applied Science and Technology professors participated in the study. Interviews were studied and analyzed to examine the differences between e-learning and conventional learning curriculums

**Question:** In your opinion, what is the difference between the elements of e-learning and conventional learning curriculums?

Results from individual, and sometimes paired interviews showed 34 differences expressed between the elements of e-learning and conventional learning curriculums which are as follows:

Clear expression, knowledge expressions, expected skills and attitudes, suitability to learners' needs and interests, suitability to modern scientific findings, strengthening mental processes, longitudinal and latitudinal relationship of the content, ability to increase awareness of the culture of society, economic issues and developments in the job market, creation of multiple learning opportunities, suitability to the purpose of sections and chapters, considering the scientific structure of the discipline, research and translation, classroom conferences, content analysis, teaching methods, promoting creativity and innovation regarding the subject, professors' proficiency in the subjects, methods being suitable to topics, access to the library and its resources, sources of information related to the content, access to the Internet and new resources, teamwork, creating active learning and research groups, educational environment and atmosphere, the use of computer, book contents proportionate to the semester duration, allocating time for students to ask their problems, weekdays, continuous evaluation, suitability to pre-determined objectives, diagnostic evaluation, evaluation methods proportionate to the content, addressing problem analysis, and offering solutions.

At the second stage and after the identification of the above elements, the professors were informed about the elements and were asked to have a second interview to comment on each element. Sixteen professors agreed to do so, and interviews were carried out. Fourteen elements were excluded. The results are as follows: clarity in stating objectives, content proportionate to learners' needs and interests, scientific findings, longitudinal and latitudinal relationship of content, ability to increase awareness regarding the culture of society, creation of multiple learning opportunities,

suitable book objectives, class conferences and content analysis, teaching methods, methods proportionate to topics, access to the Internet and resources, teamwork, social development of students, varied and attractive educational environment, book contents proportionate to semester duration, evaluation methods proportionate to the course content, diagnosis evaluation, considering high levels of cognitive learning, flexibility, and individual differences.

At the third stage, the obtained data were classified according to the Klein's model and were announced to the professors (Table 2). They were asked to comment based on the nine Klein's elements and the extracted factors regarding the electronic and conventional education curriculums and to determine its utility.





**Table 2.** Comparison between the elements of electronic and conventional education curriculums based on the Klein's model

Elements of curriculum based on the Klein's model	Agreed components	Status	
		Electronic	Conventional
Curriculum objectives development	Clarity in stating objectives	-	+
Selecting and organizing the content	Content proportionate to learners' needs and interests, proportionate to scientific findings, longitudinal and latitudinal relationship of content, proportionate to teaching objectives	-	+
Determination of learning activities	Creating multiple learning opportunities, classroom conferences, and contents analysis	-	+
Selecting teaching strategies	Active teaching methods, methods proportionate to subjects	+	-
Materials and Resources	Access to the Internet and new resources	+	-
Grouping	Teamwork, social development	-	+
Location	Diverse and attractive learning environment, flexibility	+	-
Time	Book content proportionate to semester duration, flexibility	+	-
Evaluation	Evaluation methods suitable to course content, diagnostic assessment, high levels of cognitive learning	-	+

Table 2 shows that curriculum objective design, content selection and organization, learning activities determination, learners' groupings, and assessment practices were neglected in developing an e-learning curriculum; however, e-learning curriculum had a more desirable condition regarding the elements of time, location, teaching strategies, and materials and resources.

## Conclusion

Academic systems always strive to achieve education and research quality. Significant efforts have been made regarding continuous qualitative improvement in higher education in the recent years in many countries. An educational system has quality only if it is free of any shortcomings as the shortcomings in the system are its flaws and imperfections which would deprive the system of achieving the desired results. Therefore, detection is the first step in eliminating the shortcomings and flaws in a system. A correct detection includes improvements in educational plans.

The requirement of a correct detection is to utilize evaluation models to correctly judge the constituent condition and improve it. Thus, since a systemic view is essential to the success of a curriculum, it is necessary to address the elements which had an undesirable condition (curriculum objectives development, content selection and organization, learning activity determination, grouping and evaluation) in redesigning the e-learning curriculum in order to enhance their efficiency and effectiveness. Results also showed that although a huge amount of budget is spent annually on e-learning, and it has been considered to be a necessity in the Fourth Development Plan, it has not succeeded to be an effective alternative to conventional education which necessitates further research.

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***Barriers to E-Learning in Higher Education System in Iran***

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The IAFOR International Conference on Education - Dubai 2015  
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**Abstract:**

In recent years, use of technology in learning environments has become a serious necessity so that most universities in Iran are now somehow enjoying the benefits of e-learning systems. Sometimes, however, there are limitations that reduce the effectiveness of such systems. Methods: The statistical population of this descriptive survey (field) study include all postgraduate students of Islamic Azad University, Tehran Medical Sciences Branch. Using random sampling, 200 individuals were selected as the sample group. A researcher-made questionnaire was used to collect data, whose validity and reliability were confirmed using exploratory factor analysis and Cronbach's alpha. The one-sample t-test and the Friedman test were used to analyze data and prioritize components, respectively. Results: After data analysis, 6 components were identified as the most important barriers to e-learning at Tehran Islamic Azad University of Medical Sciences. The most important components are as follows: 1- Lack of adequate software and hardware facilities. 2- Low speed and numerous problems during implementation of educational process. 3- Lack of training courses for students. 4- Students' inability to search and obtain information from the Internet. 5- Experienced teachers' unwillingness to apply e-learning. 6- Lack of clear instructions and rules in this regard. Discussion: E-learning plays a significant role in students' educational success so that nowadays, very few classes deprived of use of technology can be found. However, the effectiveness of e-learning method has been questioned. Therefore, necessary infrastructure must be provided in order to achieve better results.

**Keywords:** Barriers, E-Learning, Higher Education

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## **Introduction:**

Human life has had many vicissitudes in the way of achieving perfection and advancement since the very beginning of history. What has been observed within the recent years indicates the ever-increasing development and marvelous rate of changes with the help of information technology and increasing growth of knowledge and public awareness. It is obvious that the old methods of generating and distributing knowledge which were designed according to face-to-face communications are gradually losing their effectiveness, and it seems essential to make use of new tools. In order to meet this requirement, E-learning, which is an evolved form of old teaching and learning methods with the use of information technology, was rapidly introduced as the preferred method of learning in the knowledge age.

By late 50s, a transition started worldwide which later became known as the third wave. Ever since, information technology, as the leader of this pioneering wave, has constantly brought new inventions for the humankind. These innovations have been appearing so frequently and rapidly that a newer product with better features, easier use, and less expenses is presented before its predecessor has finished its full development and publicizing process; and thus the older product leaves the scene to the newer innovations.

The development of educational system is one of the main challenges with which educational policymakers are faced in the realm information and communication technology. Revising the educational system is considered to be one of major subjects which should be taken into account due to the dramatic impact of technology and its growing influence on different elements of educational system. Thus, a coordinated system can be designed to constantly participate in the realm of information so that its consistency and durability would be guaranteed (1).

In such cases, one of the modern and efficient methods of developing the education and providing every enthusiast with a learning opportunity in every place and at every time is to benefit from the advantages of the Internet and E-learning. Cruzan and Anderson stated, "E-learning will definitely resolve all the educational and learning problems in the 21<sup>st</sup> century, and the Internet is the main principle in the development which has been caused by E-learning."(2)

The traditional method of teaching, which is currently followed, cannot keep up with the rapid progress of science and knowledge movement and the continuously changing needs of societies in the informatics world alone. On the other hand, education does not end in higher education facilities, and it must continue during the professional career. Therefore, familiarity with new education methods will indicate its importance.

The application of modern education methods is so important that some experts have considered the mastery over these methods to be more important than a teacher's knowledge and information (3). The emergence of information technology and E-learning courses has been surprising in the universities and colleges in the United States for the recent years so that 70% of them have pointed towards the use of E-learning (4 and 5). However, computer-assisted learning has its own constraints such as the fact that it may not be an appropriate substitute for the teacher, human and

emotional interactions, and the face-to-face communication established in the classroom (6). Other researches indicate that virtual education will be successful and efficient in case the educational content is properly compiled and evaluated (7).

## **Research Methodology**

### **Population, Sample and Sampling Method**

Given the fact that this paper aims to investigate the barriers for E-learning in higher education system, the research method is descriptive-applied survey. The statistical population of the present research includes the entire students of higher education at the Islamic Azad University Medical Branch of Tehran. 200 individuals were selected as the sample group through random sampling method. Finally, the data obtained from 193 questionnaires were analyzed.

### **Research Tool and Data Collection Method**

In this research, an author-designed questionnaire was used to collect data. It had three sections (introduction, research demographic variables, and research questions) and 20 questions which were designed according to the five-item Likert scale. In this test, Cronbach's alpha has been estimated on a sample including 21 individuals ( $\alpha=0.89$ ). The content validity and exploratory factor analysis were used to evaluate the validity and reliability of the test. After conducting the factor analysis on the collected data, 8 questions were deleted from the research, and the data obtained from 12 questions were analyzed.



## Findings

**Table 1: The Results of Single-Group t-test for Comparing the Current State of E-Learning with the Desired State**

**Table 1: The Results of Single-Group t-test for Comparing the Current State of E-Learning with the Desired State**

Item	Mean		Standard Deviation		Mean Difference	t	sig	
	Current	Desired	Current	Desired				
I T E M S	Teachers' Ability to Search for and Acquire Information on the Internet	3.20	4.43	1.19	0.78	1.21	10.06	0.000
	Students' Ability to Search for and Acquire Information on the Internet	2.03	3.22	1.41	1.2	1.29	-0.38	0.000
	Holding Teacher Training Courses	2.07	3.01	1.16	0.75	0.94	8.41	0.000
	Holding Student Training Courses	2.35	3.91	1.33	0.97	1.56	3.94	0.000
	Teachers' Tendency to Teach in E-Learning	2	2.72	1.16	1.17	0.72	9.33	0.000
	Students' Tendency toward E-Learning Courses	3.4	4.45	0.99	0.78	1.05	12.42	0.00
	Having a Long-Term Plan	3	3.22	1.29	0.83	0.22	6.5	0.000
	Having Guidelines and Clear Regulations	2.43	3.65	1.22	1.56	1.22	1.39	0.000
	Sufficient Software and Hardware Pieces of Equipment	2.43	4.42	1.17	0.86	2.12	6.73	0.000
	Having Experts Supervisors	3.31	4.36	1.27	0.93	1.05	8	0.000
	Insufficient Speed	2.74	4.4	1.12	0.85	1.66	9.08	0.000
	Insufficient Budget	3.7	4.45	1.12	0.76	0.75	10.35	0.000

According to Table 1, it can be stated that the discrepancy between the current and desired states is considered to be a type of desire or preference because all the calculated values are larger than the critical value. Therefore, the difference between the current state and the desired one can be considered to be a barrier for implementing and benefiting from E-Learning. To prioritize the components, the discrepancy between the current state and the desired state has been calculated for each component. The results are reported in Table 2. Since the main research problem was to identify and prioritize the barriers for E-learning and they were considered to be a type of gap or distance, the prioritizing criterion was based on the observed differences. Therefore, the more distant these two states were, the higher priorities the barriers were given.

**Table 2: Mean and Priority pertaining to E-learning Barriers****Table 2: Mean and Priority pertaining to E-learning Barriers**

Requirement	Barrier Severity	Barrier Priority
Insufficiency of Hardware and Software Equipment	2.12	1
Low Speed and Various Problems during the Execution of Learning Process	1.66	2
Lack of Student Training Courses	1.56	3
Students' Inability in Searching for and Acquiring Information on the Internet	1.38	4
Teachers' Reluctance to Adopt E-learning Methods	1.29	5
Lack of Guidelines and Clear Regulations in this Field	1.22	6
Teachers' Inability in Searching for and Acquiring Information on the Internet	1.21	7
Students' Reluctance in E-learning Courses	1.05	8
Lack of Expert Supervisors	1.05	9
Lack of Teacher Training Courses	0.94	10
Insufficient Budget	0.75	11
Lack of a Long-Term Plan	0.22	12

According to the information on Table 2 and given the mean difference between the current state and the desired state (difference between two situations), the most important barriers for E-learning are as follows: insufficient hardware and software equipment (2.12); low speed and various problems during the execution of learning process (1.66); lack of student training courses (1.56); students' inability in searching for and acquiring information on the Internet (1.38); experienced teachers' reluctance to adopt E-learning methods (1.29); and lack of guidelines and clear regulations in this field (1.22).

## Conclusion

The quality of education and research are among the concerns which the university systems always attempt to fulfill. Many considerable efforts were made in order to improve the quality of higher education continuously in many countries in the recent years. An educational system has the necessary quality when it has no flaws. Because the flaws of a system are considered to be its defects and disadvantages; as a result, the desired outcome will not be achieved.

Therefore, as the first detection step, it is necessary to remove every defect or deficiency in a system, and the correct detection leads to the improvement of instructional programs and curricula. Generally, it can be stated that information technology is extraordinarily capable of modifying and reforming teaching and learning activities in all higher education institutions. It provides facilities to design modern and scientific environments, a fact which was not feasible before. Therefore, many universities are willing to hold E-learning courses to benefit from IT capabilities in the form of E-learning or online learning. However, various researches indicate that the improvement of E-learning is faced with many problems and difficulties in the educational system.

They may impose large costs on the educational institutions because the policy makers and educational planners are not familiar with them. Given the findings of the current research, some suggestions were made. Using the experiences of successful virtual universities, the necessary standards were provided for the evaluation of learners and teachers in the virtual university. Also, some plans were made to control and evaluate all the efforts made in virtual university and to detect new education approaches such as cooperative learning, autonomous learning, interactive cooperation, and the problem-solving approach. So they could be conveyed to the learners and teachers. Also, some training courses would be planned and held for the learners and teachers on the virtual university. In this regard, it is essential that the officials evaluate the necessary changes in objectives, content, and teaching methodologies and revise the ways in which traditional courses' certificates are granted so that they would be compatible with E-learning.

Given the advantages and available opportunities, familiarization and advertisements in virtual education, determining a responsible organization which operates under the supervision of the Ministry of Health and Medical Education and the Ministry of Science and Communication Technology in this field, preparing the development infrastructures and creating virtual learning have defined a proper structure. Also, the necessary sections, positions and human resources are defined in this organization.

Then it attempts to set strategies, relevantly determined long-term and short-term objectives, and the desired time, expense, and human resource to conduct a research in each field. A research and development unit, as the most important unit, must collect and analyze up-to-date information on virtual university. In this regard, communications can be made with the research and development units from successful universities in the work so that their experiences and knowledge can be exploited. Moreover, some training courses can be planned for governmental policy makers in order to make them familiar with the importance and advantages of virtual university.

Therefore, the financial and moral support is provided by the government. The briefing sessions can be held for private sectors to familiarize them with the virtual university, and their financial and intellectual support can be attracted, too. Benefiting from organization's technical specialist in virtual learning, we have attempted to familiarize and teach the learners and teachers. In E-learning, the universities can familiarize people through websites. English teaching and learning organization insists on needs assessment, demand creation, and provision of education at a comprehensive level and in different forms (such as workshops, manuals, journals, CDs, and self-supporting applications) so that it could be helpful to consider encouragements in these environments.

Also, it is vital to design and implement motivational and supportive mechanisms such as providing facilities, improving the knowledge and skill, financial helps for purchasing technology and using it in order to increase the enthusiasm in virtual learning. Some plans should be organized in order to determine the cost, time, resources and technologies which are required to improve the hardware infrastructures and to specify the priorities.

Using the internal experts and available technologies, then the necessary measures would be taken and the essential supervision would be done. More budget and time should be allocated to the improvement of necessary infrastructures in order to create and develop virtual learning in the organization and also to elevate the culture in the virtual university. The general objectives of implementing the activities are as follows: supporting the infrastructures in the university, generating the networks, establishing the development center of communicative infrastructures which would be appropriate at all levels of the university, generalizing the public access to the network and computers, making policies at the university and supervising ICT processes (8).

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***Studying the Importance of Planning Components in Virtual and Conventional Training of Nursing***

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**Abstract**

**Introduction:** Virtual education in medical schools because of the sensitive and critical nature of the work areas covered is new and falls behind the universities of the Ministry of Science, Research and Technology in Iran. Curriculum planning is an important tool for the realization of the goals and overall mission of higher education. This research tries to address the important components of training curriculum in virtual education from the view points of the faculty board member of Nursing and Midwifery.

**Methods and Materials:** Sampling was conducted in nursing and midwifery faculty of Tehran Medical Sciences Branch in Islamic Azad University. The research tool was a researcher made questionnaire. Cronbach's alpha showed good internal consistency of questionnaire ( $\alpha=96\%$ ). Samples include of 21 academic of the Faculty of Nursing and Midwifery, the Likert items scale questionnaire consist of 55 items. Descriptive statistical, and non parametric tests were used for data analysis using the SPSS 16. A P- value less than 0.05 was considered significant.

**Results:** In sub domains of virtual learning, the most score was related to "Learning Activity", "materials and curriculum resources" and "Teaching strategy" and the least score was in "Learning environment", respectively. In questions related to barrier of E-learning, the most ability of faculty member was " the possibility of organizing training courses for teachers" and the least ability related to " internet speed".

**Discussion:** The curriculum designers should pay special attention to the above cases when they prepare the curriculum programs due to the needs of today's universities for virtual education. The first step also is recognition of strength and weaknesses at the universities to realize the implementation of virtual education.

**Keywords:** virtual learning, curriculum, conventional learning, nursing

## Introduction

Humankind is learning and acquiring knowledge throughout own life. Education issue is also coordinating and strengthening with development of technology step by step. Therefore, learning is one of the basic needs for the people and it is obvious that living in a developed society of today that the information are changing and improving continuously, the man who is unaware of these changes is unstable and isolated from the society (Agha Kasiri and Fazelian, 2006).

Tools and techniques of education have also developed and expanded due to the advancement and development of information technology and using telecommunications in the society. These development and changes are in a way that people can learn their own facilities, regardless of the pre-specified time and location (Kennedy,2008).

On the other hand, society cannot respond to all people who are training with increasing population. Therefore, a strategy is needed to be find so that education will be possible for all with the lowest cost(Agha Kasiri and Fazelian,2006).

One of the new methods is education of skills by virtual systems (Aggarwal and colleagues, 2003).Virtual education is a tool and process of knowledge transfer to the teaching-learning with a modern style and comparative advantages(Shah Beigi and Nazari, 2011). The main objective of this approach is that it can help learners to develop skills at higher levels (Aggarwal and colleagues, 2003).

E-learning, Computer-based training and Web-based training are selected methods for new ways of learning(Shah Begi and Nazari,2011).

Virtual education is the acquisition and use of distributed knowledge and is facilitated through electronic means such as the Internet, Satellite, Audio-Visual recordings, TV and etc. Virtual Course term covers broad range of application and processes. The synonym terms of virtual education are E-learning, Distance learning, Distance education, Internet-based learning, Learning Network, Computer –based training, Digital Course, Online learning, Web-based training and Mobile learning( Rezaei Rad,2011). The history of using virtual technology-based learning returns to the first decade of 1800s BC.

In fact, virtual education is begun by corresponding education in the mid of 1800sBC. The tools such as slides and motion pictures entered the class as the educational tools with production and development audio-visual equipment, and the advent of the television industry created milestone in the process of supplementary in distance education (Agha Kasiri and Fazelian, 2006). The advent of the Internet has also been creating new challenges in the educational field, and using an appropriate plan of the Internet and infrastructure for education has been noticed during recent years(Shah Beigi and Nazari, 2011).

Nowadays, many of the developed countries are creating and establishing the virtual classes and universities. Virtual education is the appropriate field for increasing talents, creativities, innovations and it also causes to increase the efficiency of learning processes ( Kheir Andish, 2011).

Of course, virtual education via the Internet or E-learning is a new industry in distance learning technology in Iran. Therefore, educational Institutions and centers especially universities are trying to provide the education according to our country's standard (Agha Kasiri and Fazelian,2006). A growing wave of virtual education is creating in Iran and it seems that the presentation of many fields will do via the virtual education, in the next few years( Rahman Poor, Liyaghatdar and Afshar, 2009). E-learning includes the main advantages compared to the traditional learning. The most important of them are flexibility, removing the costly and unnecessary trips for company during the training courses. But This educational method includes another advantages is as follows:

- The expense of E-learning courses are not expensive and these courses can be formed by using software and available tools.
- Learners are able to set the process of learning according to their requirements. The most E-learning programs are used by learners whenever they need them.
- The speed of learning at E-learning compared to the traditional learning is more, and the speed and improvement will be 50 percent at least. The learners of these courses are able not to study the contents are familiar with them and they can study the new contents.
- E-learning is separate from the time and location variables.
- When the subjects are represented in the form of text, image, sound and motion, there is a less need to take notes with a pen on the paper. So, this representation leads to save the production of such stationeries.
- These kind of programs have more attractive for learner.
- Learning methods are important at the virtual universities and research is highly valued (Givehkei, 2004).
- One of the undeniable advantages of virtual education is evaluation issue. In this kind of education, evaluation not only is done more faster but also is movement towards self-evaluation which is one of the important objectives of Education that is being formed in this training. A learner acquires better recognition to himself/herself with own continuous evaluation and it will be effective in the learner's development (Agha Kasiri and fazelian, 2006).

Universities under the Ministry of Science, Research and Technology in the country of Iran have started activities in applying this method during two recent decades. In the following of it, Virtual education must have been become prevalent at medical universities of country (Noorian, 2011). Virtual education at medical universities is new and more underdeveloped than the Ministry of Science, Research and Technology universities due to the sensitive and important nature of the covered practical areas and finally, the maximum of the work that has been done is the establishment of a number of Master Course (mostly theoretical Courses) that are virtually( Kazem Poor, Ghaffari, 2011).

The various studies have shown the beneficial effective of education in various medical courses by the use of Virtual systems (shahsavari Esfahani and colleagues, 2011). In this case, Shahsavari says that "using virtual systems is recommended due to being active of learner in learning based on learners' capability and due to the interactive nature in the kind of training in medical education, although using the traditional method along with new education can provide the deep field of learned



skills, with the consideration of being new of Virtual education in many practical skills.

Noorian and colleagues (2011) have also evaluated positive the use of Virtual method in amount of the student knowledge in theoretical course of sociological dentistry field and believe that it can be used as a replacement method for dentistry colleges of country with consideration to it 's prominences in provision that educational facilities and necessary requirements will be provided. The equal opportunities of education for all and everywhere with advert of modern technologies cause undoubtedly that the presentation of lessons are varied and continued.

But this does not cause a deep and effective learning alone. So, it will be created a focused approach based on human learning and not based on the new electronic tools for designing, development and preparation of effective E-learning Courses in addition to considering all involved factors in the failure of previous projects (Turkashvand and Attaran, 2014). Success in implementation of E-learning program requires the correct process of planning principles, designing, evaluation and creating online learning environments ( Rezaei Rad, 1391).

Since there is a desire for holding the courses of Virtual education in nursing at Nursing and Midwifery of Islamic Azad university, Tehran medical branch, we decided to study the importance of planning components in Virtual and conventional education from the faculty's views at the first step.

### **Materials and Methods**

Sampling was conducted in nursing and midwifery faculty of Tehran Medical Sciences Branch in Islamic Azad University. The research tool was a researcher made questionnaire. Face and contentment validity were used for questionnaire. Cronbach's alpha showed good internal consistency ( $\alpha=96\%$ ). This pilot study is a component of a larger survey was approved by research committee of Islamic Azad University, Tehran Medical Sciences Branch samples include of 21 academic of the Faculty of Nursing and Midwifery, the Likert items scale questionnaire consist of 55 items (43 items about the importance of curriculum and 12 items in e- learning).

Descriptive statistical included (frequency, mean  $\pm$  standard deviation), and non parametric (Kruskal-Wallis and Mann- Whitney) tests were used for data analysis using the SPSS 16. A P value less than 0.05 was considered significant.

## Findings

All participants in this study were female and the mean age was  $39.28 \pm 4.52$  (Table 1). In this pilot study 12 person (57.1 %) had less than 10 years work experience, 6 person (28.6 %) between 11 and 20 years, and 3 person (14.3 %) more than 20 years (Table 2). 85.7 % of participants, as well as a master's degree and 14.3 % had a PhD degree. In this study 71.4 % of participants were faculty member.

Table 1: The mean and standard deviation of the participants age

Statistics		
Age		
N	Valid	21
	Missing	0
Mean		39.2857
Std. Deviation		4.52927

Table 2: the work experience of the participants in the study (year)

Experience					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 10 y	12	57.1	57.1	57.1
	11-20 y	6	28.6	28.6	85.7
	More than 20 y	3	14.3	14.3	100.0
	Total	21	100.0	100.0	

In sub domains of virtual learning, the most score was related to "Learning Activity ( $12.85 \pm 4.39$ )", " materials and curriculum resources ( $12.85 \pm 3.26$ )" and "Teaching strategy ( $12.71 \pm 3.82$ )" and the least score was in "Learning environment ( $5.42 \pm 1.43$ )", respectively.

Table 3: Mean and standard deviation of answer the questions about study areas

Statistics									
	T-Goals	T-Learning Content	T-Learning activities	T-Teaching Strategy	T-Team work	T-Material Resources	T-learning Time	T-Learning Environment	T-Evaluation
Mean	8.42	10.00	12.85	12.71	7.14	12.85	9.71	5.42	10.00
Median	10.0	10.00	11.00	15.00	7.00	14.00	11.00	6.00	10.00
Std.D	2.31	2.38	4.39	3.82	3.02	3.26	2.72	1.434	2.44

Also, there was statistical significant correlation between all subcategories in virtual learning ( $p \leq 0.05$ ).

In Non parametric test(Mann-Whitney) there was significant difference in mean ranks of "Team work( $p= 0.026$ )" and "learning time" ( $p= 0.031$ ) by" job position"(faculty member and non faculty member). so, the most score of "team work" and "learning time" among non faculty member was more than faculty member (15.5 V.S 9.20)(Table 3).

In questions related to barrier of E-learning, the most ability of faculty member was " the possibility of organizing training courses for teachers" ( $2.43 \pm 0.5$ ) and the least ability related to " internet speed" ( $1.14 \pm 0.35$ ) .

In sub category of "learning activity ", "the importance of virtual learning in high-level cognitive skills (such as analysis and synthesis)" was determined more than conventional training( 71.4 %). Also the virtual learning has presented as a motivator in learning process (57.1 %).

In sub category of "learning strategies ", the importance of "numerous ways using a variety of teaching to help students learning", " according to the regulatory role of the teacher " and "Using the problem -oriented methods " (42.9 % ) in virtual and conventional training are the same.

The importance of "relevant to the needs of students " ( 71.4 % ), " relevant to the objectives of learning " and " accredited educational resources " ( 85.7 % )

In virtual and conventional training were rated similar in sub category of materials and curriculum resources.

## **Discussion**

The results of this research show that " learning activities", "materials and curriculum resources", and "teaching strategies are more important rather than the conventional education in virtual education. The results of research entitled "recognition of privileges of electronic curriculum in Higher Education in the views of curriculum specialists and Information Technology (IT) show that all of component principles of learning activities, teaching strategies, grouping, the time, location and evaluation are more important rather than the conventional education from the curriculum specialists' views.

IT specialists have also expressed all the component principles of time and location are more important rather than the conventional education. There is also the difference between the Information Technology (IT) and curriculum specialists about the principals related to components of objectives, content, learning activities, teaching strategy, grouping, material and resources, and evaluation. But there is no difference between the components of time and location (Zarei Nojini, 2010).

The main subgroups are “ the high –level cognitive skills (analysis and synthesis)”(71.4%) and “encouragement of group learning” (57.1%) about learning activities. One of the strategies that Philip Zack and some of his colleagues suggest for the effectiveness of distance learning is creation a learner-based activity for independent work and teamwork, so that eventually leads to the development of group activities.

One of the ways for overcoming the challenges of electronic classes (E-learning) is preparation of various forms of activities such as discussion and debate, feedback, reflection and criticism that is suggested by Rafeld and Hey Mystra( Sarkar Arani and colleagues, 2003).

The main subgroups of materials and curriculum resources are “ Designing of curriculum based on the students’ need”, “being relevance to the objective of learning” and” authentic resources of materials” of course, the importance of mentioned subjects in virtual and conventional education are the same in participants’ views at study. One important feature in the virtual environment of learning is access to a variety of materials and resources’ of learning. Each learner can access to the extensive resources of learning with acquisition of searching skills.

This access will allow the student has different views to the learning issue and acquires an overview to that subject. Although Internet resources have provided the access to a variety of materials and learning resources, but some of these resources don’t have enough validity. (Seraji, 2007). Therefore, the virtual curriculum designers should select and prepare the authentic learning resources among the extensive resources based on the amount of correlation of resources between subject and learning objective, the amount of coverage in learning content, appropriate resources related to the individualities of learners, The amount of knowledge and needs of learners, being update of resources, being relevance to the real life and scientific validity( Nidoo, 2003).

Subgroups of “using different methods in teaching to help students learn”, attention to the supervisory role of teacher“, and “ being subject-oriented” are the same important in virtual and conventional education. The results of research entitled “ The effect of correspondence among teaching and learning styles on efficiency of the students’ performance” show that correspondence among teaching styles – learning styles on efficiency of the students’ performance, have a positive and meaningful influence (Eskandari and Salehi, 2009). At present this university has a good ability to create the educational courses for teachers, because of having facilities for implementation of virtual education and the participants’ views at the study, but the speed of Internet is not appropriate.

The results of research titled “ Study and prioritization of the effective factors in the successful implementation of E-learning from the faculty members’ views of Fasa medical university show that the highest priority are in order favorable views of university officials for development of E-learning, access to the broad band Internet, access to the necessary software for expanding E-learning among the factors.

In fact, the most important factor in the successful implementation of E-learning was the set of technology (Bordbar, 2010). In a recent study it is also expressed the main obstacle to the implementation of virtual learning is "the appropriate speed of Internet" ( $1.14 \pm 0.35$ ) that it is similar to the study. This means that first there is a need to be proved the main obstacle that is the slow speed of the Internet for successful implementation of E-learning in this faculty in the participants' views at the study.

The results of this research shows that "learning activities", "materials and curriculum resources" and "teaching strategies" in virtual education are more important rather than conventional education. So the curriculum designers should pay special attention to the above cases when they prepare the curriculum programs due to the needs of today's universities for virtual education. The first step also is recognition of strength and weaknesses at the universities to realize the implementation of virtual education.



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***Education, Power and Empowerment: Developing Transnational Educational Spaces through Social Media***

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## **Introduction: Social Media as the New Transnational Educational Space**

The ambiguous relationship between the educational potential of social media and youth's civic engagement is examined in this paper. The paper examines the potential of social media in providing a transnational space for global networked youth's education and civic engagement. This paper, in its first part, will provide a survey of the field on social media's educational potential. The second part of the paper will briefly present some initial results of the lead author's 3-year project on the potential of social media for civic engagement<sup>1</sup>. Arguments in this section problematize the romantic and over-optimistic expectations attached with social media in relation to its educational potential. The third part of the paper will make connections between globalization, social media, education, and empowerment and examine the barriers and hurdles that prohibit social media in achieving its full potential especially in providing the type of transnational space conducive to empowering and engaging youth in civic issues.

Social media are ubiquitous features of contemporary Canadian society; they are unique spaces where the participants are not mere consumers of the discourses but also active producers of these discourses. Almost one in every two Canadians uses social media in one form or another. Canadians are one of the most 'networked' people in the world. According to Facebook Canada, more than 19 million Canadians log onto Facebook at least once every month, while 14 million check their newsfeed every single day (Facebook Use in Canada, 2013).

An average Canadian user has 190 friends as compared to 30 friends of an average global Facebook user. S/he is connected to 80 community pages, groups and events. On average, the Canadian users share 30 billion pieces of content each month. While these figures are significant in their own right they also point out to the fact that the space for conversations and contestations over civic and social justice related issues has expanded exponentially. Significantly, it is important to ask if the new participatory transnational space created by the social media has the potential to alter the epistemology of the digital subjects.

One example would be to look at the online discussions taking place regarding civic issues and those related to justice and equity (Arshad-Ayaz, A. 2015). Do online interactions change youth's level of engagement in civic issues; how do young people define their use of the transnational space made available by social media; do they engage more in local or global issues; how youth is engaged in understanding and articulating the 'self' and the 'other' in the current interconnected global world? Do social networking sites provide a space which has the potential to re-shape, re-interrogate and re-create knowledge that is outside of the hegemonic, normative media and cultural locus and how do young people see and evaluate their own use of this transnational networked space in terms of their civic engagement?

Debates on role of social media in relation to civic participation and engagement have increased since recent world events. Events as diverse as the Arab Spring, 2008 US Presidential elections, the occupy movement, and the student protests in Quebec have

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<sup>1</sup> These are initial results from Dr. Arshad-Ayaz's research on Facebook and civic participation funded by FQRSC.

one thing in common—the role played by ICTs and social media such as Twitter and Facebook in mobilizing citizens in the context of civic engagement and active citizenship. Youth involved in various social movements used the new social and political spaces to identify issues, engage with their fellow citizens, participate in the political processes, and articulate demands for social, political and distributive justice.

These events also ignited the debate in the educational contexts between those who argue that the use of the social media is primarily for entertainment and thus results in a decline of interest in social issues (Leung & Lee, 2005; Nie & Hillygus, 2002; Shah, Cho, Eveland & Kwak, 2005; Kraut, et al., 2002,) and their detractors who argue social media actively enhance civic engagement, and political participation and result in active participatory citizenship (Arteaga-Sanchez et al. 2010; Lamanauskas et al. 2014; Lordache, 2014; Delli Carpini, 2000; Stanley & Weare, 2004). Bouliane (2009) in a meta-analysis of 38 studies examining 166 effects argued that there was inconclusive evidence on Internet having a negative effect on political life or having any substantial impact on civic engagement. The development of Web 2.0 with a host of interactive social network sites has only complicated this debate further.

With respect to the potential of social media to engage youth in civic issues, there has been a growing realization that the youth is increasingly disengaged from the traditional political process and the polity (Dougherty, 2015). There have been concerns about the declining public sphere and the weakening of the spirit and sense of citizenship. These concerns have resulted in calls for a renewed effort to revive citizenship education in order to reinvigorate civic engagement and participation.

While many have argued that there has been a decline in youth's civic engagement since neoliberal economic globalization gained momentum some 30 years ago, concerns about youth's disconnection from public life, have become paramount in the recent years.

Evidence from politics and social movements has led to a view where many within education are looking at social media as community-building and mobilization tools that can be used to educate students in becoming more engaged in civic and political issues. At the same time research has identified professional and ethical issues, especially with regards to in-service teachers' questionable online conversations (Horvath, 2008; Shapira, 2008). Nevertheless, scholars working on social media in the educational context agree that faculties of education, staff and students need to know more how to use the medium to fully engage stakeholders.

This agreement among scholars is in consonance with the Canadian Policy and Research Network's (CPRN) recommendations on civic education. CPRN recommends creation of conditions and spaces for "authentic interaction with young Canadians on issues of civic engagement and governance" (Llewellyn, et al, 2007: p.18). The popularity of social media and their potential role in fostering civic engagement raise some important questions within the educational context: Are social media being used as spaces for conversations on and education for civic engagement? How do youth define their experience of the participatory technology to engage in issues related to civic participation?

## Social Media's Educational Potential

Literature on Social Media/Facebook (FB) and Education can be divided into, a) research that deals with social media in general and, b) research that specifically focuses on Facebook. The popularity of Web 2.0 (Social/participatory media) has led to an increased interest for educators to explore how participation in social media in general can fulfill certain academic purposes (Arteaga-Sanchez et al. 2010; Lamanauskas et al. 2014; Lordache, 2014; Collins & Halverson, 2009; Greenhow & Robelia, 2009; Kist, 2009).

Researchers argue that, owing to their interactive platform, social media allow for the collaborative exchange of ideas, which can help students acquire critical thinking and problem-solving skills (Beach, et al, 2009; Beach & Doerr-Stevens, 2009; Erduran & Jiménez-Aleixandre, 2007). The social networks also provide multiple audiences, better chances of “dialogic argumentation” (Clark & Sampson, 2008, p.294) and the potential to promote debate on civic and community issues (Bagley & Shaffer, 2009; Greenhow & Robelia, 2009). Research shows that youth are interested in social media to explore identities and experiment with social interaction (Xenox and Foot, 2008; Montgomery, 2008). For youth technology (including the social media) is as much a part of everyday life as other amenities, experiences and artifacts of contemporary life.

As networked publics these networked citizens actively participate in production and consumption of social, cultural and political meanings and knowledges (Rheingold, 2008; boyd, 2008, 2012). Social media provide the space where these networked individuals gather as publics, and the private voice of the networked individual can be transformed into a public voice (Rheingold, 2008). Finally, social media understood as participatory media provide the networked publics the possibility for participation and engagement with various “genres of participation” (Ito, 2008, 2009).

Facebook specific research (Robert et al., 2012) shows, that a quarter of the research on Facebook is based on descriptive analysis such as demographic patterns and time-use trends (Chang, Rosenn, Backstrom, & Marlow, 2010). Remaining studies focus on a variety of issues such as, age related usage (Quinn, Chen, & Mulvenna, 2011); users' abilities (Buffardi & Campbell, 2008); motivation factors for using FB (Joinson, 2008; Saleh et al, 2011; Sheldon, 2008); maintaining and strengthening relationships (Ellison, Steinfield, & Lampe, 2007; Lewis & West, 2009; Burke, Marlow, & Lento, 2010); social grooming (Tufekci, 2008); ease of use and social bonding (Gosling 2009; Burke, 2010); differences in user engagements (Wise, Alhabash, & Park, 2010); self-promotion (Buffardi & Campbell, 2008); influence of cultural norms on FB identity construction (Karl, Peluchette, & Schlaegel, 2010); and FB as a business tool, (Dholakia & Durham, 2010; Pantano, Tavernise, & Viassone, 2010). There is limited research on FB within educational contexts, which includes research on student–faculty relationships (Mazer, Murphy, & Simonds, 2009; Lipka, 2007; Hew 2011) and use of FB by prospective employers (Karl, Peluchette, & Schlaegel, 2010; Kluemper & Rosen, 2009).

While scholarly work on social media provides important insights with which to understand youth in the context of the new media, there are three important issues that emerge from such literature, that need to be considered. First, different social media differ in terms of specific demographics, functionality, and network developments and

hence should not be treated as a single general category. The broad generalizations offered by many studies are not sufficient for concrete educational policy making. There are dangers in treating all SNS as a single general category, as each SNS has specific technological affordances, and using multiple sites can lead to misleading findings.

Thus for our study we decided to use Facebook as a representative social media for the following reasons: (a) various activities performed on Facebook (status updates, friending, posts) provide solid, observable data (Graham, Sandy, & Gosling, 2011) that can be used for empirical and qualitative analyses; (b) Facebook is by far the most popular social medium (Kreutz, 2009), that has become an important part of students' lives (Lampe, Ellison, & Steinfield, 2006); (c) Facebook provides linguistic and cultural transcendence, (d) methodologically, for the proposed research, it makes sense to use one (well-recognized) social networking site instead of multiple SNS.

Since FB is the most frequently used SNS by postsecondary students, it is imperative to understand the influence of Facebook on student identities and perceptions. Second, the relative lack of research on Facebook in relation to educational issues reflects an under appreciation of Facebook as a source of relevant data for educational research. Robert et al. (2012) after reviewing 412 articles on Facebook research concluded that there is a sheer lack of cross-cultural research in the field, which, they argue “ is unfortunate because behavioral data gathered from Facebook is well suited to explore cultural differences” (p.208). Third, whatever little educational research so far has been conducted is primarily quantitative. Less research attention has gone into qualitative examination of how participants describe their use of Facebook for learning and civic engagement.

While examining the role of social media and their educational and civic potential scholars discuss issues such as: constructive impact on student-teacher communication when professors ‘friend’ students (Helvie-Mason 2011), enhancement of civic engagement, and political participation thus active participatory citizenship (Stanley & Weare, 2004; Weard, 2002), collaborative exchange of ideas and acquisition of critical problem solving skills (Beach, et al, 2009; Beach & Doerr-Stevens, 2009; Erduran & Jiménez-Aleixandre, 2007), multiple audiences, better chances of “dialogic argumentation” (Clark & Sampson, 2008, p.294), debate on civic and community issues (Bagley & Shaffer, 2009; Greenhow & Robelia, 2009), support, motivation and encouragement of peers (Fahy, 2003), critical thinking and collaboration (Thomas & Macgregor, 2005), development of community of practice (Schrire, 2004), connectedness among the students (Aspden & Helm, 2004), self-directed learning (Wu & Hwang, 2010), and mentoring (Ellison et al., 2007), multiple audiences and debate on civic and community issues (Shaw, et al., 2014; Vromen, et al., 2014).

Majority of studies noted above focus on psycho-sociological aspect of students' engagements in social media such as Facebook (Ellison, Steinfield, Lampe, 2007, 2011; Yu et al., 2010; Pempek et al., 2009). Recently increased attention is directed to examine the potential of social media as an educational environment. Literature in this respect shows that there is a strong indication that students prefer Facebook (Deng and Tavares, 2013; Roblyer et al., 2010; Arteaga-Sanchez et al., 2010; Schroeder & Greenbowe, 2009) to other knowledge management systems used at universities such

as Moodle, Web CT etc. (Staines and Lauchs, 2013). Overwhelming use of Facebook by students has led educators to seriously examine the role Facebook can play in educational environments (Karl and Peluchette, 2011).

Some researchers argue that social media such as Facebook offers exciting possibilities for effective cultural integration and intercultural understanding (Ryan et al. 2011; Christie and Bloustien, 2010). Scholars (Carrington and Hodgetts, 2010; Ryan, Magro, Sharp, 2011) show that virtual space can play a significant role in providing cultural and textual information to young people and help in their cultural adaptation. Birky and Collins (2011) observed the power of social networks in minimizing the gaps between cultures. Yu et al., (2010) while examining Facebook's impact on acculturation report positive social learning outcomes.

## Research Results

Over optimism and romance of social media in relation to their educational potential In this section we present initial results of an ongoing three-year qualitative research project on social media, pedagogy and civic engagement<sup>2</sup>. This ongoing research examines how networked youth defines civic engagement in non-territorialized space provided by social media where all associations are fluid, issue based, overlapping, and subject driven. Particularly, the aim of the project is to investigate how young people perceive the role social media particularly FB plays in their learning about social issues and civic engagement. Initial results shed light on some of the reasons for disengagement with 'traditionally defined civic issues' voiced by the youth.

The study uses a methodological approach situated on the intersections of critical ethnography and critical discourse analysis. This approach combines diverse insights to juxtapose the working of multiple discourses with the participants' experience of these discourses. So far 25 graduate and undergraduate students have been interviewed for this study. Participants who: maintain Facebook pages, define themselves as citizens interested in civic and social justice issues, have sizable and diversified 'friends' lists, update their pages regularly, and actively engage with their 'friends,' were identified and recruited for ethnographic interviews (based on reflection of their activities on their Facebook pages over a three week period).

Based on popular definitions of civic engagement used in literature (Warren et al., 2014; Raynes-Goldie & Walker 2008; Hay, 2007; Shah, Kwak, & Holbert, 2001; Putnam, 2000; Crick, 2002; Niemi, and Finkel, 2006; Dalton, 2004), civic engagement was operationalized as individual and/or collective actions that aim to identify, address and improve issues concerning the quality of life in the context of social media usage.

The definition was deliberately kept broad (including areas such as engagement in ecological, social justice, poverty, electoral reform, etc.). For this study the concept of civic is not confined to 'traditional civic engagement definitions'<sup>3</sup> usually understood

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<sup>2</sup> The results being reported here are from Dr. Arshad-Ayaz's research on Facebook and civic participation. Dr. Arshad-Ayaz wishes to acknowledge the funding support from Fonds de recherche sur la société et la culture: FRQSC

<sup>3</sup> In traditional sense civic engagement is emphasized through public and collective forms of engagement and is measured through quantifiable actions for example, how many people voted, made

as individual and collective involvement in local and national political contexts. This is for two specific reasons. First, the research aims to explore the empowerment and civic engagement potential of new transnational space provided by social media which transcends beyond the local/national boundaries. Second, research aims to see how youth are broadening, narrowing or redefining the idea of “new civic” as opposed to more traditional understanding of civic participation.

Since this is a research in progress initial results presented in this paper do not warrant generalization. However, on the basis of the preliminary findings some interesting aspects of civic engagement and reasons for disengagement of the youth in and through participatory social media come to light. In the following section we present some of the themes that emerge from the responses of the participants interviewed so far.

### **Youth Generally Perceive Themselves Engaged in Civic and Juristic Issues**

It is interesting to note that although literature and research points towards youths' apathy and disengagement the respondents interviewed so far, described themselves as engaged in various civic and social justice issues. Participants believe that Facebook definitely provides them with a social space where they can reach out to the wider network of 'friends'. Majority of the respondents see social media like Facebook as a useful source of information, which they nevertheless used for connecting with friends and leisurely activities. All except two participants were of the opinion that what appeared on Facebook pages is more informative than television news.

Ninety-eight percent of the respondents believed that social media was far more informative and easy to access than television news, print newspapers, radio, and magazines. The participants rated, speed, bulk of information, freedom from geographic limits, multi-media (audio, visual, and print), peers sharing, etc. as top features of Facebook that attract them to use this particular social medium. Despite having an agreement on Facebook and social media as useful informational spaces, which allowed easy networking opportunities, 80 percent of the respondents had not consciously reflected on how they were using this space for engaging in civic issues, before they were interviewed.

### **Young People's Perceptions of Their Usage of FB Are Rhetorical**

When probed about how participants were using Facebook pages for civic engagement, it turned out that participant's perceptions of their usage of FB were more rhetorical than the actual engagement. For example, the participants were asked to analyze their activities on Facebook over the last three weeks. It turned out that in majority of cases the engagement with issues which could be broadly defined as civic or social was not consistent. Only five respondents had engaged with issues on regular bases, writing a comment, sharing a post, challenging something they considered unjust, in a consistent manner. These five participants revisited the same thread/post

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contacts with government offices, took part in a boycotts or protests etc. However, sticking with traditional ways of looking at civic participation can overlook the ways in which youth are voicing their concerns today without participating collectively in obvious public activities (see Levinson, M. 2010 for a good discussion of problems with definition)

many times and engaged with networked members on their Facebook pages. However, 80% participants moved on to new topics and did not revisit issues<sup>4</sup> they had liked/posted or shared in any consistent manner. In simple words, the engagement patterns with various civic issues changed with what caught the fancy of 80 percent of the young participants' and did not show a consistent pattern.

### **Confusion on What Counts as Civic**

Majority of the participants interviewed so far are indecisive about what counts as 'good citizenship'. Five respondents who were able to answer questions related to what behaviors and attitudes count as citizenship, in more definitive terms, had one thing in common. They had recently discussed citizenship and social justice related issues in the courses they were taking. One participant had been exposed to social justice issues in student protests, and had a lot to contribute to the discussion on 'good citizenship and social justice'. Remaining 80 percent of the participants had more fluid definitions which kept on changing.

Many tensions in definitions of 'good citizenship' and 'social justice' were a result of subscribing to a dichotomous worldview, where local/global, national/international were seen more in binaries rather than a unified global world. It is interesting to note that although social media provide a transnational space to youth where they can engage with global networked publics, educational systems are lagging behind in preparing young citizens to reconcile with the tensions between the local and the global. The lack of knowledge about mechanisms of global governance at all levels—social, political and economic, creates 'shaken self-identity' among the youth which deters them to take concrete actions or an assured and confident point of view about the nature of things.

### **Differential Expectation of Youth and Teachers about the Efficacy of Social Media**

Educators generally expect adding social media like Facebook will increase sociality and interaction among learners. The assumption is that students will be immersed in learning beyond the classroom time. This assumption is flawed on a number of accounts. First, although social media increases the chances of sociality and interaction among its users, however, as research indicates most interaction ends up in forming likeminded groups and networks. This is the expected outcome when those interacting in transnational spaces have very different lived realities.

Unless education is directed towards creating a more nuanced understanding of social, political and economic differences resulting from current neoliberal economic globalization which impact those living in the global South differently than those living in the global North, it is impossible to generate true interest in each other's issues for those interacting in the transnational space provided by social media. Second, the transnational space provided by social media is neither equally accessible to all parties involved, nor is the flow of information equitable. The dominance of Western values, language systems, knowledge systems, standards of beauty, culture

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<sup>4</sup> Although they revisited more personal likes and shares and engaged in conversations about personal issues but this was not true for likes/shares or posts that could be termed civic or justice oriented.

industry etc. are well established facts. Transnational space made available by social media can and does provide tools and opportunity to challenge dominant values. However, it is simply too naive for educators and policy makers to assume that youth either in North or South will simply take advantage of this space to educate themselves and become active citizens. Third, the assumption by educators that since youth is connected and wired hence educators can rely on technology for students to be immersed in learning beyond the classroom time is flawed. Majority of the participants did not want Facebook to become an academic space. They preferred to keep it for non-academic activities. Eighty percent of the respondents categorically stated that their use of Facebook time was for relaxation and leisure.

### **Analysis**

There has been some interesting research on how social media have the potential to bring people closer together, especially as neoliberal economic globalization has widened the divisions between people and societies. While neoliberal globalization is primarily an economic process, it has profound social implications directly related to youths' apathy towards civic processes. This apathy should not be seen as lack of agency on the part of youth rather it is an expression 'shaken self-identity' which is fluid and not fixed to a particular geographical region or national issue. Globally youth are the new marginalized class at the forefront of social and economic changes (Miles, 2000). Social media with all its affordances does not liberate youth from constraints and limitations of economic and social crises.

Social media certainly provide a space where worldwide social relations can be discussed. The question that begs to be asked is how much students know about the machinery that forms the nuts and bolts of global socio-political and economic working. While it is true that events taking place in distant localities are reported on social media, educators and policy makers need to ask if youth can make connections on how local happenings are shaped by events occurring in other parts of the world and vice versa.

The focus of research has so far been on technology; do educators understand how students use technology; do educators understand various affordances of technology; are educators apt at using new technologies as youth is; and so on. What has not been considered is the fact that using social media to facilitate youth engagement and involvement in civic issues cannot happen without educators developing a profound understanding of youth' needs and priorities. For this to happen we need to ask very different set of questions. We need to understand the marginal position of youth; we need to understand their insecurities. We need to ask what it is in the wider society that is disengaging young people to acquire attitudes or the willingness to get involved in their communities.

Various social media should be seen, as sites where young people are struggling to establish themselves in the context of predatory capitalism, which marginalizes them and makes them, feel vulnerable. It might be easy, but it is extremely naïve, and potentially dangerous, to portray youth as apathetic and disengaged. Our research results show that Facebook is used differently by different young people some use it to react, some use it to negotiate, some have an activist agenda but majority use it to get away from the worries and troubles faced in daily life. Few participants who



somewhat understood the global mechanics (through taking courses in philosophy, sociology and social justice) used the transnational space provided by Facebook to engage in civic and social justice issues. Majority of the participants felt that the transnational space provided by Facebook was a space where they could relax, be themselves, hang out and engage in leisure time. We conducted most of the interviews at an urban university in Montreal. While we were analyzing the initial responses by our twenty-five research participants we looked around us. All we could see was a concrete jungle, there are no green spaces, no spaces where one could truly relax, hangout, talk to each other without yelling due to high levels of noise pollution.

The spaces that youth could have occupied have been granted to contractors to build more condo building and shopping plazas. It is not difficult for us to imagine why majority of young people find this space not worthy of their engagement. Young people like to occupy the transnational space provided by social media for many different reasons but the fact of matter is that there are very few things in their immediate surroundings competing for their attention or action.

We feel it is important not to either overstate or understate the impact of social media on networked youth. Social media by themselves cannot engage youth in civic issues. Just as social media by themselves cannot provide opportunities or freedoms nor can they provide skills young people would need in the long-term to deal with social, cultural and economic issues. This is where the role of education, especially critical education, becomes imperative. Youth uses social media according to their own interests and personal circumstances but never outside and beyond the framework of wider economic, social and political disparities that impact their lives and marginalize them.

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*Education in Africa for the Twenty First Century: Perspectives for Change*

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**Abstract:**

Education in its widest sense is at cross roads of societal development and change. The key to understanding the situation of education is to recognize that it is neither an isolated phenomenon nor a dependent one; it receives and contributes, it creates and created. It is at its creative best when it is interwoven with the total socio-human knowledge environment of the future. Therefore, meaningful socio-economic development without the right type and appropriate quality of education is a dictum because it is an indispensable safeguard for the full development of the human personality and the environment. However in view of the 21<sup>st</sup> century, there is need to reposition education to measure up with occurrences of global development as a result of knowledge. Therefore this work reviews the knowledge-based economy, the 21<sup>st</sup> century economy and education for change in Africa and Nigeria in particular.

**Keyword:** Twenty First Century, Education, Knowledge, Economy, Global

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## **Introduction**

Education continues to remain the most outstanding development priority in Africa and Nigeria in particular. The core purpose of education according to Okediran (2003) is human development such that an educated person can acquire relevant knowledge, skills, attitudes, values and interest as would enable him/her become the subject of development. All things being equal, an educated person who is well or relevantly positioned in the socio-economic, cultural and political milieus is expected to be more valuable assets to society than another individual who is illiterate and perhaps ignorant to a great extent because of the diminishing expanse and relevance of his/her knowledge.

Education is expected at this moment to respond to contemporary challenges facing the Africa continent. However Nigeria in view of the 21<sup>st</sup> century is striving to cope with numerous challenges many of which are susceptible to illiteracy, misappropriation, political instability, terrorism, climate change and the likes. In African recently, HIV/Aids, Ebola, terrorism and poverty have remained dominant issues on the countries agenda for development. Therefore in the struggle against these society woes and many more, education in general, is expected to equip Africa very significantly to respond to numerous economic, social, political, institutional and international pressures with necessary transformations for relevance in the 21<sup>st</sup> century.

## **The Knowledge Based Economy**

The rapid move over recent decades to a global knowledge economy, driven by constantly evolving information and communication technologies, has created significant economic and social opportunities. According to Kozma (2005), it is equally creating enormous challenges confronting countries with the need to rethink their educational and social systems to participate in this global knowledge economy. Therefore taking a clue from Obanya (2014), there is the need for students to leave school with a deeper understanding of school subjects with relevant skills needed to respond to an unbounded but uncertain 21<sup>st</sup> century-skills. This will help them to apply the knowledge, think critically, collaborate, communicate, solve problems, and be creative as well as to learn continually.

The exponential growth of knowledge makes every decade a watershed in human history with the submission of Binkley, Erstad, Herman, Ralzen, Ripley, Miller-Ricci and Rumble (2011). Humanity's life and destiny, their meaning and purpose are perhaps more than what this mode of knowledge comprises, but without this knowledge surge in history, mankind surely would have been so much less. The sense of progress in life of mankind owes much, possibly all, to the phenomenon of growing, deepening and exploding knowledge according to Dede, Korte, Nelson, Valdez and Ward (2005).

Education is central to the knowledge based society because it is the human being who is the creator, the preserver and sometimes tragically, the destroyer of knowledge. A knowledge based society is one that derives so much from human potential. It is an open society because it is not about how men think and create and become free. Its core is thinking, creativity, and inventiveness for effectiveness.

The submission is not different from Obanya (2014) that in the 21<sup>st</sup> century, machines had replaced labor in the industrial area; information technology has become the source of codified knowledge economy, demanding uniquely human skills such as conceptual, interpersonal and communication skills.

### **The 21<sup>st</sup> Century Economy**

The 20<sup>th</sup> century according to Houghton and Sheeben (2000) can be considered as the cruelest period in the entire history of mankind for what man has done to man and continues to do. Also for what man has done to the future generations by what he has done and continues to do to the environment. It is a new world characterized by uncertainty, as the rapid changes taking place have become highly unpredictable and competitive. The 21<sup>st</sup> century was also predicted by Houghton and Sheeben (2000) to be the period unique and beyond compare, for the human achievements in knowledge where emphasis will be placed on the knowledge worker. This is learning individual who continuously searching and applying knowledge, versatile team player with lot more than strictly academic and technical skills.

The 21<sup>st</sup> century according to Turiman, Omar, MohdDaud and Osman (2012) offers life in a borderless world where the world of work is characterized by personal qualities rather than qualifications. The rapid development of technology and information dissemination will result in the expansion of knowledge that will impact the economy, culture and politics of a country. Current explosion of information and technology and knowledge-based economy have changed the implementation of the education system. The era of digital economy as proclaimed by NCREL and Metri group (2003) requires a workforce that is knowledgeable and skilled to generate innovation and improve productivity of a country.

### **Education for Change**

Globally, we are in a knowledge based society in which the central capital is knowledge. Bertrand de Jouvenel (1967) makes the case that “if society tends on the whole to conserve the present state of affairs, our present knowledge has a high chance of being valid in the future. On the other hand, the future validity of our knowledge becomes increasingly doubtful as the mode of society incline towards change, and the changes promise to be more rapid. Furthermore, Mustapha and Abdullah (2004) noted that it should be added that the perception of future-time has almost no role in a situation where neither knowledge nor societal state is subject to change.

Change then is a decisively defining element in the choices that may be made in future possibilities. Moreover, a society that remains rooted in its “present state of affairs and its present knowledge cannot subsist in isolation in the fast changing knowledge world of today, however hard it may try. The ongoing technological, social and developmental changes will sweep the cocooned society into a future state of affairs without choice or control of its destiny, as passive recipient and not on active agent.

In emphasizing the need for future oriented development of education, one is attempting to respond to changes or crises as they occur, or more often, after they have occurred. The image of education as a “conservative” force refers to this passive-reactive functioning of the education systems rather than to the element of continuity by conserving what is worthy. The reactive education policies and practices have in a high degree a tendency to homogenize and to stress “behavioral objectives” focused on the individual. On the other hand, the future-oriented education is actively promoter of innovation and dynamically evolving social goals.

The future is not some place we are going to, it is the one we are creating. Creation implies a vision and choice. It defines knowledge as no longer is it sufficient that to know is only to distill from the past but to know is also to question and to exercise choice and discernment about the future and to act accordingly. However according to a popular Latin saying, “*tempora mutantur, nos et mutamur in illis*”, meaning that time change, and we change with them, or more precisely, the times are changed and we changed in them or during them. According to Obanya (2003), the educational system in Nigeria as at the beginning of the 21<sup>st</sup> century cannot play the role of prime mover of political and socio-economic development.

Therefore something drastic has to be done, and urgently too, to remedy the situation and to reposition the education sector to play its prime role as a positive tool for genuine human development. A development oriented positive change is therefore needed, and this would require;

1. Improved funding of education
2. Laying a solid foundation for educational development in terms of more responsive policy postures.
3. Making the foundation stage of education compulsory and taking urgent steps to generalize access, to improve quality, equity, and efficiency, thus respecting Nigeria’s commitment to the international goals of education for all.
4. Progressively expanding facilities and improving quality at all levels of education.
5. Vigorously promoting functional literacy, with a view to massively reduce the incidence of illiteracy by the end of the second decade of the twenty-first century, and
6. Making educational programs more closely related to moral and civic life, as well as to the world of work.
7. Education should tend towards being able to communicate, share, and use information to solve complex problems, in being able to adapt and innovative in response to new demands and changing circumstances, in being able to marshal and expand the power of technology to create new knowledge, and in expanding human capacity and productivity.
8. Education should not be concerned with “knowing book” but in helping an individual to “grow” in the sense of all round development and positive change in behavior through;
  - Gender responsive practices
  - Special needs support services
  - Advisory and guidance support services
  - Special attention to students learning difficulties
  - Demonstration of empathy (towards learner) by all teachers

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***Quality and Equity in Nigerian Educational System: A Panacea for Economic Empowerment, Development Strategy and Social Justice***

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**Abstract**

This paper relates to Education: Social Justice and Social Change. It examines the issues of quality and equity in Nigerian educational system and how it enhances national economic and development strategy that brings about social justice. The study sets out to identify the general problems and needs facing the country in the field of education that is hindering the realization of quality, equity and social justice. It further examines the accessibility and difference in the quality of education being offered in the urban and rural areas, and highlights the reasons behind the high level of repetition and drop-out rates in the rural schools. Four research questions and four hypotheses were formulated to guide the study. A descriptive survey design was employed targeting all the principals and ministry of education officials in the four, out of the six geo-political zones in Nigeria (South-West, South-East, North-East, and North-Central). Stratified and simple random sampling techniques were used to select one hundred (100) principals and twenty-five (25) ministries of education officials from each of the selected geo-political zone bringing the total number to five hundred (500) participants. Questionnaire and interview were used as instruments of data collection, while descriptive and inferential statistics were employed for data analyses. Some of the findings of the study revealed that there are differences in the quality of education and accessibility to education in the rural and urban areas. Most schools in the rural areas do not have adequate and qualified teachers. Moreover, there is apparent lack of infrastructure and educational resources. The study recommends, among others that there is need to offer quality education to every Nigerian child whether in the rural or urban areas and an educational system that is responsive to current national demands and conducive to sustainable development that will enhance social justice.

**Keywords:** Quality, Equity, Accessibility, Empowerment, Development Strategy and Social justice

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## Introduction

The search for quality and equity is paramount in all spheres of life seeking an even development of its members, and the educational sector is never left out in this search. Given this importance, it is pertinent that all hands be on deck to ensure that they are properly instituted in the Nigerian educational system. Education itself, according to the Fourth National Development Plan, is the most important instrument for change and the most important resource for development. Hence, the Nigerian Philosophy of education states that:

- a) Education is an instrument for national development. To this end, the formulation of ideas, their integration for national development, and the interaction of persons and ideas are all aspects of education
- b) Education fosters the worth and development of the individual, for each individual's sake, and for the general development of the society
- c) Every Nigerian child shall have a right to equal educational opportunities irrespective of any real or imagined disabilities, each according to his/her ability
- d) There is need for functional education for the promotion of a progressive, united Nigeria. To this end, school programmes need to be relevant, practical and comprehensive, while interest and ability should determine the individual's direction in education. (FRN, Reviewed National Policy on Education, 2013)

In Nigeria today, the government, political parties, the media, parents and the society at large are making education a priority. This importance accorded to education is based on the fact that education is an instrument for social mobility, brings important and unrestricted access to good life, it is a necessary means to economic and industrial development and the enhancement of social justice among the populace (Uzoka, 1997). To ensure that all these are achieved through education, there is need to establish quality and equity in the educational system. Therefore, all who have education in their care at all levels should strive to make quality and equity very central in the Nigerian education policy.

Osifela, (2011), defined quality as a multi-dimensional concept with different meanings, but may be interpreted against local contexts and benchmarks. Materu (2007) referred to quality as "fitness for a purpose, meeting or conforming to general accepted standard as defined by an institution, quality assurance bodies and appropriate academic and professional communities. Ideally, quality should be the prime goal of any educational system. This is because of its significance to private and public sectors and its benefits for improving the quality of education for the individual and the nation at large.

Quality education promotes more productive workforce and hence a more competitive and successful economy. For individuals, a good education leads to better jobs, income, health and greater self-sufficiency. In like manner, quality education in a nation contributes to lower level of crimes, higher level of institutional trust and more participation in democratic processes with better informed debate in public policy.

Thus, the quality of education is a basic factor in the attainment of national goals for economic and social reforms.

Similarly, the necessity of establishing the place of equity in education cannot be overemphasized. In education, the term equity refers to the principle of fairness, (Anumenechi, 2015). Inequities occur as when biased or unfair policies, programmes, practices, or situations contribute to a lack of equality in educational performance, results and outcomes. Equity and equality are often used interchangeably with the related principles of quality. Equity encompasses a wide variety of educational models, programmes, and strategies that may be considered fair, but not necessarily equal. It has been said that “equity is the process, equality is the outcome” given that equity – what is fair and just – may not in the process of educating students, reflect strict equality that is what is applied, allocated, or distributed equally. In other words, quality and equity should go hand in hand.

Having seen how important quality and equity are in the educational system and in other spheres of life, it is of necessity to have a purview of how well it is integrated in the Nigerian educational system, especially in the provision of educational services. In this regard, there seems to be visible disparities in the provision of educational services between the urban and rural schools in Nigeria. These disparities would exist in the form of qualified teaching personnel, accessibility, adequate funding, low economic status of the parents (Nwachukwu, 2014). Furthermore, the globalization process has contributed in widening this gap a great deal in the sense that while globalization offers many opportunities, the educational system is not yet in such a state that it can derive the benefits of globalization.

Moreover, there seem to be high level of educational wastages which is reflected in the high repetition and dropout rates and low level of enrolment in rural schools in Nigeria. This study therefore sets out to examine the difference, if any, between urban and rural schools in the quality of education, determine the extent to which education has been made accessible to the people; ascertain the levels of repetition and dropout rates in urban and rural schools; determine the level of availability of resources in the schools and suggest ways by which the government can through education respond to current national demands, sustainable development and social justice.

The study raised five research questions and postulated four hypotheses to guide the investigation:

- What is the difference in the quality of education provided in the urban and rural schools?
- How much has education been made accessible to the people in the urban and rural areas?
- To what extent will wastages (as measured by dropout and repetition rates) affect the quality of education?
- To what extent will the availability of resources affect the quality of education?



- How can the government ensure that education responds to the current national demands, sustainable development and social justice?

The following hypotheses were formulated to guide the study:

- There is no significant difference between the urban and rural schools in the quality of education.
- There is no significant difference between the rural and urban areas in accessibility to education.
- There is no significant relationship between wastages (as measured by dropout and repetition rates) and the quality of education.
- There is no significant relationship between availability of resource and the quality of education.

### **Method**

The study adopted a descriptive survey design. The population for the study comprised of all the principals and teachers of the public schools and the officials of ministries of education in Nigeria. The sample for the study comprised of the principals and ministry of education officials in the four, out of the six geo-political zones in Nigeria (South-West, South-East, North-East, and North-Central). Stratified and simple random sampling techniques were used to select one hundred (100) principals and twenty-five (25) ministries of education officials from each of the selected four geo-political zones bringing the total number to five hundred (500) participants. Questionnaire and interview were used as instruments of data collection; simple percentage was used to analyze the questionnaire, while t-test and Pearson's product moment correlation coefficient were employed to analyze the hypotheses.

### **Findings**

In order to determine the existing relationship between the variables, the data collected from the participants using questionnaire drawn from the research questions were analyzed accordingly together with the hypotheses and the results are as shown below:

#### **Research Question One & Hypothesis One**

Findings from the research question one shows that more than seventy-five percent (75%) of the participants agreed that a great difference exists in the quality of education offered in the urban schools as against what is obtainable in the rural schools. Similarly, the hypothesis one which states that there is no significant difference between the urban and rural schools in the quality of education was analysed below.

**Table 1**  
**Independent t-Test on the Quality of Education**

Variable	N	Mean	SD	Df	t-value	Sig. of P	Effect size (d)
Urban	300	15.93	1.13	498	19.11	000	1.33
Rural	200	13.90	1.23				

**Significant at  $p < 0.05$**

Table 1 indicates that there is a significant difference between quality of education provided in the urban and the rural areas ( $t=19.11$ , Df: 498,  $p < 0.05$ ,  $d=1.33$ ). Thus, the null hypothesis earlier stated was rejected and it can be inferred that the quality of education in the urban schools is significantly higher than in the rural schools. The effect size as measured by Cohen's d indicates that the effect size is 1.33 which is considered great. Any effect size, greater than 0.8 is considered to be of great magnitude.

### Research Question Two & Hypothesis Two

Findings from the research question two reveals that education is more accessible to people in the urban areas than people in the rural areas. Probing further, the hypothesis two which states that there is no significant difference between the rural and urban areas in accessibility to education was tested thus:

**Table 2**  
**Independent t-Test on the Accessibility of Education**

Variable	N	Mean	SD	Df	t-value	Sig. of P	Effect size (d)
Urban	300	16.33	1.077	498	31.84	000	1.67
Rural	200	13.20	1.080				

**Significant at  $p < 0.05$**

Table 2 reveals that there is a significant difference between accessibility to education in the urban areas and in the rural areas ( $t=31.84$ , Df: 498,  $p < 0.05$ ,  $d=1.67$ ). Thus, the null hypothesis earlier stated was rejected and it can be inferred that accessibility to education differ significantly in favour of the urban areas when compared to the rural areas. The effect size as measured by Cohen's d indicates that the effect size was 1.67 which is considered great.

### Research Question Three & Hypothesis Three

From the findings of research question three, it is indicated that wastages as measured by dropout and repetition rates greatly affect the quality of education. Furthermore, the hypothesis three which states that there is no significant relationship between wastages (as measured by dropout and repetition rates) and the quality of education was tested below:

**Table 3**  
**Pearson's Product Moment Correlation Coefficient on Wastage and Quality of Education**

Variable	Quality of Education Wastage		
	Quality of Education	Pearson Correlation	1
	Significance		0.000
	N	500	500
	Mean	15.12	11.08
	Standard Deviation	1.53	1.52

**Significant at  $p < 0.05$**

Table 3 shows the relationship between educational wastages and quality of education as measured by Pearson's Product Moment Correlation Coefficient. Quality of education was found to be negatively but significantly related to wastages as measured by drop-outs and repetition ( $r = -0.468$ ,  $N=500$ ,  $p < 0.05$ ). Thus, the null hypothesis earlier stated was rejected. This implies that when quality of education increases, educational wastages decreases or when educational wastages increases, the quality of education decreases.

#### Research Question Four & Hypothesis Four

The findings from research question four reveals that availability of resources affects the quality of education. In like manner, the fourth hypothesis which states that there is no significant relationship between availability of resources and the quality of education was also tested thus:

**Table 4**  
**Pearson's Product Moment Correlation Coefficient on the Availability of Resources and Quality of Education**

Variable	Quality of Education Wastage		
	Quality of Education	Pearson Correlation	1
	Significance		0.000
	N	500	500
	Mean	15.12	13.92
	Standard Deviation	1.53	1.41

**Significant at  $p < 0.05$**

Table 4 indicates the relationship between availability of resources and quality of education as measured by Pearson's Product Moment Correlation Coefficient. There is a positive significant relationship between availability of resources and quality of education. ( $r=.356$ ,  $N=500$ ,  $p < 0.05$ ). Thus, the null hypothesis stated was rejected.

#### Research Question Five

How can the government ensure that education responds to the current national demands, sustainable development and social justice? This was addressed using the responses from the questionnaire, as highlighted below:

**Table 5:**  
**How the government can ensure that education responds to the current national demands, sustainable development and social justice.**

S/N	ITEMS	Agreed	Disagreed	Don't Know	Total	Mean	SD	Variance
1.	Government should provide adequate resources to enhance quality education both in the rural and urban schools	473 <b>95%</b>	21 <b>4%</b>	5 <b>1%</b>	500	1.06	0.28	0.08
2.	Adequacy of funds should be provided to schools in both urban and rural areas	470 <b>94%</b>	26 <b>5%</b>	4 <b>1%</b>	500	1.6	0.27	0.07
3.	Government should provide opportunities for teachers in both urban and rural schools to attend in-service training	445 <b>89%</b>	55 <b>11%</b>	0 <b>0%</b>	500	1.11	0.31	0.10
4.	Government should provide housing, electricity, and pipe born water to entice qualified teachers to agree to go to the rural areas.	465 <b>93%</b>	20 <b>4%</b>	15 <b>3%</b>	500	1.10	0.39	0.15
5.	Government should make provision for more infrastructure in both urban and rural schools	446 <b>89%</b>	16 <b>3%</b>	38 <b>8%</b>	500	1.18	0.55	0.30

Table 5 above reveals the percentage, mean, standard deviation and variance of the survey on how the government should ensure that education in Nigeria responds to the current national demands, sustainable development and social justice. From the table, the mean value is consistent, ranging from 1.06 to 1.18, while the standard deviation and variance are all below 1.0. From this, it is evident that greater percentage of the participants agreed to all the questions. This shows that government needs to do a lot to ensure that education in Nigeria responds positively to current national demands, sustainable development and social justice.

## Discussion

From the findings, there is apparent difference in the quality of education as measured by spending level, class size, teacher-student ratio, etc. between schools in the urban and rural areas. The importance of adequate provision of these in enhancing the quality of education cannot be overemphasized. Yoloyo (1976) as cited by Osifela, (2012) identified some crucial factors should be considered in assessing quality of education. These include the quality of teachers, robust curriculum, quality of facilities and instruction, quality of morale and quality of administration and management.

It is a well-known fact that the earlier parents show interests in their child's education, the more positive the effect on the student's performance, school attendance and student well-being. Conversely, when parents do not show enough interest, the quality of education is affected. There is the tendency to have lower income families and unqualified teachers in the rural areas. The lower quality resources in the rural areas affect equity and quality. This agrees with the view of Sammons, (2010), who said equity addresses quality. The idea is that education can contribute to social justice and democracy by closing the gap between students with regards to their background, especially their abilities and the socio-cultural status of their families.

The issue of accessibility to ensure equity and quality is of great concern to the researchers. This is because Nigeria is one of the signatories to the Dakar framework of action, which made it imperative, perhaps, to all nations that signed the accord to "ensure that by 2015, all children, particularly girls, children in difficult circumstances, and those belonging to ethnic minorities, have access to and complete free compulsory education of good quality." (Ekhaguere, 2003).

The discussion of access to education can only be meaningful when it is considered in relation to enrolment in the three levels of education (primary, secondary and tertiary). Access to education is generally looked at from the angle of the number of people enrolled in the educational system compared with those who should have been enrolled in the school and were not. In the bid to improve on the access to education at all levels, the federal government implemented the Universal Primary Education Scheme (UPE) in 1976 and Universal Basic Education (UBE) in the year 1999 which were intended to provide access to basic education to every Nigerian child and it was intended to be universal, free and compulsory. However, the inability to provide the needed infrastructure and pay teachers' salaries were some of the impediments to accessibility.

It has been observed that access to education has been very poor because only a few of the school age children, particularly primary school children in the rural areas were actually in school. It has been further observed that majority of the children who enrolled in schools were from rich households, followed by children from middle income households and only a few number of children were from poor households. This is a clear indication that people from higher and middle socio-economic backgrounds are more likely to appreciate the quality of education and as such ensure that their children go to good schools (Nwachukwu, 2014).

Another key finding of the research is that dropout and repetition rates grossly affect the quality of education. Incidentally, this is more pronounced in the rural schools than in the urban schools. There is no gain saying that the incidents of repetition and dropout rates have a significant relationship on the quality of education. Although, there are many reasons for repetition and dropout, they are clear indicators of poor quality teaching methods and materials (Uzoka, 1997). Suffice it to say that not many of the students who begin primary and secondary schools actually finish, thereby leaving dropouts without the minimum reading and writing skills and basic competency in mathematics.

The findings of the study further showed that availability of educational resources has great impact on the quality of education. This is because educational resources viz-a-viz professionally qualified teachers, adequate and appropriate instructional materials, facilities, current and relevant books for libraries, etc. promote quality education. The use of multimedia within the classrooms has enhanced teaching and learning. The multimedia application is one which uses a collection of multiple media sources e.g. text, graphics, images, sound/audio, animation and/or video. Hypermedia can also be considered as one of multimedia application. In the same vein, Salisu (2012) emphasizes that school facilities have a profound impact on their occupants and functions of the buildings in terms of teaching and learning.

The issue of availability of educational resources in the educational system cannot be overemphasized. This is because quality goes hand in hand with finance, since finance is needed to employ good and professionally qualified teachers, instructional materials, facilities, books for libraries, etc. Therefore, one of the big challenges facing the educational system in the country is that of promoting a quality education for all, especially at the primary and secondary schools levels. This however means substantial investments, and efforts to improve educational administration, training of teachers, curricula reforms, development of new teaching materials using the latest information and communication technology (ICT).

## **Conclusion**

The educational system in Nigeria has not been able to establish efficient and effective means by which to assemble and disseminate the relevant knowledge and basic skills that young Nigerian people need to confront the challenges posed by economic development and technological transformation. The defects which have accumulated over a period have resulted in the persistent inequality of access to education and the poor quality of the services offered.

The study has to a large extent clarified the essence and need for quality and equitable educational system in Nigeria. It has therefore, unequivocally stressed the importance of quality and equal educational opportunities for all Nigerian children which will enhance the realization of national economic empowerment, development strategy and social justice.

## Way Forward

1. There is need for the country to provide quality education to every Nigerian citizen at all levels of education in order to achieve equity and reduction of extreme disparities in income.
2. Government should provide the type of education that equips people with the ability to communicate effectively and foster scientific and technological research for development.
3. The paper recommends an educational system that is responsive to current national demands and conducive to sustainable development which will bring about equity and social justice.
4. The government should put in place policies and practices that would enhance economic empowerment and developmental strategy which will bring about social justice.
5. The way the education systems are designed can increase the severity of inequalities and hence negative impact on students' motivation and engagement which may lead to increase in dropout and repetition rates especially in the rural areas. The government, therefore, should revisit and restructure the educational system to ameliorate the anomalies inherent in the educational system
6. Curriculum should be made robust enough to accommodate the needs and desires of every Nigerian child. Thus, the nation needs a curriculum that delivers what students need for their future, what parents want and what the nation requires in an increasingly competitive and globalized world.
7. There is need to provide adequate funding and strategies that are responsive to students' and schools' needs both in the rural and urban areas.
8. Efforts should be made towards making schools both in rural and urban areas conducive for teaching and learning through the provision of adequate and appropriate human and material resources.

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***Kazi Nazrul Islam (1899-1976) as a Muslim Poet-Writer: An Apology***

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**Abstract**

After a conscientious perusal of Kazi Nazrul's writings, most of the readers come to the point that Kazi Nazrul Islam, even belonging to a Muslim family, treated the people of all religions equally. But it is a matter of great regret that some critics including William Radice have pointed out that Kazi Nazrul was unknown in the West for two reasons: partly because he was a Muslim; and partly for the fact that he identified himself with the rural poor rather than the elite of the pre-partitioned India. It is factual that philosophy, happiness and sorrows of a writer are actually reflected in his writings. In every piece of writing, we the readers study the reflection of what the writer thinks, how he thinks, how he looks at nature, how he looks at human beings etc. Nazrul came of an underprivileged but respectable family and suffered and struggled to be what he was, and this he delineated in his literary works. How could a poet-writer who used his pen only for humanism and whose aim was to create an atmosphere so that people of all religions can swig water from one quay be barred of being famous because of his religious philosophy and poverty? This paper aims at seeking an apology for the poet-writer for his becoming a Muslim and poor, shows him as a writer of humanity, classlessness, syncretism, tolerance, equality, etc., and questions the reader: is it prohibited for 'poverty' and 'Islamism' to be reflected in literature?

**Keywords:** Kazi Nazrul Islam, humanity, egalitarianism, syncretism, equality

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## **Introduction:**

At the time of studying at Mathrun High English School, Nazrul had to leave the school as he failed to pay his school fees. So it can easily be said that Nazrul didn't identify himself with the rural poor, rather he himself was actually a member of underprivileged people and it was predestined by God with which he had nothing to do. But this fact of being disadvantaged barred him to be famous in the West. It won't be an overstatement to opine that he failed to become renowned in the West because 'he composed a large number of poems and songs during the period of imprisonment and many of his works were banned in the 1920s by the British authorities.' (Anonymous, 2012, pp. 4-5)

Dr. Fazlul Haque Shaikat, a renowned Nazrul researcher of the East Bengal, writes, "Nazrul's ideology was to see a society where nobody will come across any discrimination between Hindus and Muslims, rather everybody will be recognized as 'human beings' beyond divisions into classes or castes. He wrote for the young, 'Our religion is Islam, but the religion of our soul is youth and juvenility. We are for all countries, for all castes and creeds, for all religions, and for all ages.' When the wind of communalism started spreading all over the subcontinent, Nazrul came forward with the light and wrote: 'Are they Hindus or Muslims? Who ask this question, I say. Tell him, my Captain, the children of the motherland are drowning today'. In a national warm reception arranged for the poet in 1929, he uttered, 'Somebody say my writings are for non-Hindus, some say for the disbelievers, but I'm trying to bring both the Hindus and non-Hindus together and make them shake hands with each other'." (Shaikat, 2008, pp. 9-10)

But despite all of these heroic expressions in favour of humanity, William Radice has pointed out, "Kazi Nazrul was unknown in the West for two reasons: partly because he was a Muslim; and partly due to the fact that he identified himself with the rural poor rather than the elite of the pre-partitioned India". (Khan, 2010, pp. 1-2)

Thus, is it a felony for him to become a poor as well as a Muslim? Is it prohibited for 'poverty' and 'Islamism' to be reflected in literature? If not, why are his poverty and Islamism a reason behind his not being well-known in the West?

## **Kazi Nazrul: A Poet of Egalitarianism and Classlessness**

"Nazrul Islam took a determined and principled stance against religious-communal hatred. He truly militated against the growing danger of communal conflagration, and he used all his skills as a journalist and a poet to convince both Hindus and Muslims of the folly of the religion-based hatred, passionately arguing that he 'entirely believed in the possibility of Hindu-Muslim unity'". (Islam, 1999, pp. 1920-1950)

William Shakespeare, the brightest star in the sky of English literature, has very technically and explicitly shown the victory of the Christians in his famous play 'The Merchant of Venice'. Shylock, the Jew, is cruelly defeated in this play. His only offence is that he is a Jew, and not a Christian like Shakespeare. Antonio is really a philanthropist who lends money to the needy people without interest which is undoubtedly a good practice and supported by all religions and creeds. He is accused of bringing about a big problem to the business of Shylock who lends money to the poor and disadvantaged people with a rate of interest.

Antonio may let the people scrounge billions of money from him without interest as he had that much money to lend. With this Shylock had nothing to do. Shylock's business may not be supported by Christianity but it's an earning source for him. But notwithstanding, Antonio is rewarded with victory. By this great tragi-comedy, Shakespeare also tried to show the Jews as indescribably merciless.

Here, a world-famous poet and dramatist like William Shakespeare could help the Jew be triumphant as, I think, he deserves to win since he also helps the needy persons, and Antonio put a signature on the bond according to which he (Antonio) failed to pay the money within the stipulated time. But Shylock had to be defeated and was sinned more than against his sinning as he was Jew. William Shakespeare has, certainly and undoubtedly, showed his partiality and leanness towards Christianity. But this sleekness has been considered by the readers and critics as he is William Shakespeare.

But in the case of Nazrul, such an injustice practice or partiality can never be seen and observed. Throughout the whole of his life, Kazi Nazrul has sung for the egalitarianism and classlessness but failed to be eminent in the society of the people for whom he wrote. In one of his poems titled 'Human Being', the poet writes:

"I sing the song of equality  
There is nothing greater than a human being,  
Nothing nobler!  
Caste, creed, religion- there is no difference.  
Throughout all ages, all places,  
We're all a manifestation  
Of our common humanity." (Chowdhury, 2001, p. 466)

Moreover, to break away the idea of class discrimination, the poet also writes:

"In the name of caste, they play gamble,  
Caste will be vilified if touched? It (classism ) is not  
A thing very easily obtainable.  
The water of hookah, and boiler of rice  
Are main for classism to you,  
For this, o foolish, you break  
One class into one hundred." (Chowdhury, 2001, p. 101)

How can the writer of these lines be prevented from being eminent in the world? And how could the people for whom he used his pen forget to remember him in their society?

### **A Muslim's Vilification against the Muslim**

That Kazi Nazrul Islam was a Muslim and practiced Islamism needs no telling. But he is more a humanist than a Muslim. Unlike William Shakespeare and Rabindranath Tagore, this 'Muslim' poet is found to disparage what he finds as faults with religious representatives of his own religion.

The poet writes in his poem titled 'Human Being':

“At the mosque, the mullah is overjoyed,  
By the huge amount of leftovers of meat and bread,  
From yesterday's offerings.  
Just then a sickly traveler arrives at the door,  
Saying: “Father, I have been hungry  
For the last seven days!”  
The mullah reacts: ‘What a botheration!  
You're starving? Just go and drop dead  
In some cattle graveyard!  
Besides-do you say your prayers?’  
‘No, Father,’ replied the hungry man.  
‘That does it-out!’ shouts the mullah  
Shutting the door on his face,  
Holding on to the meat and bread.  
The hungry man continues on his journey,  
Saying: I have lived for eighty years  
Without saying a prayer, yet You've never  
Deprived me of my food.” (Anonymous, 2012, pp. 141)

Being a true Muslim, Nazrul has attacked and denounced here the malpractices and mismanagements of the Imam of the mosques. Here, he would like to mean even God Himself doesn't deprive a man of his food whether he says his prayer or not. So, who are the Imams and priests of mosques and temples to drive away a hungry man when he begs for food to them?

### **Kazi Nazrul was and is a Poet of Man**

Throughout his life, Nazrul tried to bring the people of all religions together and create an atmosphere so that people of different creeds come under one umbrella and live together with happiness and tranquility. In his famous essay 'The Temple and the Mosque', Nazrul writes: “Those eating-houses are created for the well-being of the human beings, human beings aren't created for the well-being of the eating-houses. If those (eating-houses) become the cause for the woe of humanity for our madness, then break away those dinning-halls. Let all human beings come under one sky and be saved. Let them rest under the courtyard of the same Moon-Sun-Stars”. (Shaikat, 2008, pp. 11-12)

Joseph T. O'Connell, a famous Nazrul researcher, said in his introduction to a translation of Nazrul's essay 'The Temple and the Mosque', "Nazrul wrote and sang tirelessly for the liberation of all humanity, not just the Muslims; he challenged vested interests whatever their type political or religious, foreign or domestic, Hindu, Muslim, Christian or whatever the mask behind which Satan might instigate fanatic violence." (T.O'Connell, 1974, pp. 106-114)

Nazrul also writes that Hindus and Muslims aren't recognized by the outward appearance. We cannot regard a man with beard as Muslim, or a man without it as a Hindu. This is picturesquely described in the essay 'The Temple and the Mosque': "In the midst of the uproar several Hindu lads thought that Khayru Mia, killed in the battle, was a Hindu, because his moustache and beard were shaven off.

Singing "Bol Hari, Hari bol" - Hindu prayer at funeral, 'say Hari (God)', they carried him to the cremation grounds for burning. Several Mussulman lads think that Sadanand Babu, who wore a beard, was a Mussulman killed by bullets. Reciting, "La ilaha illa Allah" ('There is no God but Allah' - a Muslim prayer), they took him for burial. Temple and mosque began to crack. I suspect because glancing at one another they were laughing." (T.O'Connell, 1974, pp. 106-114)

On the annual session of the Indian National Congress held in Krishnanagar, Nazrul sang one of the most famous songs he ever composed, '*Kandari Hushiar*' ('Helmsman Beware'). He sounded the alarm with the words: 'In this dark night, o sentries of Motherland, be alert;' 'this helpless nation is drowning- it doesn't know how to swim'; 'helmsman, tell those who are drowning that they are no Hindus or Muslims, for they are drowning as human beings'. (Kamal, 1999, p. 485)

These words unquestionably illustrate Nazrul's deeply felt recognition of the fact that the Indian nation would 'drown', if the Congress—as the political force leading the struggle for independence from colonialism—failed to stem the tide of communalism.

## Characters from the Muslim and Other Religions

Kazi Nazrul Islam has chosen the characters for his writings from his own religion as well as from other religions which we hardly observe with Rabindranath Tagore, a world-famous and Nobel-prize winning poet in the Indian sub-continent. Let's peruse the following lines from 'Human Beings' -

“Listen, you ignorant: Human beings  
Have brought the books,  
The books never brought human beings!  
Adam, David, Isa, Moses, Abraha, Mohammed,  
Krishna, Buddha, Nanak, Kabir-the treasures  
Of the world-they are our ancestors.  
It's their blood that runs through our veins,  
We're their children, kin-we're of the same body.  
Who can tell? Someone among us  
May turn out to be like one of them.

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Whom do you hate brother, whom do you kick?  
Perhaps within his heart  
Resides the ever-awakened God!

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Who's he? An untouchable?  
Why do you startle? He's not to be despised!  
He may turn out to be Harishchandra or Lord Shiva.  
Today an untouchable -tomorrow he may become  
A supremely revered yogi-emperor.  
You'll come to him with offerings, sing his eulogy.  
Why do you look down upon a shepherd?  
Perhaps he's Krishna in shepherd's disguise!  
Don't hate him for being a peasant  
He may be Lord Balaram!  
They're all bearers of eternal message,  
Everyday begging men and women  
Are turned away from the door.  
How would I recognize  
If Lord Bholanath and Girijaya were among them?” (Anonymous, 2012, pp. 142-143)

In the lines stated above, Kazi Nazrul Islam has very beautifully mentioned many of the honorable religious representatives from various religions of the world. He has urged the people not to despise even any common man like shepherds or peasants because he may become a figure with name and fame in the near future. This kind of unbiased and dispassionate delineation is possible only for the poets like Kazi Nazrul Islam who used his pen only for what is called equality or egalitarianism.

It is here mentionable that the Nobel-prize- winning poet Rabindranath Tagore is regarded as non-communal or non-sectarian while Kazi Nazrul is regarded (by some critics in the Indian sub-continent not by all) as communal or sectarian writer. But who will verify whether it is true or not? Should we look upon one as non-communal as he is non-Muslim, or should we view one as communal as he is Muslim?

Does only practicing Islam or being away of this credo differentiate between sectarianism and non-sectarianism? Rabindranath Tagore belonged to Hinduism. He had written 13 novels, around 120 short stories, more than 22 dramas, a lot of poetries etc. But it is a crucial question that in how many of his writings he has used the names from other credos to which he doesn't belong as the protagonist? It is already stated that he had written more than 120 short stories, but only in few of them he has taken some characters from the Muslim society.

But those characters aren't given any chance to be the protagonist. Especially mentionable, we find some Muslim characters in his famous short story 'Musolmanir Golpo' i.e. 'the Story of Muslim'. In this story, one character Modhu Mullah has been taken from the creed Kazi Nazrul belonged to. But he has been shown as the leader of a group of dacoits. Another character named Habir Khan is also a Muslim character who is shown as one of the major characters in the short story. But Dr. Mohammad Omar Farook, a translator of this short story, opines by asking, "Is it a notable contribution to become a non-communal writer?"

### **His Works are the Reflection of What Happened in all Families**

When we go to go through the writings of Rabindranath Tagore, we see that he has written what he observed to happen in Hindu families. For instance, the incidents of the short stories like *Mini*, *Thakur da*, *Dena Paona*, *Hoimonti*, *Postmaster*, *Balai*, *Didi*, *Professor* etc are the manifestations of Hindu families. But what we notice in the case of Kazi Nazrul Islam is unambiguous to us. He has delineated what he saw to come about in families of all religious peoples.

It is here especially remarkable that Kazi Nazrul had composed a number of notable *Shamasangeet*, *Bhajan* and *Kirtans* for the people who belonged to Hinduism. He wrote these types of sangeet disregarding what the conservative or fanatic Muslims may say something negative about him. That this poet, even belonging to Muslim society, married Pramila Devi, a girl from Hindu family is known and clear to all.



### **Kazi Nazrul Wasn't a Fanatic Muslim**

It's known to all that Nazrul became a critic of the Khilafat struggle, condemning it as hollow, religious fundamentalism. His rebellious expression extended to rigid orthodoxy in the name of religion and politics. He also censored the Indian National Congress for not embracing outright political independence from the British Empire. During his visit to Comilla, Nazrul met a young Hindu woman, Pramila Devi, with whom he fell in love and they got married in 1924.

This proves that he wasn't a fanatic Muslim, rather he was a very compromising Muslim which is the basic of all religions. Pramila belonged to Brahma Samaj which criticized her marriage to a Muslim. Nazrul in turn was also condemned by Muslim religious leaders and continued to face criticism. He stunned society with his poem "Barangana" (Prostitute) in which he addresses a prostitute as 'mother'. The poet accepts the prostitute as a human being, reasoning that this person was breast-fed by a noble woman and belonging to the race of 'mothers and sisters':

"Who calls you a prostitute, mother? Who spits at you?  
Perhaps you were suckled by someone as chaste as Seeta.

-----  
And if the son of an unchaste mother is 'illegitimate',  
So is the son of an unchaste father." (Chowdhury, 2001, p. 473)

Nazrul also composed large number of songs on invocation to Lord Shiva, Goddesses Lakshmi and Saraswati, and on the theme of love of Radha and Krishna. He was an exponent of humanism. Although a Muslim, he named his sons with both "Hindu and Muslim names: Krishna Muhammad ('Krishna' from Hindu while Muhammad from Islam ), Arindam Khaled, Kazi Sabyasachi and Aniruddha." (Anonymous, 2012, pp. 7)

That fanaticism isn't religion is discerned from the following verses of the poem named 'Fanaticism is not Religion':

"Bullying, hypocrisy or fanaticism: that is not what religion is all about  
According to all scriptures, fanatics are disciples of the devil: no doubt,  
The one and only Creator of all: He is the loving Master ever;  
That there is more than one Creator, no true religion can claim so; never.  
Even then, partnership to God is attributed by Satan the smitten  
Yet his judge is only God, no one else: in the Qur'an it is written.  
Man can't be Satan's judge or try him; indeed, either to the Hell  
or to Heaven, what human power can push him or propel?

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Why are some ever-destitute, and some are ever-so-rich?  
Why some always live in peace, while others are destined to trouble's ditch?  
Which preacher or Mullah knows its mystery, please tell me?

(Anonymous, 2012, pp. 112-113)

By composing these lines, the poet seems to declare a war against fanaticism. Actually Nazrul wrote against the injustice and unfairness disregarding the identity of the oppressors i.e. they may be Hindus or Muslims or Christians.

### **A Poet of Brotherhood: Hindus and Muslims are Brothers**

Nazrul also doesn't find any discrimination between Hindus and Muslims. He says that the Hindus and the Muslims are brothers. They are the two eyes of the greater India. They are two trees in one garden, he adds. Both of them are two rivers coming out of the Himalayas and going to the same sea. They are like two brothers quarrelling for the lap of one mother. This impartial and objective portrayal we see in his famous poem 'Hindu Muslim Duti Vai' (Hindus and Muslims two Brothers):

“Hindus and Muslims are two brothers  
 Two eyes of India, they are-  
 Two trees in a garden-deodar and kodom.  
 As if the Ganga and Shindhu river,  
 Always blowing together.  
 Coming out of the Himalayas and going to the same sea.  
 Nightingale and cuckoo  
 Singing together in the one garden,  
 -----  
 Two brothers make a quarrel,  
 For the lap of one mother,  
 -----  
 They are mad who  
 Make difference between Allah and God.” (Anonymous, 2012, pp. 137)

His creativity diversified as he explored Hindu devotional music by composing Shama Sangeet, Bhajans, and Kirtans, often merging Islamic and Hindu values. His poetry and songs explored the philosophy of Islam and Hinduism, as he says: ‘Let people of all countries and all times come together, at one great union of humanity. Let them listen to the flute music of one great unity. Should a single person be hurt, hearts should feel it equally. If one person is insulted, it is a shame to all mankind, an insult to all. Today is the grand uprising of the agony of universal man.’ (Anonymous, 2012, pp. 5)

In 1920, Nazrul put across his vision of religious harmony in an editorial in Joog Bani:

“Come brother Hindu! Come Mussalman! Come Buddhist! Come Christian! Let us transcend all barriers, let us forsake forever all smallness, all lies, all selfishness and let us call brothers as brothers, we shall quarrel no more.” (Anonymous, 2012, pp. 6)  
 In another article entitled ‘Hindu Mussalman’ published in Ganabani on September 2, 1920, he wrote:

No prophet has said, “I have come for Hindus, I have come for Muslims, I have come for Christians.” They have said, “I have come for the humanity, for everyone, like light.” But the devotees of Krishna say, “Krishna is for Hindus.” The followers of Muhammad (PBUH) say, “Muhammad (PBUH) is for the Muslims.”

The disciples of Christ say, “Christ is for the Christians.” Krishna-Muhammad-Christ have become national property. This property is the root of all trouble. Men do not quarrel for light but they quarrel over cattle.” (Anonymous, 2012, pp. 7)

How sardonic it is that a writer of these lines of harmony and brotherhood between Hindus and Muslims is regarded as a communal writer and prevented from being re-born and remembered among people in the West.

### **A Poet Who Finds no Difference between Men and Women**

Nazrul was an advocate of the emancipation of women; both traditional and non-traditional women were portrayed by him with utmost sincerity. Through the following verses, Nazrul has very boldly declared that there is really no discrimination between men and women of this world:

“I sing the song  
Of equality;  
In my view gender difference  
Is essentially a triviality.  
Everything that is great in the world,  
All the works, beneficial and good,  
Half must be credited to woman,  
And to man half only we should.

-----  
All the flowers blossomed in the world,  
And all the fruits grown,  
Isn't in beauty, nectar and fragrance of those  
Woman's contribution?

-----  
All the great victory of the world  
And all the grand voyages,  
Gained grandeur and nobility from sacrifice of  
Mothers, sisters, and wives, throughout the ages.

-----  
While king rules the kingdom,  
And queen rules the king,  
The misery and sadness go away,  
Joy and happiness her grace does bring.

-----  
Gone  
Is that age,  
When man was the master  
To enslave woman in his wish's cage.  
Not very far  
Is that cherished day,  
When with homage of man,  
To woman also homage, the world will pay.” (Chowdhury, 2001, p. 374-376)

The verses stated above very obviously show that the poet was dead against discrimination between men and women.

### **Nazrul Was and Is a Poet-Writer of Tolerance and Equality**

In his essay ‘*Dharmaghat*’ (‘Strike’), the poet-writer states his commitment to the toiling peasants in words which continue to be voiced by social activists in Bangladesh today:

“The peasants who during the whole year undertake back-breaking physical labor, while removing the sweat from their forehead with their arms, cannot even eat two full meals of boiled rice. Except a rag reaching down to his knees, he doesn’t even avail of one proper dress through all his life..... But the one who takes his paddy rice spends twelve months under a royal (nawabi) roof, enjoying one after the other festival”. (Hossain, 2000, pp. 45-95)

‘Nazrul expresses his hope and expectation that workers will stage a rising which will make God smile in heaven, and leave ‘Satan in fear’. (Hossain, 2000, pp. 45-95)

Nazrul’s writings thus effectively reveal his combined commitment to equality between members of different religions, with an equally strong commitment to the struggles of Bengal’s laboring population for social and economic egalitarianism.

### **A Poet-Man of What is Called Syncretism**

Furthermore, Nazrul’s writings demonstrate that he was and is a poet ahead of any religion. An analysis of the extraordinary speech which he delivered to the Muslim Literary Association (*Muslim Shahitya Shamiti*) in April of 1941 is helpful in this context. The speech entitled ‘*If the Flute Does not Play Any More*’, was to be the very last of Nazrul’s life’. (Majid, 1997, pp. 85-140)

Nazrul’s speech is a testament of his personal beliefs. In the opening paragraph, he elaborately expresses his mystical search, his desire for union with a loving absolute reality, or Supreme Being. God is depicted as both beautiful and loving. His speech also expresses the poet’s syncretic orientation. To convey his message, he singles out two deities from the Hindu pantheon, and uses imagery relating to their roles, in order to highlight his own quest and admonish his Muslim audience. Strikingly, they are a God and a Goddess—*Krishna*, the earthly-loving God of the current of *vaishnavism* and the Goddess *Anandamoyee* or Durga are juxtaposed repeatedly throughout his testamentary speech. He writes: “If the power of *Anandamoyee* in me does not dissolve me by carrying me into the supreme Void, then I will once again sing the songs of love, of equality’. (Hossain, 2000, pp. 45-95)

In ‘The Temple and the Mosque’, the poet writes, “..... Once again the murky Hindu-Muslim issue has raised its head. First, there are brawls, then they hit each others’ head. Yet once those who have got drunk over the ‘prestige’ of *Allah* or *Ma Kali* get bashed, then, as I can see, they do not cry for *Allah* or *Ma Kali*. No, Hindus and Muslims together cry and lament in the same language: ‘*Baba Go, Ma Go*’-just as children who have been abandoned by their mother, cry for their mother in one choir. Hearing the weeping of the wounded, the mosque doesn’t waver, nor does the Goddess-in-stone of the temple respond.” (Majid, 1997, pp. 85-140)

Despite a Muslim who practiced his religious rituals, Kazi Nazrul is observed to show his respect for the religious representatives and books of other religion. The following lines from his famous poetry “The Egalitarian” show how reverential he was to other religions:

“I sing the song  
Of equality,  
Where all status and class  
Become triviality.  
The Rendezvous of Hindu, Buddhist,  
Muslim or those of Christianity,  
I sing the song  
Of equality!

Who are you? Persian? Jain?  
Shaotal, Til, Garo? Jew?  
Confucian? Charvaka-disciple?  
Anything else; something new?

My friend!  
Be whatever you are,  
Or, whatever book or scroll you carry  
in your head or on your shoulder.

Vedas, Tripitak,  
Or Quran - Puran,  
Avesta or another,  
read as much as you like or can.” (Chowdhury, 2001, p. 466-467)

Unlike some other world-famous poets and writers, Nazrul here seems to be very courteous to all religions.

### **Poverty Made Nazrul Great**

It has already been stated that a writer generally depicts what he experiences from the life he leads in this material universe. This is also true for this poet-writer. Kazi Nazrul came of a poor but respectable Muslim family. His father Kazi Faqeer Ahmed was the Imam and caretaker of a local mosque and mausoleum. At the young age of ten after 1908 when his father died, Nazrul had to begin working in his father’s place as a caretaker of the mosque to support his family. But is it a great offence for him to become poor and prop up his family in its distress? If no, why should his ‘poverty’ stand against him and bar him to become what he was supposed to be in the West? With a great pride, the poet sings that his poverty has made him ‘great’:

“O poverty, thou hast made me great.  
Thou hast made me honoured like Christ  
With his crown of thorns. Thou hast given me  
Courage to reveal all. To thee I owe  
My insolent, naked eyes and sharp tongue.  
Thy curse has turned my violin to a sword.” (Chowdhury, 2001, p. 374-376)

## Conclusion

The idea can be concluded by stating that Kazi Nazrul was not really a poet for the Muslims only, and his works are not the personal property for the people of his own religion. He was rather a poet-writer of what we regard as humanity. He wrote and sang for human beings only disregarding what the so-called religious representatives may say anything negative against him. It is obviously proved when we go through his writings. Thus, the researcher here asks, should this poet of humanity be kept aside and barred him of being famous in the world only for the reasons that he came of a Muslim family as well as for the fact that he was predestined to be underprivileged?



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## *Developing a Model for Science Academic Deans' Leadership Styles in the UAE*

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### **Abstract**

Leadership in higher education has been the focus of increasing debate and concern for nearly two decades. Although academic deans play a critical role in the success of higher education institutions and they study a great range of subjects, they have not been widely studied themselves, particularly research addressing their leadership styles. The purpose of this study is to develop a model for deans' leadership styles in the UAE to improve the quality in science higher education and fill the gap in the related literature. The study is a small qualitative empirical interpretive which has used full range leadership theory (Avolio & Bass, 1991) as its theoretical framework. This theory includes three main categories: transformational, transactional, and laissez-faire. The data have been gathered by a face-to-face, semi-structured in-depth interview guide designed by the researcher. The interviewee was the dean of colleges of sciences in one of the universities in the UAE. Analysis of the data has revealed that the dean of this study was practicing both transformational and transactional leadership styles with an emphasis on the former. The results from this study may help policy-makers, academic deans, and faculty make better decisions and improve the quality of science higher education. The developed model, suggestions, and guidelines for future research have also been provided.

**Keywords:** academic deans, leadership, leadership styles, science higher education, United Arab Emirates



## **Introduction**

Leadership in higher education has been the focus of increasing debate and concern for nearly two decades. Although academic deans study many subjects, they have not been widely studied themselves (Sypawka, 2008), particularly in terms of research addressing deans' leadership styles (Almgadi & Alnaji, 1994; Al-Omari et al., 2008; Bryman, 2007). There is a gap in the related academic literature, and the gap is much larger when it comes to science deans' leadership styles in the UAE. Science is one of the key disciplines for building a knowledgeable society and competing globally, and the UAE Vision 2021 emphasises its improvement in higher education.

Most studies on leadership styles are conducted in Western countries rather than in developing countries (Shah, 2010). Since leadership styles are underpinned by context and culture, the preferred leadership styles in different cultural contexts are different (Shah, 2006; Shahin & Wright, 2004). Therefore, the results in developed countries cannot be applied in developing countries without modifications (Rodwell, 1998). Furthermore, deans' leadership qualities will not necessarily be the same as in other countries, particularly western countries.

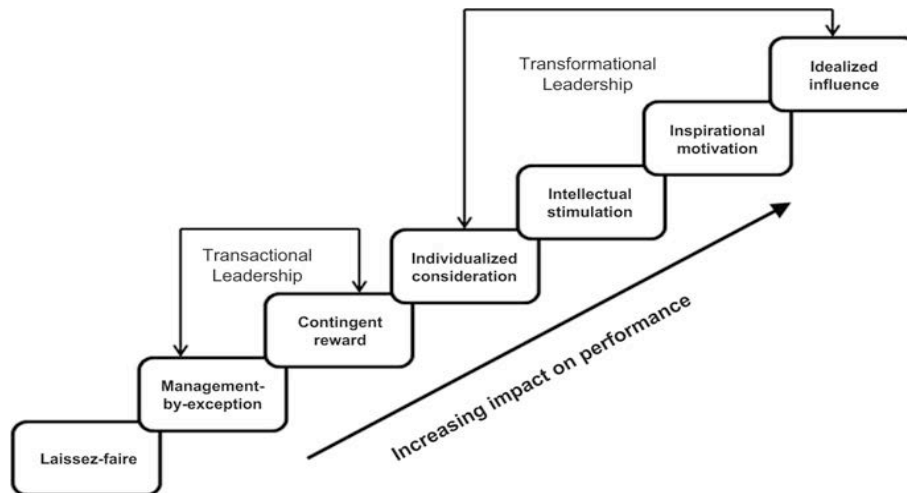
This study investigates the leadership styles of one academic science dean as an exploratory study in three dimensions, including organisation, teaching, and research, all of which are associated with effectiveness in higher education in the UAE context. The ultimate goal was to develop model for science deans' leadership styles in the UAE to improve the quality in science higher education and to fill the gap in the literature. The results from this study may help academic deans and faculty (academic deans are usually faculty role models) obtain awareness of others' leadership styles in the UAE to make better decisions and to be more effective.

## **Literature Review and Theoretical Framework**

Since the time of Aristotle and Plato, the various kinds of leadership styles have been a subject of thought and debate (McCaffery, 2004). Studies of leadership include the Ohio State leadership research by Blake and Mouton (1964), the contingency model of leadership by Fiedler (1967), participative leadership by Lewin (1978), and the full range leadership theory by Avolio and Bass (1991). Among them, the last one is a favorite for research in literature and debates in scholarly communities and the most researched and validated leadership theory worldwide (Kirkbride, 2006). Full range leadership theory (FRLT) is based on the transformational leadership theory proposed by Burns in 1987. In 1991, Avolio and Bass proposed the full range leadership theory, which includes transformational, transactional and non-transactional laissez-faire.

Transformational leadership refers to its followers' personal development and intrinsic motivation. This leadership style aligns followers' aspirations and needs with desired organisational outcomes (Bass, 1985, 1999; Bass & Riggo, 2005). Transactional leadership refers to the exchange relationship between leader and follower to meet their own self-interests (Bass, 1997). They engage followers by offering rewards in exchange for the achievement of desired goals (Burns, 1978). Laissez-faire leadership (passive leadership/non-leadership) exhibits frequent absence and lack of involvement during critical junctures. It is usually negatively correlated with effectiveness.

Figure (1) depicts the whole range of leadership styles from non-leadership (laissez-faire) to more transformational styles. There is a hierarchy in activity leadership from passive to transformational leadership.



Source: Adapted from Kirkbride (2006)

Figure (1). The Full Range Leadership Styles

Full range leadership theory (Avolio & Bass, 1991) includes nine distinct features: five transformational features, including idealised influence attributed, idealized influence behavior, inspirational motivation, intellectual stimulation, and individualized consideration, three transactional features, including contingent reward, management-by-exception active, and management-by-exception passive, and one laissez-faire feature. Table (1) represents each feature briefly.

FRLT Categories	Features
<b>Transformational Leadership</b>	<p><b>Idealized Influence (Attributed &amp; Behavior):</b> Provides vision and sense of mission, instills pride, gains respect and trust</p> <p><b>Inspirational Motivation:</b> Communicates high expectations, uses symbols to focus efforts, expresses important issues simply</p> <p><b>Intellectual Stimulation:</b> Promotes intelligence, rationality, and problem- solving</p> <p><b>Individualized Consideration:</b> Gives personal attention, coaches, and advises</p>
<b>Transactional Leadership</b>	<p><b>Contingent Reward:</b> Contracts exchange of rewards for effort, promises rewards for good performance, recognizes accomplishment</p> <p><b>Management by Exception (Active &amp; Passive):</b>                      Active: Watches and searches for deviations from rules and standard, takes corrective action.                      Passive: Intervenes only if standards are not met</p>
<b>Laissez- Faire</b>	Abdicates responsibilities, avoids making decisions

Table (1). FRLT Categories and Features (Avolio & Bass, 1991; Bass, 1997)

FRLT has been called the cutting-edge leadership theory (Robbins, 2005), and it has been demonstrated to be the mainstream in leadership research (Stordeur et al., 2001).

As a result, the full range leadership theory (FRLT) developed by Avolio and Bass (1991) provides the theoretical framework for this study. It addresses the research question and the selected design and instrument. Several research studies have applied this theoretical framework and have determined the effectiveness of transformational and transactional leadership styles with an emphasis on the effectiveness of the former (Avolio, 1999; Bass, 1985, Judge & Bono, 2000; Lowe & Gardener, 2000; Tickle et al., 2005). Zhu (2007) stated that transactional and transformational leadership styles impact on employees' receptivity and attitudes. Chaudhry and Javed (2012) emphasized the positive, strong, and significant relationship between transformational leadership and the employee's commitments.

Many researchers have identified transformational leadership as the most effective leadership style (Al-Hourani, 2013; Bass, 1990; Eagly et al., 2003; Lopez-Zafra et al., 2012). Transformational leadership can create valuable and positive change in the followers (Chou et al., 2013). It is highly effective in terms of followers' development, performance, and decision-making skills, and can facilitate team performance (Bass & Avolio, 1994; Dvir, Eden, Avolio, & Shamir, 2002; Walumbwa et al., 2004; Wang & Howell, 2012). Transformational leadership has been widely used in different fields such as education, industry, business, hospitals, and the military. It supports a wider range of thought about leadership than other theories and focuses on followers' needs, values, and morals (Bass & Avolio, 2000; Northouse, 2004; Northouse 2010; Shamir et al., 1993; Yukl, 1999).

In terms of practising the particular styles of leadership, Bolda (2010) showed that 265 faculty members in public and private districts in Pakistan were using transformational and laissez-faire (passive) leadership styles. Greiman's (2009) study of American agricultural deans found that they prefer transformational leadership style over the transactional style. The same result has been found for American agricultural and life science leaders (Jones & Rudd, 2009), Taiwanese nursing deans (Chen, 2004), and American university presidents (Levin, 2000). Studies in Arab countries regarding deans' leadership styles are very limited. A recent study of three university deans in Egypt and Lebanon by Al-Hourani (2013) demonstrated that female leaders at the three universities practiced transformational leadership style while male leaders used transactional styles. The transformational leadership style is by far the most and laissez-faire is the least dominant styles that have been identified.

No study has focused on science deans' leadership styles, but obviously, to be a successful dean of a science department, academic deans in science disciplines need different skills to be more effective. They are responsible for various activities to promote and be capable in producing science. They attract and establish creative, enthusiastic, and satisfied reputable scientists and transfer and apply scientific knowledge to the external environment (Keller & Holand, 1975; Gieryn, 1983; Siegel et al., 2004; Shapin, 2008). Science deans also are responsible for communicating and creating internal and external organisational goals (O'Leary, 1995; Sapienza, 2005). They have to ensure that all necessary equipment and resources are properly allocated to the related labs, centers, departments, university, or disciplines. In addition, Jones (2011) pointed out that leaders in hard disciplines (e.g., chemistry, physics, engineering) usually prefer a leadership style in which decisions are based on measurability and linear thinking.

According to Sapineza (2005), effective science leaders are caring and compassionate, possess managerial skills (communicating effectively and listening well, resolving conflict, being organised, and holding informative meetings), are technically accomplished to lead a scientific effort, and are good role models. Furthermore, Parker and Welch (2011) demonstrated that academic science leadership is related to both academic reputation and network structure. As a result, due to the lack of literature about leadership styles of science deans and the fact that “no one leadership style” can improve the productivity of institutions in all cultural contexts (Al-Omari, 2007), there is a need to identify effective leadership styles in the UAE with its particular societal culture and context.

### **Methodology and Methods**

The purpose of this study is to develop a model for science deans' leadership styles in the UAE. It will answer one main question: “What is an appropriate model for science deans' leadership styles in UAE universities?” This study is a small qualitative empirical interpretation that explores how a science dean describes his leadership experiences, how he builds up quality in higher education through his own leadership styles, and how he exercises his role and styles of leadership through organisational, teaching and research dimensions. According to Cohen et al (2011), a qualitative approach is undertaken for approaching knowledgeable people who can provide researchers with in-depth information about their professional roles, expertise, or experiences.

The interviewee is a science dean in one of the universities in the UAE who was selected through a purposive sampling strategy for this study. The data have been gathered through a face-to-face, semi-structured, in-depth interview using an interview guide that the researcher designed. It contains two main sections: a demographic section and a main section. The main section is divided into seven sub-sections, including idealised influence (attributed and behavior), inspirational motivation, intellectual stimulation, individualised consideration, contingent reward, management-by-exception (active and passive), and laissez-faire leadership questions. The validity of the results has been considered to establish confidence about the results' accuracy.

### **Discussion and Results**

The related questions to all three categories of full range leadership theory, including transformational, transactional, and laissez-faire, have been answered by the participant and analyzed and discussed by the researcher.

#### **Transformational Category**

The first category of full range leadership is transformational, in which leaders are charismatic and proactive. They encourage followers by inspiring them, helping them achieve extraordinary aims, stimulating their intellectual needs, and taking care of them individually. Microsoft's founder and former CEO Bill Gates and Chrysler Corporation's former CEO Lee Iacocca are examples of transformational leaders (Bass & Riggio, 2005). Transformational leaders use the following features to affect employees and generate commitment to the organisation's purposes.

### **Idealised Influence (Attributed and Behavior)**

The first feature is idealised influence, which takes two forms: attributed and behavioral. Idealised influence attributed relates to the leaders' socialized charisma. They are viewed as influential, assured, and confident leaders who emphasise higher order purpose and values. Idealised influence behavior relates to the leaders' charismatic actions, which focus on morals, trust, and a sense of mission. Idealised influence is also called charisma; charismatic leaders are appealing to employees and their behavior can produce faith and admiration.

Analysis of the results from the idealised influence questions shows that the interviewee of this study could make large changes in the science college, prioritise the faculty's comfort, make short- and long-term strategic plans in line with the market, international community, latest technology, and sustainability for the far future with the science faculty's collaboration, serve as a positive role model ("walk the talk"), excite faculty with visions of accomplishing goals through teamwork, and make faculty members feel and act like leaders. The academic science dean of this study could provide vision and a sense of mission, instill pride, gain respect and trust, display conviction, take stands on difficult issues, present his important values, generate trust, loyalty, confidence, and alignment around a shared purpose, and focus on the importance of purpose, commitment, and the ethical consequences of his decisions.

### **Inspirational Motivation**

The next feature of transformational leaders is inspirational motivation in which leaders create a vision to inspire employees. It relates to the approaches leaders use, such as looking at the future optimistically, creating an idealised vision, and talking to employees about accomplishments of the vision (Northouse, 2010). Analysis of the results from inspirational motivation questions shows that the interviewee of this study could cooperate with faculty to accomplish the vision, allocate time and budget to the faculty and staff for attending conferences and seminars, publishing papers, and particularly for creating and innovating in teaching and researching, express significant and high-order goals in simple ways, articulate the vision clearly and confidently, have a "can do" attitude, and show how science faculty's work applies to the real world. It seems that expressing significant and high-order goals in simple ways and articulating the vision optimistically and enthusiastically have inspired motivation in the faculty and staff successfully; the college of sciences has been selected as the best college in the university several times.

### **Intellectual Stimulation**

The third feature of transformational leaders is intellectual stimulation, by which the leaders question organisational routines and encourage followers to think creatively and solve issues by applying new ways (Antonakis et al., 2003; Bass & Avolio, 1994). Analysis of the results from the intellectual stimulation questions shows that the interviewee of this study could stimulate the faculty and staff to challenge old assumptions and traditions by creating new reasons and ideas such as publishing research by graduate students for the first time in the science faculty, encourage followers to think creatively and solve issues by applying new strategies, discuss

disagreements as the best way of solving problems, identify faculty's idea through voting, and re-examine their assumptions about their work. It seems that the science dean promotes intelligence, rationality, and careful problem-solving. He challenges old assumptions and stimulates new perspectives and approaches of solving problems in his followers.

### **Individual Consideration**

The last feature of transformational leaders is individualised consideration, by which the leaders give personal attention and express concern for their followers' well-being. The leaders attempt to content followers by coaching and taking care of their individual requirements and assist them in becoming developed and self-actualised (Antonakis, et al., 2003). Analysis of the results from individual consideration questions shows that the interviewee of this study could coach science faculty, take care of their individual requirements, and assist them in becoming developed and self-actualised, listen to everybody attentively and consider their perspective, and maintain a close relationship.

It seems that giving personal attention, treating the faculty individually, and considering their individual needs, abilities, and aspirations have been some approaches to establishing a close relationship between the science dean of this study and his faculty, which can also encourage the faculty to give better performances and achieve the set goals. According to Bass and Avolio (1996), "such individualised treatment reflects the leaders' ability diagnose their associates' requirements for further development and the leaders' ability to design appropriate strategies to satisfy as well as elevate their associates to higher levels of motivation, potential, and performance" (p. 13).

### **Transactional Category**

Another category of full range leadership is transactional leadership, by which leaders identify tasks clearly and supervise performances carefully to reach goals and fulfill contractual obligations by offering a reward system. Transactional leadership includes contingent reward and management by exception (active and passive) features.

### **Contingent Reward**

The first feature of transactional leadership is contingent reward, meaning that leaders consistently reward their employees for their good performances. The leaders discuss the task expectations with employees and provide all the required equipment and resources to achieve the desired results (Northouse, 2010). Analysis of the results from contingent reward questions shows that the interviewee of this study could discuss task expectations with employees and prepare all required equipment and resources to achieve the desired results, purchase books, lab equipment, technology, or other resources based on the faculty's requirements and the budget, and allocate rewards to encourage the faculty and staff to put in more effort and be more creative. It seems that the dean clarifies his expectations, negotiates and provides for resources, and promises commendations and rewards to encourage the faculty and staff to make more effort and to create good performances.

### **Management by Exception (Active and Passive)**

The next lower level of transactional leadership is management by exception, by which the leaders do not interfere with employees when they are doing their tasks. Bass and Avolio (1994) identified two kinds of managements by exception: active and passive. In active management by exception, leaders watch employees for any issues or deviations from standards and attempt to impede them from happening. In passive management by exception, the leaders do not intervene until standards are not met and issues occur. They wait until mistakes are brought to their attention, and then they start to solve the problems (Antonakis et al., 2003). Analysis of the results from management by exception questions shows that the interviewee of this study could observe science faculty for any difficulties by allocating one free day to meet with all faculty, take corrective actions if any deviations from rules occur, and enforce standards to prevent errors. It seems that the science dean in this study is an active vigilant who monitors his faculty's and staff's performance continuously and helps them before any issues arise.

### **Laissez-Faire Category**

The third classification of full leadership model is laissez-faire, which is considered as the least effective and actively involved (Antonakis et al., 2003). These leaders abdicate their accountability, avoid decision-making or following problems, and actually do nothing (Coad & Berry, 1998). Analysis of the results from laissez-faire questions shows that the interviewee of this study could show a dissimilar leadership style to laissez-faire. The questions regarding laissez-faire were not applicable for the interviewee of this study because he does use his authority, expresses his views on issues, and accepts all his responsibilities. Responding to requests for assistance, presenting when needed, and making decisions as quickly as possible are also some characteristics of the interviewee, which are counter to the laissez-faire leadership style.

### **Conclusions and the Developed Model**

In recent years, due to rapid changes in the academic environment, academic deans have been confronted with new leadership challenges that are increasingly complicated and intense (Pence, 2003). Therefore, employing appropriate styles of leadership can play a significant role in the deans' organisations', teaching, and research successes. There is a big gap in the literature regarding science deans' leadership styles. This study fills the gap and improves the quality of science higher education, particularly in the developing world, with a focus on the UAE with new universities that are developing in some fields.

This study is a small qualitative empirical interpretive study that has used full range leadership theory (Avolio & Bass, 1991) as its theoretical framework. The required data have been gathered through a face-to-face, semi-structured, in-depth interview guide designed by the researcher. The participant was the dean of college of sciences in one of the UAE universities. Analysis of the data has shown that the science dean of this study was practicing both transformational and transactional leadership styles with an emphasis on the former. The culture of the dean and his faculty, who are rooted in different Arab countries, is almost the same and thus has been a positive factor in running his plans. In Figure (2), the researcher depicts the developed model for science deans' leadership styles in the UAE.

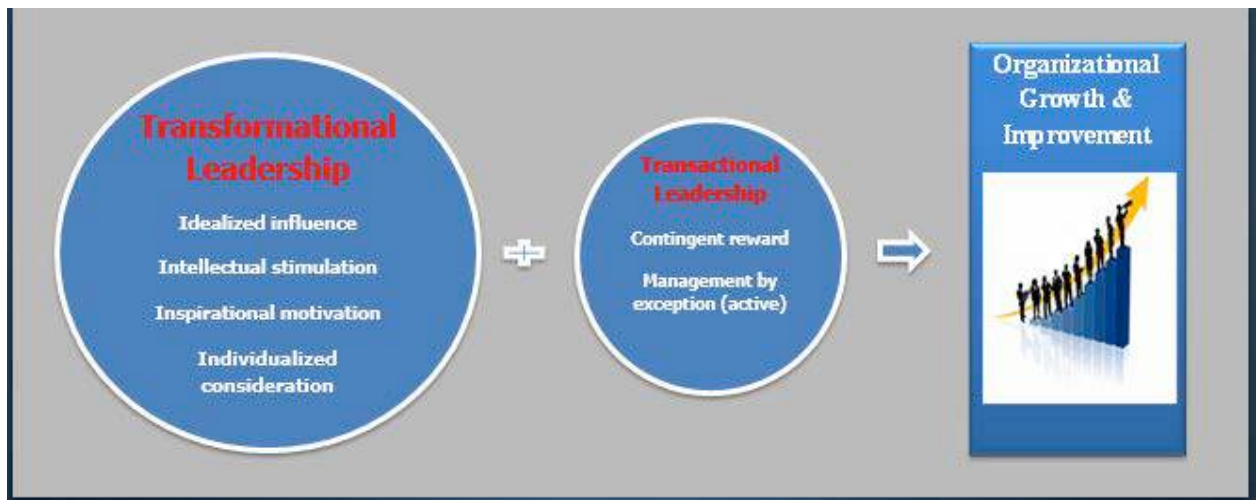


Figure (2). The developed model for science deans' leadership styles in the UAE

Several studies have demonstrated that if leaders exhibit both transformational and transactional styles, their efficiency and productivity will be maximized (Judge & Piccolo, 2004). According to Bass and Avolio (1994), practicing transformational leadership elevates both leaders and followers. It is ethically and morally uplifting (Avolio, 1999). This model agrees with previous studies such as Bolda (2010), Chen (2004), Greiman (2009), and Levin (2000) in which Pakistani faculty, Taiwanese nursing deans, American agricultural deans, and American university presidents were practicing both transformational and transactional leadership styles. The developed model is somehow counter to the study by Al-Hourani (2013) in an Arab context in which male university deans were using transactional leadership styles and female university deans were using transformational leadership styles.

### Implications and Suggestions for Further Research

A review of the related literature revealed that there is very limited research on the leadership styles of science academic deans. Therefore, this study adds to the knowledge and can be a foundation for further study on the academic deans' leadership styles, particularly in the UAE. Pounder (2005) demonstrated that using both transformational and transactional leadership styles is significantly and positively connected to classroom outcomes in higher education. Knowing and employing the leadership style that is most appropriate to the culture of a particular context such as UAE might result in higher productivity and performance, lower faculty stress and burnout, higher faculty job satisfaction, lower turnover rates, improvement of the financial situation of the university, better approaches for decision-making by leaders, and improvement of the quality of universities.

Of course, many questions still need to be answered. For instance, since transformational leadership improves both leaders and followers, studying followers including faculty, staff, and students would deepen the analysis and confirm or contradict the leadership styles (Xin & Pelled, 2003). In this regard, further study might use a mixed method approach for including a large number of participants. Also, future research can focus on the role of independent variables such as age,



gender, years of experience, and the number of faculty supervised as some factors to identify different leadership styles (Gmelch,& Wolverton, 2002).

This study is limited in some respects. Firstly, according to Avolio (1999), the FRLT ranges from passive leadership to a very charismatic leadership model, so it does not contain all of the leadership dimensions. Obviously, other leadership styles need to be investigated. Secondly, although the number of participants of this study was valid for an exploratory study, the findings and developed models are not conclusive. If the number of engaged science deans increases, more insight might be attained. Also, the findings might be generalised. Finally, since the site has been limited to only one Emirati private university, including public and international universities could be some options for further research. Bolda (2010) found that academic deans in private sectors were practicing transactional style at significantly higher rates than deans in public sector universities. Therefore, adding variety to the selection of sites would improve the results.



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***Development of a Smartphone-assisted English Reading Instructional Model for English Major Students in the Northeast of Thailand***

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**Abstract**

Reading is considered as the most important skill for English learners (Komiyama, 2009) because it is one of the imperative skills which play an important role for educational and professional achievement. However, it is demonstrated that the proficiency level of English reading amongst Thai students are unsatisfactory and needed to be improved (Laoarun, 2013; Ponmanee and Sinsuwan, 2001; Wongsothorn, 2003, and Chawwang, 2008). Today, Smartphone is becoming an appropriate tool to be used in educational contexts. Because of its powerful features and services, learners can access to content anyplace, anytime. It also offers the greatest potential for integration of technological hardware into language learning (Barrs, 2011). Nevertheless, to create an effective instruction, an Instructional Systems Design (ISD) process must be applied as guidance for developing instruction step-by-step. For this reason, this study aims at developing a Smartphone-assisted English Reading Instructional Model (SAER Instructional Model) for English major students. To construct the SAER Instructional model, the five effective and practicable instructional design models were analyzed and synthesized precisely. Consequently, the Model was evaluated by the three experts in instructional systems design and English language teaching field. The results of the experts' evaluation toward the SAER Instructional Model revealed that the Model is appropriate in English reading instruction for English major students in the Northeast of Thailand.

**Keywords:** Instructional design, instructional model, teaching reading, mobile learning

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## 1. Introduction

Reading skills in English has long been perceived as being crucial in the context of a globalized world (Rahman, H., 2007). It is believed that people with a high potential in reading skill are more likely to be successful in both education and professional achievement. However, English seems to be a recurring problem for Thai students at all educational levels and most students reading abilities are not good enough to understand what they read (Songyut, 2011; Wichadee, 2011).

A number of research studies on reading in Thailand revealed that reading ability in English of Thai students were fairly poor (Laoarun, 2013; Ponmanee and Sinsuwan, 2001; Wongsothorn, 2003, and Chawwang, 2008). Accordingly, language scholars and instructors are presently exploring to find the teaching and learning methods which can effectively improve students' English reading ability and increase their motivation in learning reading. To resolve this problem, smartphone technology which is a high potential and influential tool will be integrated in reading teaching approach to assist in the facilitation of learning.

Moreover, the instructional design which is a systematic procedure for instruction development will be applied to construct a well-organized instructional model. As a result, a study on how to design and develop an English Reading Instructional Model which is an integration of smartphone technology into English reading course which will help enhance students' reading ability and motivate students to read should be carried out. To achieve the research purpose, two research questions have been formulated:

- 1) What are the components and logical steps of developing a smartphone-assisted English - reading instructional model?
- 2) What are the experts' opinions on smartphone- assisted English reading instructional model based on an evaluation form?

## 2. Review of Related Literature

To design and develop the SAER Instructional Model, four learning theories consist of Behaviourism, Cognitivism, Constructivism, and Social constructivism learning theory, the relevant instructional design models that laid the importance of the design of the SAER Instructional Model including ADDIE model, Dick and Carey model, Kemp model, SREO model and OTIL model, the knowledge of smartphone technology, and the seven steps Model for research and development proposed by Brahmawong & Vate-U-Lan, 2009 were carefully reviewed, analyzed and synthesized.

### 2.1 Learning Theory

To create effective learning environments based on mobile devices, several learning theories concerning mobile-assisted language learning have to be studied. Accordingly, four learning theories which will be applied in the development of instructional model for smartphone-assisted English reading will be reviewed.

#### 2.1.1 Behaviourism Learning Theory

Behaviorism is a theory of learning based upon the belief that all behaviors are acquired through conditioning. Therefore, by this theory learning has occurred when learners evidence

the appropriate reinforcement of an association between a particular response and stimulus (Smith and Ragan, 2005). In behaviourist perspective, mobile devices can be adopted as an effective way of learning to enhance the behaviourist learning process. The use of mobile devices to present teaching materials/content, and specific questions, elicit responses from learners, provide appropriate and immediate feedback, and provide drill and feedback activities fits within behaviourist learning paradigm.

### **2.1.2 Cognitivism Learning Theory**

Cognitivism is defined as the acquisition of knowledge and skill by mental or cognitive processes — the procedures we have for manipulating information 'in our heads'. The underlying concepts of cognitivism involve how we think and gain knowledge. Thus, based on this theory learning is the acquisition or reorganization of the cognitive structures through which humans process and store information (Good and Brophy, 1990). Accordingly, based on cognitivism belief, teachers can use mobile devices not only to create a motivational climate within learning process with incorporated diverse teaching philosophies that promotes learning but also tolerate students to learn differently at various developmental levels.

### **2.1.3 Constructivism Learning Theory**

Constructivist learning theory maintains that “knowledge is not received from outside, but that we construct knowledge in our head” Alessi and Trollip (2001) (p. 31). Based on this theory, learning is an activity process in which learners construct new idea or concepts based on their current and past knowledge (Bruner, 1966). In the implementation of mobile technologies, Constructivist learning theory allows students to work independently and have a teacher as a facilitator. Sooner or later, students learn more when they have to explore and experiment rather than being told why something works.

### **2.1.4 Social Constructivism Learning Theory**

From a social constructivism perspective, knowledge is constructed whenever people engage socially in talk and activity about shared problems of tasks (Driver et al., 1994). Based on the belief that cultural and social context are influencing learning, thus leaning can be occurred through social interaction. In view of that, the use of mobile technology to connect rather than separate students from one another would be very appropriate use in online learning.

## **2.2 The Instructional Design Model**

As this study aimed at developing a smartphone-assisted English reading instructional model, thus, the knowledge of instructional design which is a systematic procedure for instruction development is necessitated to review. Therefore, five instructional design models including ADDIE model, Dick and Carey System Approach Model, Kemp Model, SREO Model and OTIL Model will be pragmatically studied.

### **2.2.1 The ADDIE Model**

The ADDIE model is a generic and systematic approach to the instructional design process which provides instructional designers with a framework in order to ensure that their instructional products are effective (Dick, Carey and Carey, 2001). The model consisted of

five stages, namely, Analysis, Design, Development, Implementation and Evaluation. It is considered the most commonly used system for instructional design and is the basis of instructional systems design (ISD).

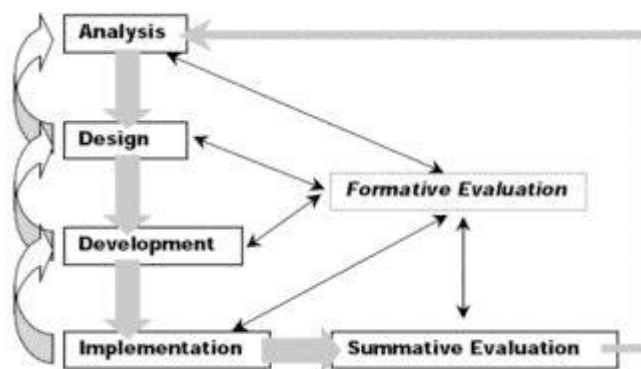


Figure 1. The ADDIE Model

### 2.2.2 The Dick and Carey Model

The Dick and Carey model is one of the most influential Instructional Design system-oriented models. Similar to other ISD models, its system bears the conventional core elements of ADDIE model. Differently, the five core elements of ADDIE model is broken down into more complex steps (see Figure 2).

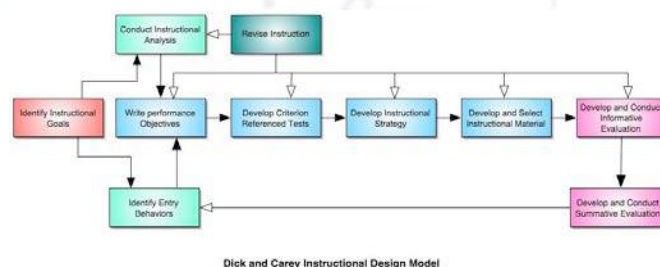


Figure 2. Dick and Carey Model

### 2.2.3 The Kemp Model

The Kemp Model is one of the most widely used models in the field of instructional design. It defines different elements (Morrison, Ross & Kemp, 2004) of an instructional design, and emphasizes the adoption of continuous implementation and evaluation through the instructional design process. The nine elements of the Kemp Model are independent of each other. The model is systemic and nonlinear, arranged in an oval pattern and seems to encourage designers to work in all areas as appropriate (see figure 3).

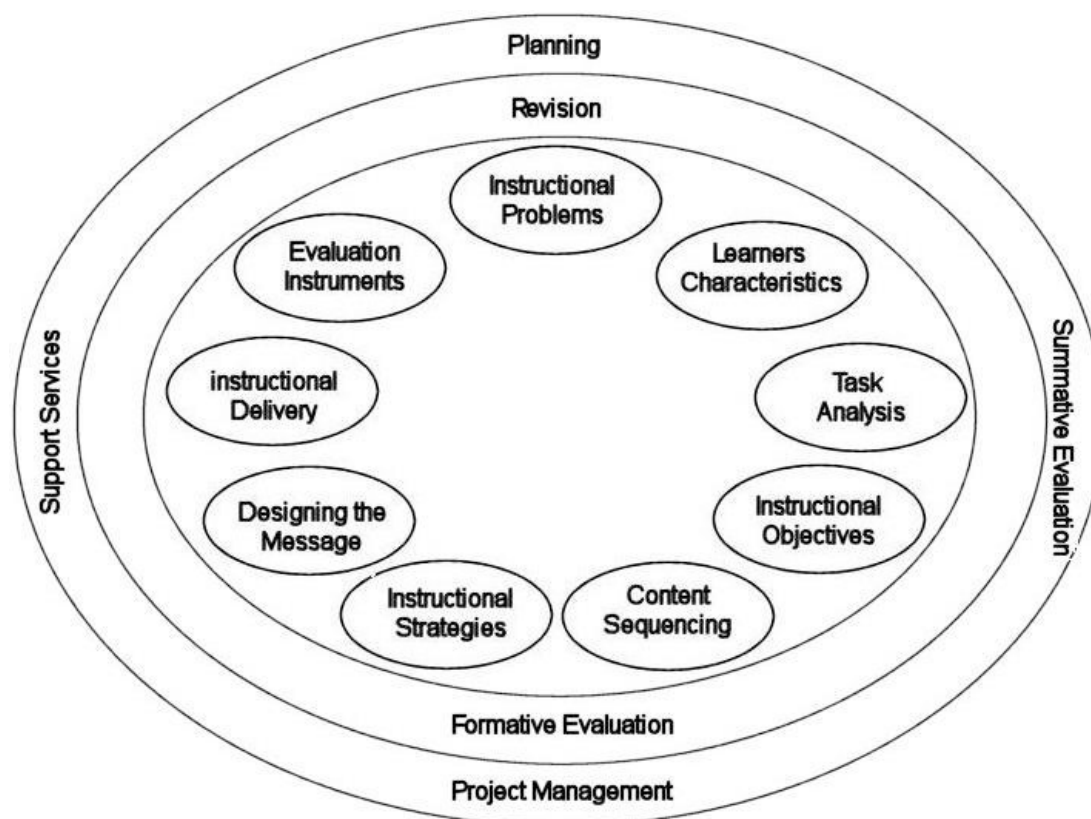


Figure 3 Kemp Model, from Morrison, Ross & Kemp (2004)

### 2.2.4 The SREO Model

SREO Model is an Internet-based instructional system for language teaching which focuses on interactivity or interaction involving learners with the content (Tian & Suppatsere, 2013). This model considered instructional design issues for E-learning: structure, content, motivation, feedback, interaction, and involvement. It comprises six main steps namely, analyze setting, construct prototype, produce instructional packages, test prototype, conduct teaching and learning activities, and conduct evaluation (see figure 4).

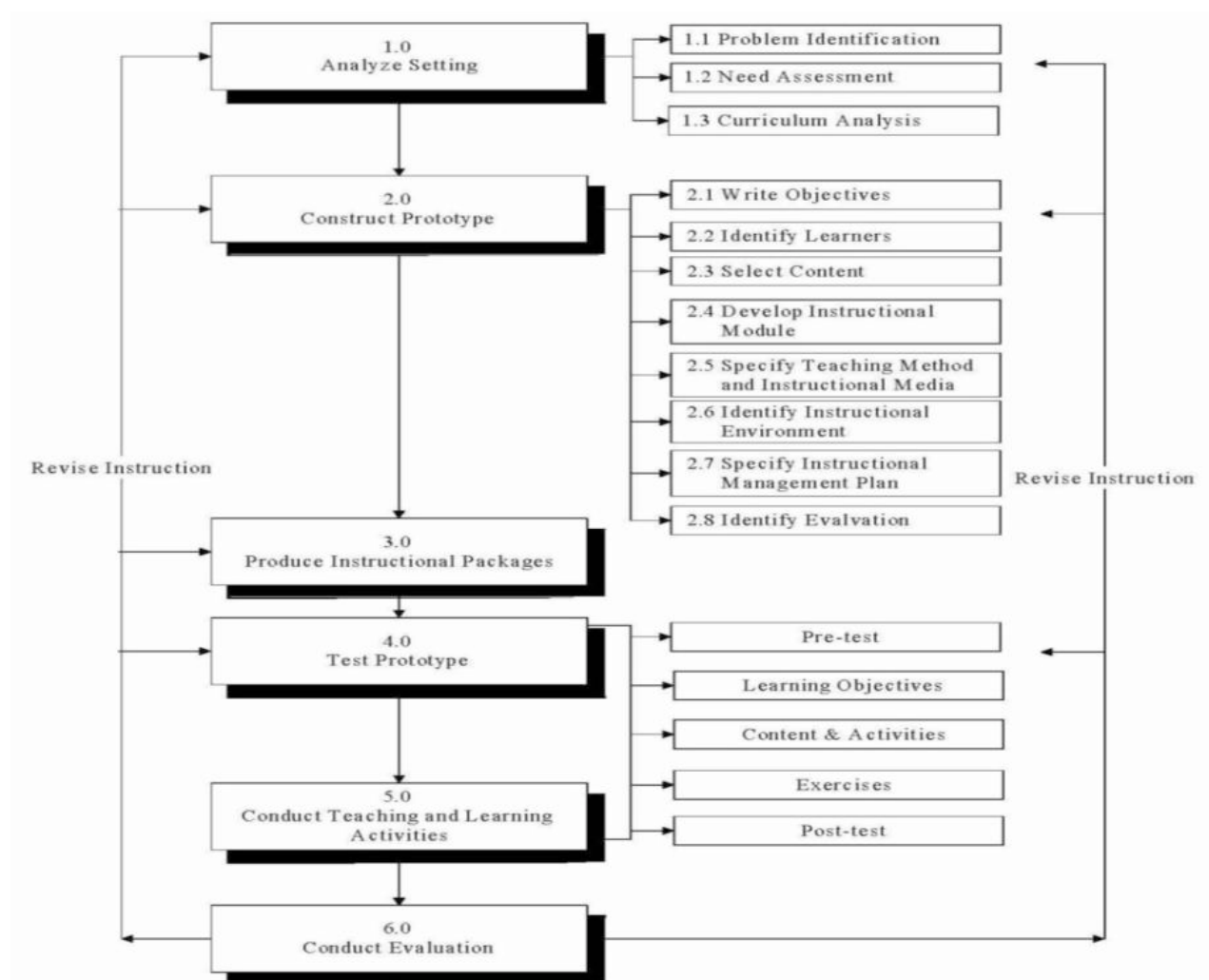


Figure 4. SREO Model (Suppatsere, 2005, p. 108)

### 2.2.5 The OTIL Model

The OTIL is an acronym for Online Task-Based Interactive Listening. The orientation of the OTIL Model is systematic and web-based, using interactive listening instruction with task-based approach. This model includes 6 phases and 17 steps in the process (see Figure 5).

### 2.3 Smartphone Technology

The usage of smartphones has grown extensively over the last years, and so has the services and a numerous applications offered to the users (Cedergren and Hellman, 2012).

Multi-functionality, portability, and connectivity are opening doors for learning. These tiny pocket computers keep students connected to the Internet, improving their academics. Thus, learning does not only happen inside the classroom, it can happen anywhere anytime. With the high potential of smartphone, learners access to a great deal of content, and transfer or share information online with a study group anywhere, anytime. Accordingly, smartphone technology opens up the opportunity to learn all the time.

## **2.4 Brahmawong's Seven Step Model**

The seven steps Model for research and development was proposed by Brahmawong & Vate-U-Lan in 2009. This model comprises consistent seven steps as follows: step 1) reviewing a knowledge on SAER instructional model; step 2) conducting need assessment for SAER instructional model (SAER Model); step 3) developing conceptual framework for SAER instructional model; step 4) Securing the experts' opinion on SAER Instructional Model; step 5) drafting the prototype of SAER model; step 6) trying out the prototype and, step 7) revising and reporting on SAER model.

## **3. Research Methodology**

This study consisted of two phases. At the first phase, the Instructional Model of Smartphone-Assisted English Reading would be designed and developed. In this phase, the literatures which are applied in the SAER Instructional Model will be reviewed. Afterward, the Instructional Model of Smartphone-Assisted English Reading will be designed and developed. In the second phase, to evaluate the smartphone-assisted English reading instructional model design, the evaluation form of efficiency of the Smartphone-Assisted English Reading Instructional Model will be sent to the three experts in Instructional Systems Design and English Language Teaching field. The information gathered from the evaluation will be used to revise the model.

## **4. Results**

After the study had been conducted, the two research questions which were demonstrated previously were answers as follows:

### **4.1 Design of the Smartphone-Assisted English Reading Instructional Model**

Based on the results of the evaluation and the recommendations from the three experts, the SAER Instructional Model has been carefully revised. Eventually, the model was developed in 8 majors steps and 9 sub-steps in the process. Each step will be briefly described as following:

#### **Step 1: Analyze Instructional Context**

Analysis is the basis step in the SAER Instructional Model. Before the instructional process is designed, the 4 subjects will be clearly analysed by the researcher: (1) analyse learners including needs and problems regarding learning English reading, and their characteristics. (2) analyse learning context for SAER Model, (3) analyse teacher' role and availability in smartphone-assisted learning courseware and, (4) analyse instructional content of reading I course used in the courseware. The information gained from this stage can contribute to identify the learning goals of reading courseware in the second stage.

### **1.1 Analyse learners**

In this substep, needs and problems of the learners concerning learning English reading and their characteristics will be examined. The analysis emphasises on the background knowledge and learning problems students had and encountered while they were studying English reading and the expectation of the learners from learning English reading. The findings of this analysis can subsidize to identifying learning goals and determine instructional strategies which promote learners to make connections with new information to old.

### **1.2 Analyse Learning Context For SAER Model**

To do a better job of planning instructional activities, the analysis of learning context where the actual learning will take place is conducted. The purpose of this sub-step is to identify the availability of smartphones devices for English instruction providing by the university and any limitations of the setting that might affect the design of instruction.

### **1.3 Analyse Teacher' Role And Availability for Reading Courseware**

Study of online teacher roles and competencies are important as they provide information about how online teachers might be trained and supported, as well as factors that might affect the design of online learning environments. Thus, this sub-step teachers' role and availability that the teacher need to perform while teaching reading courseware will be specified.

### **1.3 Analyse Instructional Content of Reading Courseware**

One of the important factors which can impact up on how the instruction is designed and developed is types of content. As different types of content will likely require dissimilar strategies, thus, analyze the instructional content of reading course should be conducted. The content analysis focuses on analysis of the domain (type) and level (sequence) of the content.

### **Step 2: Identify Learning Goals of Reading Courseware**

After the analysis, the learning goals of the reading courseware is necessitated to specify. The findings from step 1.0 can influence the goal statements. A clear statement of what the instructional goals of the course will help determine the pathway to develop the smartphone-assisted learning courseware and diminish deviancies during the course development.

### **Step 3: Design and Develop for Smartphone-Assisted Learning Courseware**

After identifying the learning goals of the reading courseware, in this step the lessons, exercises and assessments which will be accessible in the instruction must be developed. To affirm that the lessons, exercises and assessments of the online instruction are in a holistic approach that mean everything fits together in harmony, the blueprint of the reading courseware must be considered.

## **Step 4: Develop Instructional Strategies**

Based on the blueprint of the reading courseware from step 3.0, the instructional strategies will be developed following the 3 substeps: (1) determine instructional strategies, (2) create learning tasks and, (3) select online instructional platform.

### **4.1 Determine Instructional Strategies: Learner-Centered Approach**

It is stated that what children learn depends not only on what they are taught but also how they are taught (Instructional strategies online, 2013) accordingly, to achieve the learning goals of reading course, the applicable instructional strategies must be cautiously determined to maximize learning effectiveness. Therefore learner-centered approach, consequently determined as the main instructional strategy in the smartphone-assisted English reading instruction. It will be covered following areas: Pre-reading activities; Reading, and Post-reading activities.

### **4.2 Create Learning Tasks For Pre-Reading Activity, During-Reading Activity and Post-Reading Activity**

After instructional strategy is determined, the learning tasks which are influenced the accomplishment of the instruction of smartphone-assisted English reading courseware must be considered and created. The design of applicable tasks possibly will have significant influence on the success of the reading instruction.

### **4.3 Select Instructional Platform: Smartphones**

Based on the results of the previous steps, in this substep the online instructional platform which will use to deliver the lessons have to be selectively chosen. In an online environment, the platforms should be selected in order to expand accessibility to educational opportunities, make use of multimedia capabilities, and provide effective management of the teaching and learning experience. As the online reading instruction focuses on self-organized learning and social networking, smartphone devices, a platform which can serve the notion of learning anytime anywhere will be applied as online instructional platform in this reading courseware.

## **Step 5: Produce the SAER Lessons**

Once the instructional platform is picked up, the actual reading courseware which will use for teacher and student need to be cautiously produce in this step. However, this step is somewhat time consuming because the suspected instructional material is possibly changed or amended and the new instructional material may be able to adopted or added to make the courseware much more effective.

## **Step 6: Developmental Testing**

To test the efficiency of the SAER lessons, in this step the tryout and the trial run processes will be carried out.



## **6.1 Tryout**

In this substep, to test the efficiency of the SAER lessons, three steps of the tryout will be carried out: individual testing, small group testing and field testing.

### **6.1.1 Individual Testing**

In this stage, the three students will learn through the reading English lessons produce on the SAER Instructional Model. The time allotted for this step is 15 fifty- minute periods. Results of the tryout will be analyzed to find out the efficiency of the SAER lessons based on the 80/80 efficiency criterion. Tryout data on the opinions of the students concerning the quality of SAER lessons will be utilized to improve the quality of the model.

### **6.1.2 Small Group Testing**

In the small group testing, 6-12 students will be asked to study through the SAER lessons which are modified and revised from the individual testing stage. Results of the tryout will be analyzed to find out the efficiency of the lessons based on the 80/80 efficiency criterion. The lessons will be further improved based on the students' opinions of the concerning its quality.

### **6.1.3 Field Testing**

Similarly to the individual and the small group test, in this stage thirty students will be asked to learn through the SAER lessons. After that, Students' achievement scores of both exercises and tests from three stages will be determined for effectiveness of the smartphone-assisted English reading lessons based on criteria of the 80/80 standard level (Brahmawong, 1978).

## **6.2 Trial Run**

In this step, the learning context where the actual learning will take place is conducted. The actual reading courseware will be given to the thirty students. Before and after studying The SAER lessons, all of them will be asked to do the pre-test and post-test respectively. Results of the trial run will be analyzed to find out the efficiency of the lessons based on the 80/80 efficiency criterion. The comparison of pre and post achievement scores of students who used the SAER lessons will be investigated as well. Eventually, the lessons will be further improved based on the students' opinions of the concerning its quality.

### **Step 7: Implementation SAER Lessons**

Once the SAER lessons is approved to be proficient and satisfaction, the implementation step will be conducted to ensure that maximum efficiency and positive results of the lessons are obtained. Design evaluation is also done in the implementation step.

### **Step 8: Conduct Evaluate**

After the implementation step, evaluation process is conducted in order to evaluate learning processes and outcomes. Accordingly, two types of instructional evaluation which are formative evaluation and summative evaluation will be conducted in this step.

## 4.2 Results of the Experts' Evaluation toward the SAER Instructional Model

After SAER model had been developed, to prove that the SAER model constructions are appropriately apply in the study the evaluation form of SAER model was submitted to three experts in Instructional Systems Design and English Language Teaching field. The data collected from a five-point rating scale questionnaire was calculated for arithmetic means. The results of the analysis are presented in table 1.

**Table 1. Results of Experts' Evaluation toward the SAER Instructional Model**

No	Statements	$\bar{X}$	SD
1	The components of SAER Model are appropriate.	4.33	0.577
2	The steps in SAER Model are clear and easy to implement.	4.33	0.577
3	Each component in SAER Model has appropriate connection.	4.67	0.577
4	The SAER Model Plan is appropriate to be used in teaching Reading I course	4.33	0.577
5	The SAER Model can help enhance learner-teacher interaction.	4.00	1.000
6	The SAER Model can help enhance learner-learner interaction.	4.00	1.000
7	The SAER Model can offer combining learning activities with self-paced study.	4.67	0.577
8	The SAER Model can offer practicing with associated feedback.	4.00	1.000
9	The SAER Model can offer personalizing learning paths based on learners' needs.	4.67	0.577
10	The SAER can facilitate students to learn anytime anywhere.	4.67	0.577
11	The SAER Model is appropriate for current social condition.	4.67	0.577
	Total	4.39	0.197

According to the results in Table 1, it revealed that SAER model was rated by the experts at the mean score ( $\bar{X} = 4.67$ ,  $SD=0.577$ ) in items 3, 7, 9, 10 and 11, the mean score ( $\bar{X} = 4.33$ ,  $SD=0.577$ ) in items 1, 2, 4 and the mean score ( $\bar{X} = 4.00$ ,  $SD=1.000$ ) in items 5, 6, 8. Due to the findings, it was demonstrated that the mean score of all items are at  $\geq 4.00$ .

This can be explained that the experts strongly agreed that 1) the components of SAER Model are appropriate; 2) the steps in SAER Model are clear and easy to implement; 3) each component in SAER Model has appropriate connection; 4) the SAER Model Plan is appropriate to be used in teaching Reading I course; 5) the SAER Model can help enhance learner-teacher interaction; 6) the SAER Model can help enhance learner-learner interaction; 7) the SAER Model can offer combining collaboration activities with self-paced study; 8) the SAER Model can offer practicing with associated feedback; 9) the SAER Model can offer personalizing learning paths based on learners' needs and using simulation and games; 10) The SAER can facilitate students to learn anytime anywhere, and 11) the SAER Model is appropriate for current social condition. In total, the results revealed the mean score of 4.39 ( $SD=0.197$ ) which indicated that the SAER Model was in good organization for the purpose of the study.

## 5. Discussion

Reading skills in English has long been perceived as being crucial in the context of a globalized world (Rahman, H., 2007). People with a high potential in reading skill are more likely to be successful in both education and professional achievement. Nonetheless, a number of research studies on reading in Thailand revealed that reading capacity in English of Thai students were fairly poor.

As a result, effective reading instructional models have been constantly developed to improve students' English reading ability. A Smartphone-Assisted English Reading (SAER) Instructional Model was also designed and developed to serve as a guideline for teachers to create applicable instructions.

The SAER Instructional Model has been constructed based on student-centered approach with the modern ideas of learning anywhere, anytime and individual differences through smartphone technology. Once five instructional design models comprise of ADDIE model, Dick and Carey model, Kemp model, SREO model and OTIL model were reviewed, analyzed and synthesized, the SAER Instructional Model was developed systematically following the seven steps Model for research and development proposed by Brahmawong & Vate-U-Lan (2009).

After a prototype of the instructional model was designed and developed, it was submitted to three experts for evaluation and suggestions. As a whole, the results of the evaluation revealed that SAER Instructional Model was approved as a well-organized and sequenced instructional model which appropriately used for EFL reading instruction and capable of enhancing students' interactions and combining learning activities with self-paced study at anytime anywhere ( $\bar{X} = 4.39$ ,  $SD=0.197$ ).

With regard to each aspect of the model, the findings revealed that 6 items including Item 3, Item 7, Item 9, Item 10 and Item 11 received the highest mean score ( $\bar{X} = 4.67$ ,  $SD=0.577$ ). This indicated that the strongest point of the model was the component of the model which was connected appropriately. That means if the instructional components are properly allied with each other, the quality of the instructional design is higher (Martin, 2011). This view, possibly because the model was designed and developed on the fundamental principles of instructional system design with insightful studies of various instructional models.

Also, the learning activities with self-paced study, personalizing learning paths based on learners' needs and facilitation of students for learning anytime anywhere in current social condition were declared as the distinctive point of the model as well. This view, possibly because the model was designed and developed based on constructivist learning theory that puts emphasis on self-organized learning, social networking, and the changing roles of teachers.

Nevertheless, the three aspects of the model: enhancing learner-teacher interaction, enhancing learner-learner interaction and offering practicing with associated feedback, all obtained the lowest mean score ( $\bar{X} = 4.00$ ,  $SD=1.00$ ) from the experts. Perhaps this view was because the SAER Instructional Model was designed and developed based on the conception of self-organized learning through social networking with the role of teachers were changed; instead of being teacher, they turn to be facilitator.

As a result, it possibly that the interaction between teacher-learner; learner-learner will be gradually reduced. However the notion of cognitive theory suggests that high level of interaction in learning environments can improve learning outcomes and increase student satisfaction. Therefore to design and develop an effective online learning course, the instructional designers should find a way to intensify learner-teacher interaction and learner-learner interaction in online course.

The results of evaluation of SAER Instructional Model were mostly consistent with those of many previous studies: Suppasetserree's (2005) SREO Model, Tian's (2012) OTIL Model and Walakanon's (2014) WCR Instructional Model in which one of the strongest points of all these models including SAER Instructional Model is its systematic connections between the components of the model.

Conversely, the results of evaluation also revealed the variances amongst these models in which while all these models placed importance on students' autonomous learning, which allow the students to study online at their own pace and according to their interests (Walakanon, 2014), SAER Instructional model slightly different placed importance on students' ubiquitous learning, in which students can become totally immersed in the learning process at anytime, anywhere with self-paced study.

## **6. Implications**

The implications of the study can be mentioned as follows. First, the SAER Instructional Model contributed in the present study will be used as an authoritative example or a guidance to other instructors and instructional designers who are interested in further development of the instructional model in which the smartphone technology is integrated. Second, the SAER Instructional Model contributed in the present study can also help promote reading activities in settings outside classroom.

That means it can establish a ubiquitous learning environment in which students can be motivated to learn whenever and wherever they want both outside and inside reading classroom and provides more opportunities for learning to read as well. According to its potential, learning activities can be occurred across time and space no longer limited to specific formal settings.

## **7. Conclusion**

To construct the SEAR instructional model, concept, principles, reading theories, learning theories related to mobile learning, instructional design models together with Brahmawong's Seven-Step Model for research and development were precisely reviewed and analyzed to design and develop the model. After that, the model was pragmatically created and carefully evaluated by the three experts. According to the experts' suggestions, the model was revised and eventually approved as the well-organized instructional model which is applicable and suitable for EFL reading instruction in current social condition.

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The logo for IAFOR (International Association for Frontiers of Research) is centered on the page. It features the word "iafor" in a lowercase, sans-serif font. The text is surrounded by a circular graphic composed of several overlapping, curved lines in shades of blue, red, and green, creating a sense of motion or a globe.



## **An Evaluation of Science Lecturers' Testing Skills in Tertiary Institutions in Nigeria: A Case Study of Kogi State University, Anyigba**

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### **ABSTRACT**

The purpose of this study is to evaluate how science lecturers in tertiary institutions apply testing skills in their testing and examinations. The study was an ex-post factor research design. The identified testing skills used in this study are; test planning, preparation, administration, item analysis, scoring and interpretation of test result. A sample of 80 science lecturers out of a 198 population of lecturers was selected using simple random method. A 42 Items – option like type questionnaire was used for data collection, with a reliability of 0.76. The three hypotheses formulated to guide the study were tested using population t-test, and one – way ANOVA at 0.05 level of significant. The hypotheses are; the application of testing skills among science lecturers in Kogi State University is not significantly high; there is no significant influence of lecturers' qualification and lecturers' teaching experience on the application of testing skills. The result obtained among others was that on the overall, there is a significant influence of lecturers' qualification on the application of testing skills used in this study. But that lecturer' teaching experience does not significantly influence application of testing skills. It was recommended that science lecturers should attend seminars on acquisition of testing skills by expert in educational measurement and evaluation, to improve the quality of results and graduated students from sciences, which will improve the development of science and technology among our youths.

**Keywords:** Analysis, Testing, Skills, Construction and Assessment

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**Introduction:**

In teaching - learning process, testing is an integral part that cannot be relegated to the background, otherwise the process of acquisition of knowledge and the quantification of how much we know of what we claim to know cannot be verified. Because of this important part testing plays in claims or counter claims to knowledge, the level of knowledge acquisition need to be evaluated and assess with the instrument of testing. When its principles are applied properly by lecturers during continuous assessment within the semesters and examinations for the four or seven years duration in the University, the final result of graduation suppose to commensurate with the performance of students within the periods.

Putting the position of teachers (lecturers) both in the classroom and in the public, it can be concluded that teachers have enormous task of reporting to students, parents and the society what is going on in the university system, particularly how they have carried their responsibility. The teachers are expected to pass Educational tests and measurement courses as a prerequisite for graduation from teacher – training institutions of higher learning but surprising most lecturers that find their way into the classroom did not pass through the rudiment of testing, measurement and evaluation courses during schooling. They find it difficult to apply the required skills for testing and examination in practice. Mostly importantly, teachers' test result can be use for variety of purposes which include placement, formative evaluation, diagnostic evaluation, and summative evaluation, in addition to instructions; test can equally serve other purposes such as classification, guidance and counseling, administrative purposes, prediction and research (Ground, 1985; Denga, 1987).

Readings from Joshua (2005) and Aiken (1988), testing skills include planning, preparation, and item analysis, administrating, scoring and interpreting. It is the proper application of these identified skills in test making and examinations that test result can be valid, reliable and useful. Each component of testing skills is important, since test result provide the ground for assessing the individual abilities of each learner and for making pronouncement with regards to his achievement in the domain tested.

In relation to this study are; Ikebude (1987) who conducted a study and he discovered that students' performance in the science subjects in general and physics in particular is lower compared to arts and social science subjects. He concluded that this poor performance is due to the fact that arts and social science teachers are better trained in the method of teaching than their science counterparts. He was of the opinion that most of the arts and social science teachers have educational background with the fundamental skills of test and measurement, most science teachers find their ways into the classroom from science colleges and science department in universities with no knowledge of the fundamentals of educational measurement. His position therefore is that arts and social science teachers have knowledge of and apply testing skills more than what science teachers do.

In a study conducted by Ali (2014), she discovered that there is a significant influence of senior secondary schools teachers' qualification on the application of testing skills in Okene Local Government area of Kogi State in favour of highly qualified teachers within the area of study. In other words, the highly qualified teachers takes their time to properly apply the required testing skills in there tests and examinations.

In a similar study conducted by Garfort (1992), she submitted that the fall in students' performance in chemistry would reach a dramatic maximum if nothing was done with regards to the employment of qualified teachers. Thus, she attributed the failure or poor performance in chemistry to the main fact that there is lack of qualified teachers in addition to other secondary reasons. One may conclude that teachers' inability to test students appropriately with the view of using the result for effective instruction was lack of qualification.

Furthermore, Glass (2002) carried out summary of literature review on teachers characteristics, and it was reveal that there is an important correlation between teachers' measured intelligence and their students' achievement. However he maintained that there is a modest relationship between teachers' college course work in subject they latter teach and their students' achievement.

In a situation where students who were suppose to could have accumulated grade points before graduation as having being well tested/examined for four or seven years end up failing out, having carry over courses or spill over's or still graduating with passed degrees, then method of testing for assessment by Science Lecturers need to be evaluated. Therefore this study seek to find out how lecturers in sciences apply the skills of test planning, preparation, items analysis, administration, scoring and interpretation in tertiary institutions using Kogi State University, Anyigba, Kogi - Nigeria.

### **Purpose of the study**

The purpose of this study is to evaluate how science lecturers in tertiary institutions apply test skills in their testing and examinations. And to determine how lecturers' teaching experience and qualifications influences the application of test skills in testing and examinations.

### **Research questions**

1. To what extent are the lecturers in sciences applying testing skills in their testing and examination.
2. How does science lecturers teaching experiences influence application of testing skills?
3. Is there any significant influence of science lecturers' qualification on the application of testing skills?

## Hypotheses

The following hypotheses were formulated to guide the study

1. The application of testing skills among science lecturers in Kogi State University is not significantly high.
2. Science lecturers' teaching experiences do not influence the application of testing skills.
3. There is no significant influence of lecturers' qualification on the application of testing by science lecturers.

## Methodology

### Research design

The main purpose of this study is to assess how science lecturers in tertiary institutions apply testing skills in their interaction with their students. Therefore research hypothesis were formulated in a manner to seek to determine the implied relationship between the subscales variables. The study was therefore an ex-post factor research design. Since the researcher did not have a direct control of the independent variable.

### Area of study

The study area is Kogi State University, Anyigba – Nigeria. It is located in eastern senatorial district of the state. The state is located in central senatorial district of Nigeria. It is easily accessible by road from any part of the country (Nigeria), water (through Lokoja) and air (via Abuja). Kogi State University is one of the young generation Universities in Nigeria, established in November, 1999 and commenced academic activities in April 2000 (KSU Academic Brief: 2010).

Population of the study: The population of this study as at 2013/2014 session was 198 lecturers; Deans' record (2014).

Sampling and sampling technique: The identified testing skills used in this study are; test planning, preparation, administration, item analysis, scoring and interpretation of test result. A sample of 80 science lecturers out of a 198 population of lecturers was selected using stratified and simple random methods.

Reliability: A 42 Item 4 – option Likert type questionnaire constructed by the author was used for data collection. The reliability of the instrument for data collection was established using split half reliability and the coefficient of correlation was 0.76.

Method of data analysis: Three hypotheses were formulated to guide the study and were tested using population t –test and one – way ANOVA at 0.05 level of significant.

## Analysis of data

The following were the analysis of the data, hypothesis by hypothesis

Hypothesis one: The application of testing skills among science lecturers in Kogi State University is not significantly high.

This hypothesis was tested using population t – test and the analysis is reflected on table 1 below

Table 1: Population t- test for science lecturers testing skills

S/N	Variables	$\bar{X}$	SD	t - value	Df	Sig
1.	Test planning	22.000	2.615	75.263*	79	0.000
2.	Test preparation	21.950	2.942	66.731*	79	0.000
3.	Test administration	23.700	2.730	77.647*	79	0.000
4.	Test scoring	19.925	2.805	63.536*	79	0.000
5.	Test interpretations	19.975	4.115	43.414*	79	0.000
6.	Test item analysis	19.850	4.010	44.277*	79	0.000
7.	Overall testing skills	21.167	3.203	54.555*	79	0.000

\* $p < 0.05$ , critical  $t = 0.99$ ,  $N = 80$

Looking critically at the mean, only test planning, preparation and administration tends to be significant with narrow mean difference from the overall mean of 21.167, while with  $t$ -test, four testing skills (test planning, preparation, administration and scoring skills) were significant, since their  $t$ -values were above the overall  $t$ -values but using the  $t$ -values and comparing with the critical  $t$ -values, we could deduce that on the overall science lecturers application of testing skills is significant.

Hypothesis two: Science lecturers' teaching experiences do not influence the application of testing skills. This hypothesis was analyzed on each component of testing skills and on the overall using one way – ANOVA

Table 2: One – way analysis of lecturers' teaching experience on test planning skill

Group: Years of teaching Experience	N	$\bar{X}$	SD		
1 - 5yrs	29	22.17	2.60		
6 - 10yrs	21	22.90	2.15		
11 – 15yrs	12	19.08	2.86		
16 – Above yrs	18	21.67	1.86		
Source of variation	SS	Df	MS	F-ratio	
Between groups	49.849	3	16.61	2.548	
Within groups	489.138	76	5.522		
<b>Total</b>	<b>538.987</b>	<b>79</b>			

$P > 0.05$ , Critical  $F_{3, 76} = 2.73$

The computed F- ratio (2.548) is less than the critical table value of 2.73, we are to accept the null hypothesis of no significant influence, which is an indication that lecturers teaching experience do not influence the application of test planning skill. In other words good planning of test for test takers does not depend on teaching experience. This is further supported by the insignificant variation in their means.

Table 3: One – way analysis of lecturers teaching experience on test preparation skill

<b>Group: Years of teaching experience</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 -5yrs	29	22.41	2.60	
6 -10yrs	21	21.67	2.15	
11 – 15yrs	12	23.00	2.86	
16 – Above yrs	18	21.67	1.86	
Source of variation	SS	Df	MS	F-ratio
Between groups	69.784	3	23.261	3.017*
Within groups	578.166	76	7.709	
<b>Total</b>	<b>647.949</b>	<b>99</b>		

\*P< 0.05, Critical  $F_{3,76} = 2.73$

From table 3, the computed F – ratio of 3.017 is greater than the F - critical value of 2.73, leading to the rejection of the hypothesis of no significant influence of lecturers' teaching experience on the application of test preparation skill. Therefore good test preparation for test takers is a question of teaching experience. The experience lecturers took their time in preparation of instrument for test than the inexperience lecturers.

Table 4: One – way analysis of lecturers teaching experience on test administration skill

<b>Group: Years of teaching experience</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 -5yrs	29	23.45	2.60	
6 -10yrs	21	24.71	2.15	
11 – 15yrs	12	21.67	2.86	
16 – Above yrs	18	24.00	1.86	
Source of variation	SS	Df	MS	F-ratio
Between groups	95.512	3	31.837	4.951*
Within groups	482.260	76	6.430	
<b>Total</b>	<b>577.77</b>	<b>79</b>		

\*P< 0.05, Critical  $F_{3,76} = 2.73$

On the application of test administration, the null hypothesis was not to be rejected since the computed value of F (4.951) is greater than the critical value of F (2.73). This means teaching experience impact significantly on application of test administration skill. From experience, the highly experienced lecturers knows when, where and how to administer test on the various groups of students for proper coordination.

Table 5: One – way analysis of lecturers teaching experience on test scoring skill

<b>Group: Years of teaching experience</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 -5yrs	29	17.41	2.10	
6 -10yrs	21	20.90	2.55	
11 – 15yrs	12	20.75	2.56	
16 – Above yrs	18	20.44	1.90	
Source of variation	SS	Df	MS	F-ratio
Between groups	92.386	3	30.794	4.396*
Within groups	525.317	76	7.006	
<b>Total</b>	<b>617.787</b>	<b>79</b>		

\* $P < 0.05$ , Critical  $F_{3,76} = 2.73$

The computed value of F- ratio as reflected on table 5 is 4.396, while the table value of is 2.73, here again we are to reject the null hypothesis of no significant influence of lecturers experience on application of test scoring skill. That is to say that proper scoring of test takers to each items on the test depend the teaching experience of the individual lecturers. Careful grading of scores with equivalent marking scheme depends on the experience of lecturers. In other words the inexperienced lecturers grade test responses without carefulness, which is anyhow.

Table 6: One – way analysis of lecturers teaching experience on test interpretation skill

<b>Group: Years of teaching experience</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 -5yrs	29	19.55	2.60	
6 -10yrs	21	18.86	2.53	
11 – 15yrs	12	17.50	2.29	
16 – Above yrs	18	19.61	2.86	
Source of variation	SS	Df	MS	F-ratio
Between groups	25.668	3	25.348	1.511
Within groups	1312.282	76	16.773	
<b>Total</b>		<b>79</b>		

$P > 0.05$ , Critical  $F_{3,76} = 2.73$

As presented on table 6, there is no significant influence of teaching experience on the application of the skill of test interpretation among lecturers in the university used for this study. The calculated F – value of 1.511 was obtained compared to the critical F – value of 2.73. From this result, the null hypothesis that teaching experience of science lecturers does not significantly influence the application of test interpretation skill is not to be rejected. The implication of this is that for lecturers in Kogi State University to apply the skill of test interpretation, it is not determined significantly by their years of experience in lecturing job.

Table 7: One – way analysis of lecturers teaching experience on test analysis skill

<b>Group: Years of teaching experience</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 -5yrs	29	19.83	2.21	
6 -10yrs	21	18.90	2.55	
11 – 15yrs	12	19.00	2.83	
16 – Above yrs	18	17.50	2.23	
Source of variation	SS	Df	MS	F-ratio
Between groups	43.408	3	3.934	0.235
Within groups	1226.792	76	16.769	
<b>Total</b>	<b>1270.200</b>	<b>79</b>		

$P < 0.05$ , Critical  $F_{3,76} = 2.73$

Table 7 also indicated that there is no significant influence of lecturers' teaching experience on the application of test analysis skill. For analysis of students' performance in testing or examination, the attitudes of the lecturers are the same, no matter their years of experiences.

Table 8: One – way analysis of lecturers teaching experience on the overall influence of test skills

<b>Group: Years of teaching experience</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 -5yrs	29	20.80	2.80	
6 -10yrs	21	21.33	2.65	
11 – 15yrs	12	20.17	2.46	
16 – Above yrs	18	20.82	2.86	
Source of variation	SS	Df	MS	F-ratio
Between groups	43.408	3	21.965	2.153
Within groups	1226.792	76	10.202	
<b>Total</b>	<b>1270.200</b>	<b>79</b>		

$P > 0.05$ , Critical  $F_{3,76} = 2.73$

On the overall there is no significant influence of teaching experience of lecturers on application of overall testing skills. The manner in which the lecturers are applying testing skills does not depend on their teaching experiences.

Hypothesis 3: there is no significant influence of lecturers' qualification on the application of each of the component of testing skill.

Table 9: One – way analysis of lecturers' qualification on test planning skill

<b>Group: Qualification</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 <sup>st</sup> degree	06	20.33	2.65	
2 <sup>nd</sup> degree	40	22.35	2.85	
3 <sup>rd</sup> degree	34	21.91	3.05	
Source of variation	SS	Df	MS	F-ratio
Between groups	22.037	2	11.019	1.638
Within groups	517.963	77	6.727	
<b>Total</b>	<b>1270.200</b>	<b>79</b>		

$P > 0.05$ , Critical  $F_{2,77} = 3.12$

Table 9 shows that qualification of lecturers that does impact any significant influence on the application of test planning, since the calculated value of F -(1.638) is less than the F critical value of 3.12. The hypothesis was therefore accepted.

Table 10: One – way analysis of lecturers' qualification on test preparation skill

<b>Group: Qualification</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 <sup>st</sup> degree	06	20.00	2.60	
2 <sup>nd</sup> degree	40	22.20	2.15	
3 <sup>rd</sup> degree	34	21.29	2.86	
Source of variation	SS	Df	MS	F-ratio
Between groups	34.967	2	17.483	2.075
Within groups	648.833	77	8.426	
<b>Total</b>	<b>683.800</b>	<b>79</b>		

$P > 0.05$ , Critical  $F_{2,77} = 3.12$

In table 9, the calculated value of F is 2.075 compared to the critical value of 3.12. since the calculated value is less than the critical value, the null hypothesis that there is no significant influence of teachers qualification on the application of the skill of test preparation is not to be rejected in other words, lecturers various qualification have no significant difference in the application of test preparation.



Table 11: One – way analysis of lecturers' qualification on test administration skill

<b>Group: Qualification</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 <sup>st</sup> degree	06	20.00	2.80	
2 <sup>nd</sup> degree	40	25.38	3.15	
3 <sup>rd</sup> degree	34	20.32	2.88	
Source of variation	SS	Df	MS	F-ratio
Between groups	144.518	2	72.259	12.523*
Within groups	444.282	77	5.770	
<b>Total</b>	<b>1270.200</b>	<b>79</b>		

\*P< 0.05, Critical  $F_{2,77} = 3.12$

Table 10 reveals a great significant difference among lecturers of various qualifications in application of testing skills. Since the calculated F value of 12.523 is greater than the critical value of 3.12. The null hypothesis is to be rejected, for the alternative of hypothesis of existence of significant influence. Differences exist among lecturers in test administration skill.

Table 12: One – way analysis of lecturers' qualification on test scoring skill

<b>Group: Qualification</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 <sup>st</sup> degree	06	14.67	1.60	
2 <sup>nd</sup> degree	21	12.10	1.15	
3 <sup>rd</sup> degree	34	15.94	1.86	
Source of variation	SS	Df	MS	F-ratio
Between groups	197.087	2	98.544	17.876*
Within groups	424.463	77	5.513	
<b>Total</b>	<b>621.550</b>	<b>79</b>		

\*P< 0.05, Critical  $F_{2,77} = 3.12$

In the same manner lecturers qualification exact a significant influence on the application of test scoring skill. In other words, the scoring of students' response to test items correctly and properly depends on qualification of various lecturers.

Table 13a: One – way analysis of lecturers' qualification on test interpretation skill

<b>Group: Qualification</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 <sup>st</sup> degree	06	27.67	3.60	
2 <sup>nd</sup> degree	40	19.65	2.55	
3 <sup>rd</sup> degree	34	19.24	2.66	
Source of variation	SS	Df	MS	F-ratio
Between groups	25.668	3	21.704	0.753
Within groups	1312.282	76	15.93	
<b>Total</b>	<b>1337.950</b>	<b>79</b>		

$P > 0.05$ , Critical  $F_{2,77} = 3.12$

As reflected on table 13a, the calculated value of F value is 0.753, which is less than the critical value of F (3.12), therefore the null hypothesis is to be accepted. This means that lecturers' qualification have no significant influence on the application of testing skill of interpretation. Probably because of already standardized criterion for interpretation of test scores by university authority. For example the score from each course is assigned appropriate letter grade as follows:

Table 13b: Example of scoring and their interpretations

Score	Letter	Grade point
70 – 100 %	A	5
60 – 68 %	B	4
50 – 59 %	C	3
45 – 49 %	D	2
40 – 44 %	E	1
00 – 39 %	F	0

Source: Students Handbook, Science Education Department, KSU, Anyigba.

In other words all lecturers must adopt the above criteria to interpret students score irrespective of qualification.

Table 14: One – way analysis of lecturers’ qualification on test analysis skill

<b>Group: Qualification</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 <sup>st</sup> degree	06	21.67	2.66	
2 <sup>nd</sup> degree	40	12.20	1.15	
3 <sup>rd</sup> degree	34	12.38	1.96	
Source of variation	SS	Df	MS	F-ratio
Between groups	43.408	2	21.704	1.362
Within groups	1226.792	77	15.93	
<b>Total</b>	<b>1270.200</b>	<b>79</b>		

$P > 0.05$ , Critical  $F_{2,77} = 3.12$

On test analysis, table 14 shows that no significant difference exist between the categories of lecturers, which implies that there is no significant influence of lecturers’ qualification on test analysis skill, since F calculated (1.362) is lesser than F critical (3.12).

Table15: One – way analysis of lecturers’ qualification on overall testing skills

<b>Group: Qualification</b>	<b>N</b>	<b><math>\bar{X}</math></b>	<b>SD</b>	
1 <sup>st</sup> degree	06	20.72	2.53	
2 <sup>nd</sup> degree	40	20.48	2.30	
3 <sup>rd</sup> degree	34	18.52	2.20	
Source of variation	SS	Df	MS	F-ratio
Between groups	77.948	2	38.978	3.936*
Within groups	762.436	77	9.902	
<b>Total</b>	<b>840.384</b>	<b>79</b>		

\* $P < 0.05$ , Critical  $F_{2,77} = 3.12$

On the overall, table 15 reveals that the value of 3.936 was obtained which is greater than the critical of 3.12. This is an indication that lecturers’ qualification has significant influence on the overall application of testing skills. This means that there is significant difference among the classes of lecturers in their application of the overall testing skills in favour of highly qualified lecturers (Ph. D holders).

### **Summary and Conclusion**

The result obtained among others was that, there is significant influence of lecturers' qualification on the application of testing skills used in this study, and at the university used for this study which is in agreement with (Garfort; 1992 and Ali; 2014), who discovered that teachers' qualification have significant influence on academic performance in chemistry and teachers application of testing skills in senior secondary schools.

That lecturers' teaching experience does not significantly influence application of testing skills on the overall, but difference exists between the lecturers on the application of testing skills of science lecturers on test preparation, administration and scoring skills based on experience. Application of testing by lecturers in the study is significantly high.

### **Recommendation**

There is the need for retraining of lecturers in science faculties for acquisition of testing skills periodically, and that science lecturers should attend seminars on acquisition of testing skills by expert in educational measurement and evaluation. It will also be useful, if they can enroll for Post Graduate Diploma in Education (PGDE) programme to equip themselves for testing and evaluation.

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## **There is No Box: The International Interdisciplinary Nature of Higher Education**

Danny Robinson

The IAFOR International Conference on Education - Dubai 2015  
Official Conference Proceedings

### **Abstract**

--Let me just start by saying:

THERE IS NO BOX

There.

I feel a lot better already.

-----Or should I say, I think a lot better already? I wonder if there is much of a difference sometimes between the two. The title of my paper today is:

THINK BOXING OUTSIDE

My abstract begins by noting that one can grow weary of such terms such as "critical thinking" or "thinking outside the box," which like many other phrases perhaps once vibrant and meaningful, have been worn thin and often meaningless by constant repetition and questionable application. --We often hear people saying that they "think outside the box," when just the use of that phrase alone suggests that they may not be as far from the norm, as radical or revolutionary, as out of their box as they might imagine. Perhaps a part of the problem is a lack of imagination in thinking.

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And, by the way, I think that we could make a good case that: there is no box.

In The Scarlet Letter, the first great novel written in the United States, Nathaniel Hawthorne makes a powerful case against the Puritan elders who so calmly pass legal and moral judgment on Hester Prynne for her sins, making her wear the scarlet A and stand outside the normal intercourse of society. The novel underlines the dangers of putting her—and themselves—in a box. They attempt to deprive her of her individuality and make her, in Hawthorne's words: "the general symbol at which the preacher and moralist might point, and ...embody their images of woman's frailty and sinful passion."

He notes that long after the townsfolk forgave and accepted Hester, those in positions of authority, the rulers and the judges, had a much more difficult time letting go of their prejudice toward her. He writes:

"The rulers, and the wise and learned men of the community, were longer in acknowledging the influence of Hester's good qualities than the people. The prejudices which they shared in common with the latter were fortified in themselves by an iron framework of reasoning that made it a far tougher labor to expel them."

I love that phrase: "an iron framework of reasoning." We often use "reasoning" as synonymous with "thinking," but in this case it's presented as a barrier, a box that keeps us from thinking.

(In Hawthorne's short story "Young Goodman Brown", Brown meets what appears to be the devil in the forest but tells him he's uncomfortable and must return home. To which the satanic figure replies: "Sayest thou so? ... Let us walk on, nevertheless, reasoning as we go; and if I convince thee not thou shalt turn back..." Here we see reason presented as not simply confining but as an instrument of evil.)

Earlier in the novel Hawthorne uses similar language and the metaphor when describing the effects of unquestioned faith, something that some might consider opposite of reason. He writes of the Reverend Dimmesdale: "it would always be essential to his peace to feel the pressure of a faith about him, supporting, while it confined him within its iron framework."

Both reason and faith, then, can become confining boxes that keep us from thinking. They supply us with a short route to the correct answers, so there's no need to think.

But knowing the answer isn't the same as thinking, just as a lot of facts are not the same thing as knowledge—which recalls Wolfgang Von Goethe's comment that "thinking is more interesting than knowing."

We have to be sure that our thinking stays elastic. Four years earlier, in 1846, in his graceful introductory essay to his collection of stories Mosses from an Old Manse Hawthorne employs the same metaphor when questioning the reformers of his own day. He laments not only the “young visionaries ... [and] their self-involved bewilderment,” but also the “gray headed theorist—whose systems, at first air, had finally imprisoned them in an iron framework.” Prisons of Air is a most interesting concept. Even a theoretical system, even one designed to liberate, can confine us. As soon as it becomes THE ANSWER and not a path to greater understanding it becomes a box. Ralph Waldo Emerson writes “The quality of the imagination is to flow and not to freeze.” Perhaps that is the case with thinking as well.

Robert Richardson's 1995 biography of Emerson has the intriguing title: Emerson: The Mind on Fire. I like it. I think he would like it. It captures some of the Emersonian energy and enthusiasm, his insistence that thought is not about the result but about the process. It emphasizes his gift for unusual metaphor and juxtaposition. And that thinking is a creative act, an imaginative act, one that demands much more from us than mere reasoning. By its very nature it crosses boundaries, disciplines, and conflates the intellect and the passions.

In an 1839 notebook passage Emerson writes: "Everything should be treated poetically,-- law politics, housekeeping, money....If you would write a code, or logarithms, or a cookbook, you cannot spare the poetic impulse. We must not only have hydrogen in balloons, and steel springs under coaches, but we must have fire under the Andes at the core of the world." (It reminds me a little of Emily Dickinson's description of herself as "Vesuvius at home") Such intriguing lines--"you cannot spare the poetic impulse"—even when writing logarithms and cookbooks—remind us of how artificial are our disciplines and intellectual boundaries. The "fire...at the core of the world" burns away superficial academic demarcations. Why is William Shakespeare the province of English Departments and not at the center of numerous psychology and philosophy courses as well? Business and religion and sociology studies would also benefit from listening to the Bard. Oh, we love our boxes, our categories, our disciplines, the clean breaks, the Puritan sense of absolute right and wrong.

But didn't we decide earlier that: There IS no box?

In "The American Scholar," 1837, in a sentence both obvious and profound—one that might put most texting and perhaps much of the Internet out of business--Emerson writes: "Only so much do I know, as I have lived. Instantly we know whose words are loaded with life and whose not." He notes that "Drudgery, calamity, exasperation, want, are instructors in eloquence and wisdom....Action... is the raw material out of which the intellect molds her splendid products. A strange process too, this by which experience is converted into thought, as a mulberry leaf is concerted into satin. The manufacture goes forward at all hours." Such a metaphor captures the interrelatedness of the different aspects of our lives: experience converted into thought, a mulberry leaf into satin. Action, passion, thought are all part of the same process. There ARE no boxes. The ones we perceive are but signs of the limits of our energy and imagination.



Remember that song by the Eagles in the 70's, "Already Gone"? : "So often times it happens that we live our lives in chains/ And we never even know we have the key." Good line. We have the ability to unlock our chains, climb out of our boxes; we just have to realize it.

The intellect itself is not enough to free us. Indeed, in Walden, 1855, Henry David Thoreau suggests that the intellect can separate us from what is truly important. He calls the intellect "a cleaver" and writes: "I have always been regretting that I was not as wise as the day I was born." In his essay "The Poet," 1841, Emerson celebrates the poet as one who "stands among partial men for the complete man." He holds this exalted position not because he is smarter or has more degrees, but because, but because he sees things more holistically. In Emerson's words: "it is dislocation and detachment...that makes things ugly, the poet...reattaches life to nature and the Whole."

Such reattachment can come in a multitude of ways. Artists of all sorts—Van Gogh and Wittgenstein, Kierkegaard and Kafka, Wordsworth and Whitman—have shown us fresh ways to look at the everyday world. They have shown us that the limits of what we thought possible are often just reflections of our own limitations. "My business is circumference" Dickinson wrote. We look to such artists and thinkers to help us see what is within ourselves. They don't put it there; they just show us what is already inside us. Soren Kierkegaard echoes this idea when he writes, paradoxically, that "education [is] the curriculum one [has] to run through in order to catch up with oneself, and he who will not pass through this curriculum is helped very little by the fact that he was born in the most enlightened age."

In an early poem, after praising the Poet for "[distilling] amazing sense/ From ordinary Meanings-" Dickinson follows with this stanza:

From the familiar species  
That perished by the Door -  
We wonder it was not Ourselves  
Arrested it - before –

Perhaps such artists can give us a few hints on how to recognize, see beyond, and dismantle the self-imposed boxes we live within, or believe we think outside of. Because, after all, THERE IS NO BOX.

One way they help us see this is by rejecting Reason as the ultimate tool or path to self-awareness.

Walt Whitman, as usual, puts the matter in a direct in-your-face style, writing:

Do I contradict myself?  
Very well then I contradict myself,  
(I am large, I contain multitudes.)

He's not concerned about appearing logical or even consistent. He knows that we are complicated beings, that reason and logic are only a part of what we do, and play a limited role in how we make sense of the world and ourselves.

Thoreau writes that "The poet knows that he speaks adequately then only when he speaks somewhat wildly." He says he desires "to speak somewhere *without* bounds." Perhaps that was a typo, and he really meant: "without boxes"!

Poets such as William Blake and William Wordsworth also recognize that the way we perceive and process the world is not a logical but, at least in part, a creative act. In "Lines Written Above Tintern Abbey," for example, Wordsworth celebrates "all the mighty world/ Of eye, and ear," but follows that with "both what they half create, / And what perceive;"

Such writers can help us see beyond the imaginary boxes that we've built ourselves or had imposed on us by the conventions and expectations of society. But we have to be careful. We can look to such writers for inspiration but not for answers. They, too, can become of a kind of box—prisons of air—if we rely on them too much. Emerson captures this concept when he writes: "Meek young men grow up in libraries, believing it their duty to accept the views which Cicero, which Locke, which Bacon, have given, forgetful that Cicero, Locke, and Bacon were only young men in libraries, when they wrote these books."

Good point. When he urges us to "enjoy an original relation to the universe," he means it in a couple ways. Such a relation will be both as new for us individually and similar to what the great minds of the past have experienced. If we climb our own mountain we won't have to read about Moses' climb or anyone's. We'd have that religious experience first-hand. And think of all the boxes that we'd crush on our way up! They'd disintegrate in that lofty mountain air in any case.

Even the divisions, the general topics, of this Conference can be boxes. But artificial doesn't have to mean superficial. Lines and boxes can be useful as long as we see them for what they are, as long as we use them as ladders to help us climb and see further and not as "iron frameworks." Generalizations and distinctions are necessary to think at all. This point is made brilliantly in Jorge Luis Borges' insightful short story "Funes the Memorious," published in 1942. In it we see that a perfect memory, an ability to recall EVERYTHING as distinct can be a burden to thinking clearly. To think at all is to draw comparisons and generalize to some degree.

One method that some American writers have used to present their sense of the world and to convey their insights, without the "iron framework" of ideology or history boxing them in, is by couching their stories in a realm between fact and fiction. Faulkner noted that by "sublimating the actual into the apocryphal" his would be able to maximize his gifts.

It is a technique that we see as far back as Washington Irving's "Legend of Sleepy Hollow" and Hawthorne's "Legends of the Province House," his Twice Told Tales, his A Wonder-Book for Girls and Boys, (based on the Greek myths), and his "philosophic romance" "The May-pole of Merry Mount." The Transcendentalists, too, were careful to interweave their new philosophy of self-reliance with ancient teachings from both Greece and the Orient.

It is the artist's task to show us that the boxes we take for granted are almost always artificial, that new perspectives and insights are possible. They are Master Chefs who show us that even though the ingredients are the same, the recipe can be new. Human nature may not change, but the ways that it's understood and presented does. That there really ARE NO BOXES.

Danny Robinson



## Exploring the Impact of iPads in Teaching Introductory Physics Courses at UAEU

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### Abstract

One of the vital challenges in teaching introductory physics courses is making the students able to apply the basic physics concepts to solve real world problems. Mobile technology such as iPads might offer students an opportunity to improve their class engagement and apply physics concepts to a broad range of problems. This study investigates the impact of iPad usage in teaching introductory physics courses at United Arab Emirates University (UAEU). Four first year physics sections were selected to apply this study. Two have used iPads to view their lecture notes, taking online quizzes, online homework, accessing few interactive apps. The other two sections have used the traditional PowerPoint presentations. This study comes at a time when educators are questioning whether iPads should play a greater role in education, and particularly, in students learning. The results shows that the performance of the students enrolled in iPad sections have made a slight progress in their learning objective.

**Keywords:** e-learning, interactive learning, physics, teaching with iPad, UAE

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## Introduction

The retrogressive of students' performance in introductory physics courses is known to be a global issue (William, 1990). Improving students learning attracted the interest of physics educators for many years. It requires efforts on many fronts. One part of a solution involves helping students to improve their learning through the use of effective learning techniques. Hestenes, Wells, and Swackhamer (1992) have used the Force Concept Inventory instrument which provides a clear, detailed picture of the problem of commonsense misconceptions in introductory physics. Mazur (1997), and Benkraouda, Madi, Abada, and Qamhieh (2013) showed that a collaborative teaching and peer instruction method of teaching (PIMT), increases the level of understanding of the course material substantially.

Ausserhofer (1999) showed that the industrial revolution and the advances in computer technology allow transforming the method of instruction to a web-based one. The effectiveness of a Web-based teaching method on students' learning provides a new pattern of research, and it is widely used in higher education for delivering the material and assessing students' learning what so called e-learning.

Georgives, Smrikarov, and Georgive (2005) pointed out that the mobile education became more popular and accessible worldwide. Today there is a big variety of solutions for such systems, it can be conducted through (pocket size computers, cell phones, smart phones, notebooks or tablet PCs).

In United Arab Emirates University (UAEU), the use of new technologies such as laptop projects and blackboard course managing system has an impact on learning. Benkraouda (2006) showed that combining a method of teaching with technology helps students retain their interest and attention, which stimulate students for more participation, and emphasizes different learning styles. The students' homework performance using a web-based testing system and paper-based in introductory physics courses have been assessed. The result showed that students' perceptions about the web-based homework system were positive, and it suggests that students were motivated to complete more homework using the web-based method.

Angie, Jennifer, and Cindy (2009) and Hodge and Demirci (2010) have studied the effect of web-based assessment on student achievements in conceptual tests, exams, and homework assignments. It is found that the web-based homework scores were higher than that of the paper homework. Experiments carried out to evaluate the trustworthiness of the web-based computer homework showed a relatively strong correlation with student's scores in the final exams and the traditional written tests (Qamhieh et. al., (2013).

Recently a new medium (Mastering Physics) of learning is evolving which has been demonstrated to have a positive impact on teaching and learning. Mastering Physics facilitates the transfer of problem-solving skills through tutorial problems. It is supported by a student's helping system in the form of requestable hints, descriptive text, and feedback. MyLab and Mastering Science and Engineering: Data supported evidence of Mastering's positive impact on teaching and learning, Edited by Michelle and Speckler, Pearson publisher, (2014).

The use of blackboard, mastering physics and other similar packages requires students to have access to personal computers or laptops. Recently, advances in technology provide teachers and students with a more friendly and easily used mobile tools such as mobile phone, iPad, iPod, Portable PlayStation, etc. The mobile-learning tools facilitate the emerging applications from Apple- and Play- store like iTunes, iBooks, nearpod,...etc. suitable for the teaching and learning process.

Recently, the iPad has been implemented in teaching several Science and Engineering courses at the UAE-University. Al-Refai, Alshannag, and Syam (2014) found a positive impact of tablets (i.e. iPads) on student learning mathematical concepts in calculus I for Engineers.

In this paper, we investigated the impact of iPad usage in teaching introductory physics courses at United Arab Emirates University to offer researched-based data driven to assess part of our experience in mobile learning and using tablets in tertiary learning . In particular, this study aimed to answer the following research question: How iPads impact students' learning of basic physical concepts in introductory physics courses?

## Methodology

### Participants:

We chose to test the feasibility of using iPad in teaching introductory physics course by conducting a small pilot study in the spring 2013. Four sections from the Physics and Engineering Applications I course have been selected for this study. This course is offered for the first year students enrolled in the college of engineering. As mentioned in table1, 33 students (12 male, 21 female) were assigned randomly to the experimental group and 25 female students to the control group, the total number of students participated in this study was 58 students. All experimental group students were having iPads, and the smaller class size ensured that we would be able to give each student individual attention if they experienced problems with their device, while control group students studied the course on the regular way.

*Table 1.* Distribution of Study Sample according to group and gender

Group	Control		Experimental		Total	
	Male	Female	Male	Female	Male	Female
Gender	0	25	12	21	12	46
Total	25		33		58	

The course was being taught for 16 weeks with two lectures per week. The lecture's period was 75 minutes. The course aims at developing a clear understanding of the basic physics concepts in mechanics. It includes: vectors, kinematics, Newton's laws of motion, work and energy, linear momentum and collision, angular momentum, rotational motion about an axis.

Our efforts to utilize the iPad were focused on three ways. First, we sought methods that would integrate the use of the iPad into the academic components of the course.

Second, we also focused on methods of using mobile device in solving the course's assignments outside the classroom anywhere, anytime. Third, was using the mobile devices to encourage and enhanced communication and interaction among students.

The course content were designed and created as iBooks for 10 chapters that cover the whole course materials. Each iBook contained the lecture note, interactive questions and videos. We had created 22 iBooks in order to minimize the size of each iBook to be easily downloaded and viewed by the students on their iPads. These iBooks were posted on Blackboard (Course Management Learning System) to be downloaded by the students on their iPads. The students had access to course materials and they can study it anywhere at any time.

The course assignments (homework and quizzes) were conducted online outside the classroom by using a web-based tutorial system called mastering physics provided by Pearson publisher. Students were asked to work out an online homework and quiz at the end of each chapter. The assignment allows students to practice conceptual, problem solving and critical thinking questions related to the basic physics concepts covered during the lectures. The homework includes end of chapter problems and the quiz includes multiple choice questions. When a student login to the assignment site, he/she will find several questions that were carefully selected by the course instructor from the mastering physics tutoring system.

Questions were selected from the end of each chapter, test bank, and tutorial problems. The students were asked to complete the homework and quiz assignments outside the classroom and they can use the textbook or any other reference, since this activity was assessment for learning which based on thinking rather than memorizing. They might interact with each other; therefore, the learning process of individual student is affected. It is reported that plagiarisms is a very serious problem and it is the form of academic dishonesty. Therefore, assignment options and features in mastering physics allow restrictions in order to minimize students' plagiarism. In this work several restrictions were implemented:

1. Limit the due date for submitting their assignments; about 4-5 days' were given for students to complete an online homework.
2. Questions appear for students one at a time.
3. The variables of a question were randomized.
4. Quiz is given time limit of 45 minutes to solve 10 multiple choice questions. The 10 questions are randomly chosen by the system from a poll of 30-40 questions.

Moreover, a free app from apple store called Nearpod is used to assess the students' learning inside the classroom. Several (4-5) conceptual questions were selected by the instructor and posted on Nearpod. The students can access these questions using a password given by the instructor to solve them online. The app displays the statistics immediately showing how many students have solved the questions correctly. This method helps the instructor to assess the leaning outcomes of that particular chapter. Finally, students are advised to access few free apps available at apple stores and iTunes U related to the course contents.

## Instrument

All students took the pre and the post tests that consisted of two parts: 11 multiple choice questions within the domains of knowledge and comprehension according to Bloom's Taxonomy and 3 problem solving questions as an open ended questions. To guarantee instrument validity, the test was reviewed by 5 experts from physics department and science educators from Curriculum and Instruction Department. The test was modified according to their notes. The instrument reliability was guaranteed by calculating the Cronbach's alpha coefficients for the instrument overall and the two domains: knowledge and comprehension, and problem solving. These values were (0.82, 0.83, 0.79).

### Study Design:

Researchers used the quasi experimental design of the form:

$$O_1 - X - O_2$$

$$O_1 - - - O_2$$

## Results

### Total Score:

Table 2 shows the mean (M) and standard deviation (SD) for the total score of control and experimental groups on the pre and posttests. The mean and standard deviation of the control group on the pretest was higher than the experimental group (0.40, 0.18; 0.36, 0.17). While the opposite was on the posttest (0.70, 0.18; 0.78, 0.22).

*Table 2.* Means and standard deviations of the total score results for control and experimental groups on the pre and posttests

Group	Pre test		Post test	
	M	SD	M	SD
Control	0.40	0.18	0.70	0.18
Experimental	0.36	0.16	0.78	0.22
Total Score	0.38	0.17	0.75	0.20

To test these differences ANCOVA test was conducted as shown in table 3, this table shows that none of these differences was significant except for the pretest.

*Table 3.* ANCOVA results between control and experimental groups on the total score

Source of Variance	Sum Squares	df	Mean Squares	f	P
Pre	0.34	1	0.34	9.24	*0.00
Group	0.06	1	0.06	0.15	0.70
Pre*Group	0.08	1	0.08	0.22	0.64
Error	2.02	54	0.034		
Total	35.37	57			



Table 4 shows that the adjusted mean of experimental group was greater than the adjusted mean of control group by (0.1) after eliminating the effect of pretest.

*Table 4.* Adjusted means according to total score

Group	Adjusted Mean	Standard Error	Number
Control	0.70	0.04	25
Experimental	0.80	0.03	33

Knowledge & Comprehension Domain (KCD):

Table 5 shows the mean (M) and standard deviation (SD) for the achievement of control and experimental groups on the pre and posttests on the KCD. The mean and standard deviation of the control group on the pretest was higher than the experimental group (0.54, 0.21; 0.51, 0.19). While the opposite was on the posttest (0.75, 0.15; 0.80, 0.16).

*Table 5.* Means and standard deviations results for control and experimental groups on the pre and posttests according to KCD

Group	Pre test		Post test	
	M	SD	M	SD
Control	0.54	0.21	0.75	0.15
Experimental	0.51	0.19	0.80	0.16

To test these differences ANCOVA test was conducted as shown in table 6, this table shows that none of these differences was significant except for the pretest.

*Table 6.* ANCOVA results between control and experimental groups on the KCD score

Source of Variance	Sum Squares	df	Mean Squares	f	P
Pre	0.10	1	0.10	4.13	*0.04
Group	0.01	1	0.01	0.03	0.86
Pre*Group	0.01	1	0.01	0.46	0.50
Error	1.30	54	0.024		
Total	36.81	57			

Table 7 shows that the adjusted mean of experimental group was greater than the adjusted mean of control group by (0.05) after eliminating the effect of pretest on the KCD.

*Table 7.* Adjusted means according to the KCD score

Group	Adjusted Mean	Standard Error	Number
Control	0.75	0.03	25
Experimental	0.80	0.03	33

### Problem Solving Domain (PSD)

Table 8 shows the mean (M) and standard deviation (SD) for the achievement of control and experimental groups on the pre and posttests on the PSD. The mean and standard deviation of the control group on the pretest was higher than the experimental group (0.13, 0.23; 0.10, 0.21). While the opposite was on the mean score on the posttest (0.81, 0.45; 0.94, 0.41).

*Table 8.* Means and standard deviations results for control and experimental groups on the pre and posttests according to PSD

Group	Pre test		Post test	
	M	SD	M	SD
Control	0.13	0.23	0.81	0.45
Experimental	0.10	0.21	0.94	0.41

To test these differences ANCOVA test was conducted as shown in table 9, this table shows that none of these differences was significant except for the pretest.

*Table 9.* ANCOVA results between control and experimental groups on the PSD score

Source of Variance	Sum Squares	df	Mean Squares	f	P
Pre	1.50	1	1.50	9.15	*0.00
Group	0.51	1	0.51	3.10	0.08
Pre*Group	0.15	1	0.15	0.91	0.34
Error	8.82	54	0.16		
Total	56.72	57			

Table 10 shows that the adjusted mean of experimental group was greater than the adjusted mean of control group by (0.16) after eliminating the effect of pretest on the PSD.

*Table 10.* Adjusted means according to the PSD score

Group	Adjusted Mean	Standard Error	Number
Control	0.80	0.08	25
Experimental	0.96	0.07	33

## Discussion

The results showed that the performance of the students enrolled in iPad sections have made a slight progress in their learning objective. These results came out as an assessment to students' achievement on the pre and posttest. However, Fluharty, Wood, and Hiebsch (2014) mentioned that there are many ways to measure success, for example, academic quality that results in successful students is one measurement. The number of students who-enrolled in these sections might be another indicator. In other words, having observed students engaged on their learning activities and expanded their learning time and opportunities might be considered another indicator for success.

Through researchers' direct observations, we noticed high level of students' involvement on their learning tasks, and student-student and student-teacher interaction and communication. Students tried to understand basic physical concepts and deploy them in new context. Their ability to solve authentic real life problems were improved.

## Conclusion

From the previous results, we can draw the following conclusions:

- Fear of experiencing new methods & Technology for both students and instructors.
- Implementing this technology requires more time span to become part of students' learning culture.
- Some of students weren't series and motivated.
- Over all, students' achievements were below expectations on both groups.

At the end of this article, we recommend by:

- Think of strategies to improve students motivation in using new learning methods and technology
- Design blended learning environment
- Train Faculty members
- Train students
- Establish learning resources to enhance teaching & learning process (for example apps & software's)

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***Bridging Cross-Cultural Competence in International Business Education:  
The Case of the "Global Village Leadership and Business program"***

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**Abstract**

Higher education is becoming globalized and internationalized with the number of international students, studying at institutions outside of their home country. A major challenge of both International Business/Management and Education is the complexity of cultural diversity. Potential benefits, as well as, criticalities emerge when people are engaged in differentiated global contexts with regards to age, background, experiences, race, nationality, social status, and cultural aspects. Furthermore, individuals are increasingly investing in international intensive programs at different ages.

Education continues to be a pathway to workforce success and advancement in a globally competitive environment. Specifically, business educators have advocated that in order to build future leader's intercultural capability, it is vital to provide them with cross-cultural experiences that enhance the learning of every individual within a diverse community. Therefore, developing cross-cultural competency requires a strategic approach to change behavior that focuses on the knowledge, skills and attitude. This approach has been successfully adapted by the *Global Village for Future Leaders of Business and Industry*® program. To examine the effectiveness of this program a survey was disseminated to over 1500 alumni who graduated in the years 1997 through 2012. Slightly more than 33% of those who received the survey responded. The study concluded that International-Business/Management program leaders must be strategically proactive in developing the capacity to consider diversity as a value, and not as a barrier; create or improve a positive attitude towards change; evolve transnational spaces and management practices; and increase competitiveness and welfare.

**Keywords:** cross-cultural competence, multiculturalism, leadership, education, global village

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## Introduction

Higher education is becoming globalized and internationalized with the number of international students, studying at institutions outside of their home country. A major challenge of both International Business/Management and Education is the complexity of cultural diversity. Potential benefits, as well as, criticalities emerge when people are engaged in differentiated global contexts with regards to age, background, experiences, race, nationality, social status, and cultural aspects. Furthermore, individuals are increasingly investing in international intensive programs at different ages.

Education continues to be a pathway to workforce success and advancement in a globally competitive environment. Specifically, business educators have advocated that in order to build future leader's intercultural capability, it is vital to provide them with cross-cultural experiences that enhance the learning of every individual within a diverse community. This approach has been adapted by the Global Village for Future Leaders of Business and Industry®, an applied leadership, management, and cross-cultural training program. It is designed for experienced young professionals and advanced students who share the dream of building a leadership career in business and industry, and who want to form an active and lasting global network.

Through program courses, topic-specific panels, networking sessions, company visits, consulting projects and cultural experiences, Global Village interns learn new tools and gain insightful perspectives that are essential to becoming successful leaders. During the intensive five-week program, interns find themselves amongst a diverse group of over 100 individuals, coming from more than 50 countries, representing a myriad of cultures, speaking a multitude of languages, and offering unique insights based upon their own background, education and experience (Iacocca Institute, 2015, p. 2).

The Global Village is truly unique. This program is designed to be practical and action-oriented. It requires no academic prerequisites and delivers no traditional grades. Participants attend "learning experiences," not "classes" and "discussions," not "lectures." They are encouraged to supply their own goals and objectives and work with program staff to map a customized and experience-based action plan (Iacocca Institute, 2015, p. 2).

In addition, the program provides an experience that is unique to each participant. Participants develop a set of goals and work with their personal guide to choose the curricular elements that will help them advance in their work, career and life. With so many opportunities, participants quickly learn the value of time management and decision making skills. More importantly, they improve their leadership skills, learn how to conduct international business, and improve teamwork skills.

## Review of Literature

In today's highly competitive business environment, students need to be well equipped with all necessary knowledge, skills, and abilities upon graduation in order to survive in the regional and global market. Educational leaders and professionals continue to emphasize on the need to align the education curriculum and pedagogy with the needs of regional economics. They believe higher education needs to have the capacity and flexibility to adjust systems, meet the challenges of the rapidly emerging knowledge-based global economy, and respond faster to changing needs. Therefore, higher education has big responsibility and pressure to cope with advancing technology, transforming economy, changing demography, and more importantly dealing with the informational revolution. It is required to develop highly educated workforce and citizens who can contribute and participate in their country's economic development.

Furthermore, Lei et al. (2010) have noted that with the rise of international communication and the need for collaborative interaction among professionals across countries has become a new leadership challenge. Current research on collaboration in cross-cultural situations reveals that differences in cultural orientations are no longer easily defined (Avolio, 2007). Understanding and developing international competencies continues to be a challenge in today's global business environment.

Pizam (2014) argues that with the globalized economics business leaders are continuously challenged by cultural issues that may cause misunderstanding and can affect organization's performance and ultimate survival. Therefore, it is critical that all business owners, leaders, and employees possess a trait that is commonly referred as cross-cultural competence in order to compete in today's market and gain competitive advantage. According to Pizam (2014), "Cultural competence enables people to be aware of their own culture, recognize the differences between their own culture and other cultures, understand how people from other cultures think, do business, see others and why they act the way they do" (p. A1).

Culturally competent individuals are able to communicate effectively with people from different cultural backgrounds, build long-term relations with them and modify their own behaviors to better deal with cross-cultural situations. Moreover, cultural competent organizations observe an overall improvement in their performance due to the enhanced responsiveness to the needs of their multicultural customers and employees (Pizam, 2014). Therefore, developing cross-cultural competency requires a strategic approach to change behavior that focuses on the knowledge, skills and attitude.

### ***Developing Cross-cultural Competence (CC)***

As the marketplace continues to become more diverse, characterized by dynamic and intersecting cultural-flows. Individual consumers, and more importantly leaders, must co-evolve with these market changes (Seo & Gao, 2015). Furthermore, many international businesses have failed due to a lack of cross-cultural competence (CC)s. The business literature appears to lack an adequate conceptualization and definition of cross-cultural competence and often focus on the knowledge and awareness of international variability. Many educational programs emphasized cultural awareness to include surface knowledge and lack the critical factor of understanding.



Cultural intelligence is much more than just knowing what a cultural group eats or how they dress, it requires a deeper understand that provides the competency to relate and work effectively across cultures. Pizam (2014) suggest that cross-cultural competence refers to the individual's ability to engage effectively with people from different cultures and backgrounds and understand them.

Classroom discussion about international business is often forgotten as students struggle to bridge theory and real world practice. However, students who participate in programs involving cross-cultural experiences, whether it is attending an international program or interacting with international students, creates an experiential learning that has the potential to last a life time. Research suggests that learning occurs more readily when students are able to experience (i.e., see, smell, taste, hear, feel) stimuli and actively participate in the education process. Experiential learning approaches are related to important educational concepts, such as critical thinking (Paul, 1990), situational instruction (Smith, 1989), and experiential learning (Kolb, 1984).

Hall et al. (2012) argue that intercultural competence development is a process of learning that emphasize teachers' "important role in intervening to facilitate intercultural interaction, and to equip students with conceptual models and frameworks for reflective learning" (p. 13). Student experience is highly dependent on the teacher's cross-cultural competence. Developing cross-cultural competency requires a strategic approach to change behavior that focuses on the knowledge, skills and attitude.

#### ***Knowledge: Multicultural Education***

According to Betancourt (2003) "traditionally, cross-cultural education has focused on a 'multicultural,' or 'categorical,' approach, providing knowledge about the attitudes, values, beliefs, and behaviors of certain cultural groups" (p. 562). This strategy was developed to help teachers respond to the changing demographics of the classroom. It provided students with knowledge about the histories, cultures, and contributions of diverse groups. "Multicultural education incorporates the idea that all students – regardless of their gender; sexual orientation; social class; and ethnic, racial, or cultural characteristics – should have an equal opportunity to learn in school" (Banks & Banks, 1995, p. 3). However, these efforts can lead to stereotyping, and oversimplification of culture. Research has shown that teaching 'cultural knowledge,' can potentially be more detrimental than helpful.

#### ***Skills: Interpersonal Communication***

According to Reilly (as cited in Kinsman, 2008), communication can be the key to great success or the key to failure. However, social hierarchy exists in most cultures, which can create issues in appropriate communication. It is evident that no one can afford to neglect the cultural context of communication and nor the luxury of ignoring cultural differences. Developing cross-cultural communication skills requires knowledge of different styles of communication, assessing decision-making preferences, determining each person's perception of themselves in relation to others. Over the years, cross-cultural communication topics have been incorporated into the business education curriculum. Strategies such as in-class role-playing exercises, interactions with guest speakers from different cultures, foreign films and case study analysis, and cross-cultural work groups (Ozcelik & Paprika, 2010).

Although, these methods have been in improving the cross-cultural communication, they have mostly focused on expanding students' knowledge about other cultures. However, more attention must be given to developing their attitudinal views of culture and developing emotional intelligence with cross-cultural interactions.

### ***Attitude: Emotional Intelligence***

Emotional intelligences (EI) facilitate the understanding of cross-cultural leadership and attitudinal views of diversity. Daniel Goleman, the principal contributor to the field of emotional intelligence indicated that leaders with a high EI level are crucial to today's global environment (Goleman, 1998). Bar-On refers to the emotional intelligence as to the concern of understanding oneself and others, adapting to and coping with immediate surroundings to achieve success when dealing with environmental requirements (Bar-On, 1997). Emotional intelligence has been associated with global leadership success (Alon and Higgins, 2005) and development of a global mindset (Lovvorn and Chen, 2011). Successful programs have focused on attitudinal perceptions and expressions that "regulate emotions, in not only oneself, but also others" (Crowne, 2013, p. 7).

### **Statement of the Problem**

Lévy-Leboyer (2004) argues that "cultural differences lead to misunderstanding and misunderstanding leads to conflict, low morale, and lack of productivity in work settings. Understanding the variety of cultures is, therefore, a priority in today's global economy" (p. 792). Leaders who are successful in their own culture might be failures in another culture because they are unable to adapt to new cultural settings. How do you become culturally agile? How do they understand other people's behavior, respect foreign values and customs, and acquire the capacity to behave in an acceptable way in unfamiliar settings? Higher education is responding to these questions.

The Global Village offers many opportunities to develop cross-cultural competence. Students live, work and learn together in a microcosm of the world during a five-week program. Sharing, celebrating, and experiencing the value of international diversity facilitate the internationalization of student's experiences. Social interaction across cultural barriers is encouraged throughout the program. This paper examines the effectiveness of the Global Village for Future Leaders of Business and Industry®, as an applied leadership, management, and cross-cultural training program.

### **Methodology**

To examine the effectiveness of the Global Village program a survey was disseminated to over 1500 alumni who graduated in the years 1997 through 2012. Slightly more than 33% of those who received the survey responded to the survey. Survey respondents represented 83 countries and 84% came from outside of North America. Participants in the survey ranged in age from 18 to 58. Eighty-eight percent of the respondents were over the age of 21, with the largest cluster of respondents (67%) being between the ages of 21-26. Survey respondents were equally balanced between genders.

In addition, individual interviews were conducted off-campus. The interview protocol was semi-structured, to allow the study participants to speak freely and confidentially about their United States graduate school experiences.

**Findings of the Study**

The results of the study indicated that 99% of the respondents to the survey declared that “The Global Village for Future Leaders of Business and Industry® “played a significant role in their lives” (see Figure 1). One of the participant stated, “The Global Village enabled me to transform my view of the business world and find my place in it.” More than half of the participants stated that after completing the five-week course, their English has improved.

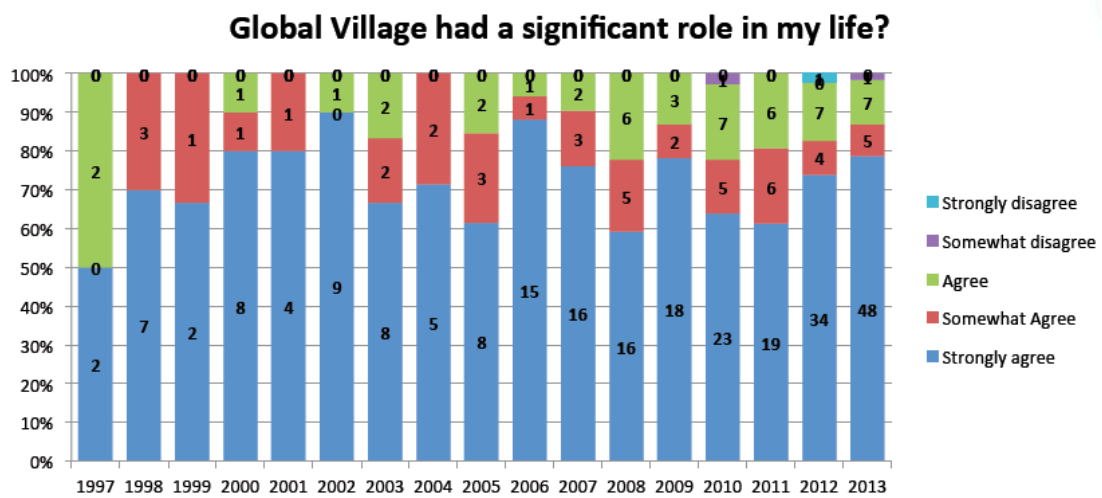


Figure 1. Significant Role in their Life

The annual salaries for Global Village Alumni have increased considerably after participating in the Global Village program; with the most significant increase occurring in the \$100,000 to \$250,000 salary range (see Figure 2 and Figure 3).

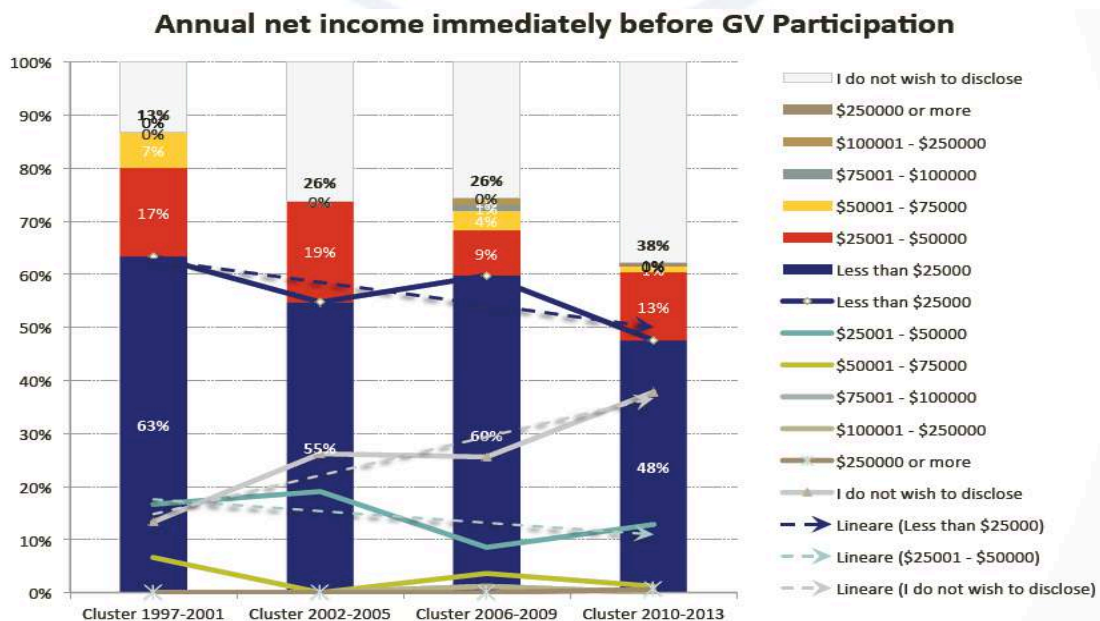


Figure 2. Salary before GV Participation

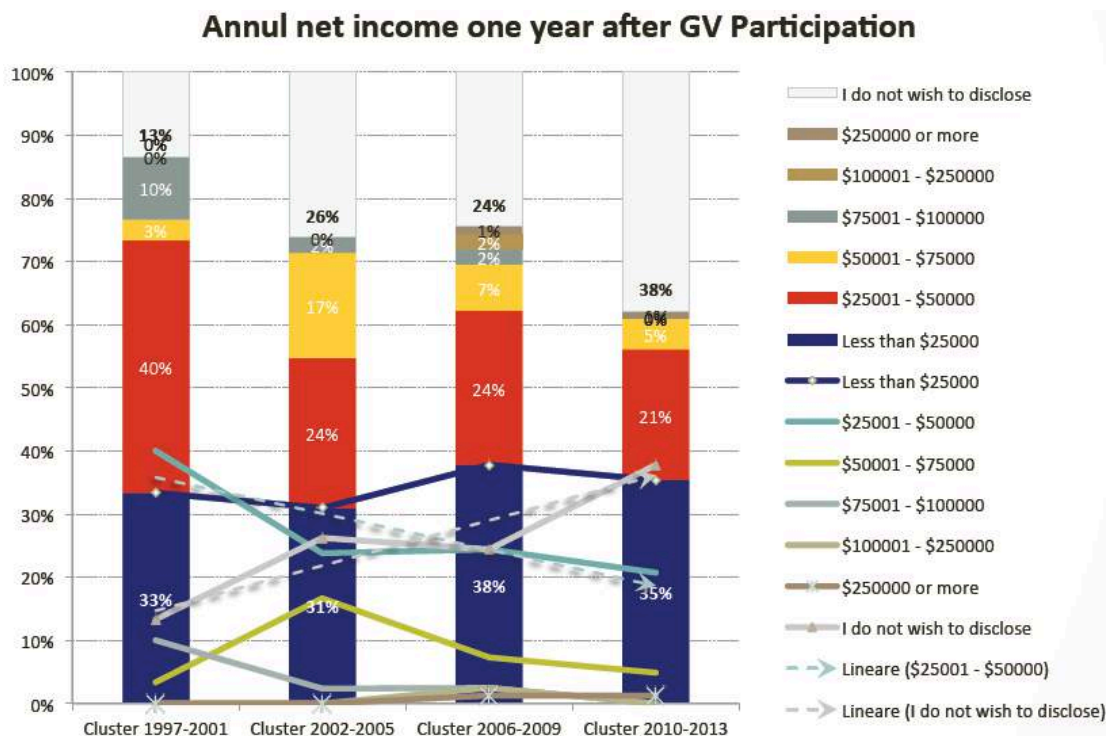


Figure 3. Salary 1 year after GV Participation

Global Village alumni reported the following additional impacts:

- A marked increase in professional responsibility measured by the increase in budgets and employees they managed after their Global Village experience.
- A large number of respondents indicated that, after completing the program, they travelled to more countries than previous years, improved skills in other languages, moved their business focus to other countries, or lived in other countries.
- Fifty-six percent of respondents agree that after the Global Village program, their English language ability improved, with 35% indicating strong improvement in their English language skills.
- After the Global Village program, a greater number of Global Villagers found their career in Corporate Business than in any other field. Also, the number of Villagers that pursued an entrepreneurial career more than doubled after attending the Global Village program. Statistics show 40.6% of the GV alumni report they are currently working in Corporate Business, 8.8% are in Small Business, 9.8% are Self-Employed, 6% are in a Profession (Medical, Law, Accounting, Architecture), 8.8% are in Education, 6.3% work for a Nonprofit/NGO, 4.1% work in a Family Business, 4.4% are in Government and 11% are students.

### **Recommendations for Additional Research**

The process of developing cross-cultural competence, merits additional focus and research. Due the success of the Global Village program, it is recommend to further examine the specific strategies that was used to promote a long-term impact, with additional investigation focusing on the formal, informal and social learning aspects. Furthermore, it would be beneficial to examine each teacher's cross-cultural competency and professional development programs used to prepare instructors. More attention and measurement of cultural leadership skills are needed for both students and faculty. Finally, it may be particularly useful to further study the characteristics of individuals who are effective in culturally diverse environments and identify key levers to change behaviors regarding cultural efficacy.

### **Concluding Remarks**

Every year since 1997, the Global Village program has attracted students from all over the world; this diversity in the classroom could be considered strength, because it leads students to deal with people with different cultures, nationalities, and beliefs. This program creates a positive environment for exploring potential changes. The ability to foster an environment of inclusion for all cultures, races, gender, age, and diverse backgrounds has enabled participants to better understand their differences.

Based on results, the study concluded that International-Business/Management program leaders must be strategically proactive in developing the capacity to:

1. Consider diversity as a value, and not as a barrier.
2. Inspire ideas based on respect and inclusion.
3. Create or improve a positive attitude towards change.
4. Create strong and long lasting ties among people and life-long learning experiences.
5. Evolve transnational spaces and management practices.
6. Increase competitiveness and welfare.

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*Internationalization of Global Women in Higher Education  
Shifting to a “Two-Way” Approach of Engagement*

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**Abstract**

Higher education is globalized and internationalized; and the number of international students, particularly women studying in U.S. institutions of higher education is at a record high. However, as education continues to be a pathway to success and leadership positions, the representation and progress of women into leadership positions remains a debated issue. Although in the past 30 years there are more women who are qualified to assume leadership position both in higher education and in business, women still lag behind their male counterparts. It cannot be denied that gender continues to affect the way women are perceived as leaders. Based on the findings from a study conducted at a US university, a paradigm shift from a unidirectional approach to learning to a “two-way” model of engagement is necessary to promote a collegial community of collaborative scholars. To develop global women as leaders, it is not enough to recruit, retain and graduate international students who are female—it is critical to observe, learn, and collaboratively learn from each one of them. Most curriculums are “western” centric and based on values and ideas from the United States, with minimal exposure to current global practices. The knowledge and experiences of international women are not optimized as a source of global data that contributes to the collective information of global cultures and best practices. In order to truly capitalize on the influx of international data, the authors are suggesting the 2.0-approach, “two-way” method of creating, collaborating, editing and sharing user-generated curriculum content.

**Keywords:** internationalization, engagement, higher education

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## **Introduction**

Higher education is becoming globalized and internationalized with the number of international students, particularly women, studying at institutions of higher education in the United States at a record high. Education continues to be a pathway to workforce success and advancement, but unfortunately, the representation and progress of women into leadership positions remains a debated issue. Over the past 30 years, more women are qualified to assume leadership positions, both in higher education and in business, but women still lag behind their male counterparts in obtaining these roles. It cannot be denied that gender continues to affect the perception of women as leaders.

Based on the findings from a pilot study conducted in the Learning and Performance Systems program at a university in the state of Pennsylvania in the United States, it was uncovered that a paradigm shift is necessary from a unidirectional learning approach to a “two-way” model of engagement, in order to promote a collegial community of collaborative scholars. For global women to develop into leaders, it is not enough to recruit, retain, and graduate international females students; it is also critical to observe, engage, and collaboratively learn from each one of them.

Many graduate curricula are “western” centric, based on practices, values, and ideas from the United States, with minimal exposure to current global practices. In these curricula, knowledge and experiences of international women are not utilized or optimized as a contribution to the collective information of global cultures and best practices. In order to truly capitalize on the influx of international data, the researchers are suggesting the 2.0 Approach: a “two-way” method of creating, collaborating, editing, and sharing global user-generated curriculum content.

## **Review of the Literature**

Graduate programs in higher education systems have been influenced by the forces of globalization and trade in educational services. These influences have created the formation of strong strategic alliances and increased competition among countries hosting international students. Through the export of study programs or the establishment of branch campuses abroad, academic cultures of one country are introduced in another. The literature discusses three other aspects of this mutual influence. The first is, the adoption of the United States higher education system, or elements of it with appropriate adaptations, in other countries (e.g., the model of the graduate school). The second aspect relates to the convergence of the European higher education systems on the basis of the Bologna reform process, and third, the relationship between developed and developing countries.

## **Globalization and Internationalization**

Globalization can be described as creating opportunities for sharing knowledge, technology, social values, and behavioral norms, and by promoting development across countries and cultures at different levels including the individual, the organizational, the community, and the societal level (Brown, 1999; Cheng, 2000; Waters, 1995). Globalization is a flow of goods or ideas, with a diminished importance on boundaries of time and space, as well as a diminished importance of nation-state (Steiglitz, 2003).

Internationalization, according to Hans de Wit (2002), includes the entire range of processes that transfers higher education from a national to an international orientation. According to the Organization for Economic Co-operation and Development (OECD), (2005), education is “the complex of processes whose combined effect, whether planned or not, is to enhance the international dimension of the experience of higher education in universities and similar educational institutions”. Olson, Evans, & Schoenberg (2007) suggest that internationalization is “the process of integrating an international, intercultural, or global dimension into the purpose, function, or delivery of postsecondary education” (p. viii).

Given these definitions, globalization can be seen as the catalyst and internationalization as a response. For the United Nations Educational, Scientific, and Cultural Organization (UNESCO) (2005), globalization and internationalization cover “all types and modes of delivery of higher education programs, or sets of courses of study, or educational services (including those of distance education) in which the learners are located in a country different from the one where the awarding institution is based”. Education provides a wide range of opportunities and benefits for individuals and societies. In many countries across the globe, education is recognized as a human right and viewed as essential to economic growth and social cohesion.

### **International Student Mobility**

Top host countries for international students are the United States, United Kingdom, France, Germany, China, Canada, and Japan. From the perspective of the United States, Obst & Forster (2012) stated, “international students play an important part in U.S. higher education, not only because they contribute more than \$13 billion to the U.S. economy every year, but also because many academic programs rely on them to conduct research and serve as teaching assistants in key fields of science and technology” (p. 2).

Additionally, Obst & Forster comment, that the perspectives of diverse minds contribute to the internationalization of American classrooms (2012). Friedman (2005) stated, “The world is now flat”. Globalization is leveling the educational playing field and higher education programs need to embrace this shift, not only to survive, but also to compete and succeed in this international world. Friedman (2005) further connected globalization to higher education by emphasizing global collaboration.

### **Statement of the Problem**

It is critical that institutions of higher education, as well as the programs within colleges and universities, shift their paradigm from being a program that has international students, to a global program that promotes an internationally collegial community of collaborative scholars. Furthermore, to develop women as global leaders, it is not enough to recruit, retain, and graduate international female students, but also critically important to observe and collaboratively learn from their experiences.

In order to truly capitalize on the influx of this international data, the authors are investigating a “two-way” methodology to create, collaborate, edit, and share user-generated curriculum content. In order to further understand this approach, the researchers are examining the following questions:

- R1. How are international students’ indigenous knowledge utilized in the classroom?
- R2. What barriers do international students experience when sharing their indigenous knowledge in the classroom?
- R3. Are women’s experiences different in the classroom than men’s experiences?

### **Impacts and Challenges of Internationalization**

Internationalization has traditionally focused on study abroad programs, intercultural curriculum, and language studies, and has generally emphasized learning outcomes (Altbach & Knight, 2007). As economies continue to expand and develop, the global climate in higher education becomes increasingly more competitive. Institutions, colleges, and universities often highlight their international presence both in resident and online programs. In addition, institutions are expanding operations across borders and markets through branch campuses. Although education is a part of the core mission, transnational enterprises bring a new set of stakeholders overseas (Chambers & Cummings, 1990).

In the last decade, a number of global-minded institutions have opened graduate or undergraduate programs abroad (Becker, 2009). These institutional partnerships help build and expand a country’s capacity. These campuses typically establish a physical ‘brick-and-mortar’ facility in the host country (such as in the United Arab Emirates), as well as employing the faculty and administrative structure to support the institution’s overseas operation (Green et al., 2008).

However, most students attending such campuses located in a host country may never actually set foot on the soil of the source country (such as the United States). Furthermore, the complexity of expanding overseas may present additional challenges. Institutions involved in increasing global programs need to expand their faculty and administrative staff in order to achieve international competencies. McBurnie and Ziguras (2007) suggest some institutions "may not be equipped with the skills and experience to make the best-informed decisions" in this international environment (p. 38).

### **Pilot Study**

To begin to address the three research questions present for this study, the researchers conducted a pilot study at a university in central Pennsylvania, the United States. This study utilized semi-structured interviews of international graduate students in order to develop a clearer understanding of the effectiveness of the “two-way” approach to engagement and learning.

## **Study Population and Sample**

The population for the study consisted of international graduate students pursuing a Doctor of Philosophy (PhD) degree in the department of Learning and Performance Systems. This department is made up of three separate programs: Workforce Education and Development, Adult Education, and Learning Design and Technology.

The study population was defined as graduate students from the Workforce Education and Development (WF ED) department. This specific program was targeted for several reasons. The first, was that this particular program was ranked in the top three by U.S. News & World Report since 1997 (earning the number one position in 2006, 2012, and 2014). The second criterion for selection of the WF ED program was the diversity of the Doctoral students.

The program currently has students enrolled from a variety of countries such as, Bulgaria, China, Crete, Ghana, Grenada, India, Malaysia, Namibia, Saudi Arabia, South Africa, South Korea, the UAE, and Taiwan. The final criterion for program selection was based on access to the population. Two of the researchers are current students in the program while a third researcher is a recent graduate of the program. The researchers felt their close connection to the program would encourage study participation and honesty in sharing experiences.

An invitation to participate was sent to WF ED students who met the pre-selected criteria of: (a) current graduate student enrolled in the Workforce Education and Development program; (b) student was pursuing a PhD degree; and (c) student was international (not born in the United States). The study participants, a mix of men and women that responded came from Crete, Grenada, Namibia, and South Korea.

## **Study Methodology**

The individual interviews were conducted off-campus by two of the researchers. The interview protocol was semi-structured, to allow the study participants to speak freely and confidentially about their United States graduate school experiences.

## **Study Findings**

The overall response from the study participants to research question 1, “how are international students’ indigenous knowledge utilized in the classroom” indicated that their global knowledge and experiences were not currently utilized throughout the curriculum. The study participants discussed the one-way dissemination of information, from instructor to student. The instructor held the authoritative leadership style in the classroom. Even when student participation was requested, the participants noted that care was not taken to address indigenous cultural behaviors. Most notably, was the study participants’ discussion about language. The instruction was provided in English, which was a second, third, or sometimes fourth language for the participants. Even though a working knowledge of verbal English and written composition skills were a requirement for admittance into the WF ED program, it was the nuances of the English language, like idioms and colloquialisms, which made translation and engagement in the classroom difficult.

In addition, specific industry vocabulary was very different across the globe. For example, the term “competencies” is used a great deal in the United States, while elsewhere, this concept is defined as “skills”.

Another common theme to emerge regarding the first research question had to do with group interactions. Many of the study participants were uncomfortable when asked to complete in-class exercises in groups. When asked to self-select into groups, the participants perceived, though perhaps unintentionally, negative feelings from peers. The study participants felt that the national, or United States-born students, would form groups together, probably out of comfort and familiarity. This would often leave a group entirely comprised of students from around the world. One study participant explained, “what the American students failed to realize was, we don’t necessarily like to work with different people from certain cultures either”.

When asked to address the second research question, “what barriers do international students experience when sharing their indigenous knowledge in the classroom”, the responses were split into two themes, which focused on the students and on the faculty. From the student perspective, a lack of social networking and out-of-class opportunities were presented as a barrier to internationalization. The study participants were interested in getting to know their peers, sharing experiences- both job-related and family-related, and developing research platforms and collaborations. Unfortunately, the WF ED program lacked a formal structure to accomplish this. Students tried to create social opportunities on an informal basis, but events had limited funding, lack of space, and small participation.

Regarding the faculty barriers, scarce resources, lack of interest and expertise were common themes addressed by the study participants. The participants felt that the faculty members lacked time, money, and the incentive to focus on a two-way model of student engagement. The participants offered two possible explanations. The first had to do with lack of expertise and the inability to integrate international learning, both knowledge and in learning and presentation style. The second was a harsher criticism, calling for lack of interest and negative attitudes regarding change from some of the program faculty.

The third research question, “are women’s experiences different in the classroom than men’s experiences” brought out themes concerning gender roles and social interaction that varied by culture. The male study participants were quick to point out that women have the same opportunities as men in the United States, while the women participants shared different insights. The female participants suggested that interaction, both in the formal classroom and in more informal social settings, varied not only from culture-to-culture, but also within cultures. One study participant expressed her concern for publicly challenging a professor in the classroom, where the instructor is the expert. Another female participant shared a personal story from her undergraduate experience about feeling pressured by a male student in her culture to be academically dishonest.

Both male and female study participants were very interested in sharing their educational and job-related experiences in the classroom and embraced the concept of a two-way method of learning and engagement. The participants revealed that even though they came to study in the United States and wanted to learn about American

workforce education practices, it still would be beneficial to share best practices from a global perspective.

### **Recommendations for Additional Research**

The attendance of a diverse population of international students provides numerous opportunities for universities to meet their goals for global engagement; however, the pilot study reveals that higher education may not be equipped to take advantage of these opportunities. Further investigation is recommended to explore the experiences of international students in higher education and identify systematic processes to actively engage them as cultural resources. In addition, the researchers recommend identifying educational opportunities to develop intercultural competence among peers, faculty and staff, in order to promote engaged and meaningful interactions (Montgomery & McDowell, 2009).

### **Concluding Remarks**

The field of higher education is becoming globalized and internationalized, but needs to embrace further change and development. With the number of international students, particularly women, studying in U.S. institutions of higher education at a record high, there are many resources available to aid with pedagogical change. In addition, the numbers of international students have been growing within U.S. institutions, approaching 770,000 in 2012 (Institute of International Education, 2012). Graduate students have the potential to support and encourage the development of an international curriculum, as well as be a resource of institutional learning. Unfortunately, few programs in the United States are prepared to engage these students as cultural resources. Various researchers have indicated that international students can significantly contribute to creating a globally engaged community, particularly when they are given the opportunity to share their diverse experiences.

Based on the pilot study mentioned in this paper, it is suggested that American students and faculty are not exploring the indigenous knowledge of their international peers, therefore missing the opportunity to learn about other cultures and other countries' business practices. As many graduate curriculums were created based on values and ideas from the United States, minimal reference is given to current global practices. More specifically, the knowledge and experiences of international women are not compiled and incorporated as a source of best practice global data. In order to truly capitalize on the volume of this international data, the authors are suggesting the adoption of a 2.0 Approach; this approach is a "two-way" method of curriculum development and collaboration with user-generated curriculum content. This suggested shift seeks to incorporate unique cultural experiences and perspectives on classroom topics, in order to provide multiple viewpoints and international perspectives. The authors concur with Urban & Palmer (2014), with their statement, "ultimately, meaningful engagement of international students as equal partners in the internationalization of U.S. campuses can contribute to the recruitment and retention of international talent to positively impact institutional internationalization efforts" (p. 321). The researchers recommend further investigation to explore systematic approaches to internationalization and methods to engage international students, particularly women, to become cultural resources.

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***Bridging the Talent Gap of the Energy Industry:  
Developing a Transnational Competency-Based System***

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**Abstract**

Talent is the driver of growth for any society and organization. However, effectively recruiting, retaining, and developing talent is a challenge task in all industries, specifically in the energy sector. The energy industry is facing a serious challenge despite high international migration flows. Many countries are becoming more restrictive towards inward migration in order to protect their existing workforces against unemployment. There, are two primary issues confronting the energy industry: deficient supply of people with the necessary skills and the aging demographics with the high rate of retirees.

Based on the literature review it is recommended for organization to implement a competency-based human resource system to manage and develop its workforce. It can be used to provide organizations with a competitive edge and enable them to compete domestically and globally. Moreover, it enables an organization to develop the capabilities necessary for sustaining skilled talent pipeline that are able to work across political, cultural, and knowledge boundaries.

This paper investigates the need for adopting a transnational competency-based system as a solution to address the energy workforce challenges and to fast-track skilled workers in high demand positions. It also provides an overview of a competency-based system as a strategy to manage and develop a global workforce in the context of the energy industry.

**Keywords:** workforce, skills gap, talent, oil and gas industry, energy industry, competency-based system, transnational competency model, talent pipeline.

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## Introduction

The global business market is in constant flux as technology advances, economic powers shifts, workforce demographic transforms, and customer needs evolve. Organizations all over the world are competing, not only for market shares but also for talent. Talent is the driver of growth for any society and organization. The supply and demand for talent across the globe has changed the business environment and skilled/qualified employees continue to be a 'hot' commodity. "Profound shifts in the global marketplace are ushering in a new era of complexity, uncertainty and change for companies. The rise of the internet and related technology has accelerated these market shifts, up-ending business strategies, models and processes along the way" (Oxford Economics, 2012, p. 4). Therefore, effectively recruiting, retaining, and developing talent continues to be a challenge in all industries, specifically in the energy industry.

Energy, specifically the oil and gas industry is facing a serious challenge despite high international migration flows. Two primary issues impacting the energy industry are: deficient supply of qualified people and the aging demographics. According to Molavi and Satterlee (2014) "a serious need is emerging for power, energy, and construction industries to replace retiring engineers and technicians so that the critical expertise is maintained. Yet skilled workers are not easily available to replace them at the rate of the demand" (p. 17751). The energy industry has a significant impact on a country's economic growth and it is considered the backbone of some countries' economy. According to Gu and Wang (2015) "oil and gas resources are an important strategic energy source and safeguard for national economic lifelines and security" (p. 369).

However, having a large reserve of natural resources is not enough to compete in today's oil and gas-based economies (Yasinski, 2014). The U.S. Department Labor, Employment and Training Administration (2007) reported that "global demand for energy is projected to continue rising, and energy industry employers will need skilled workers to meet that demand" (p. 4). Thus, energy companies need to recruit the right number of skilled and competent workers and specifically technicians to operate and maintain their growing business. Nevertheless, recruiting those skilled and competent individuals for the energy industries is a challenge task and is increasingly affected by the changing global economy, advanced technology, and the shortage of educated candidates with the necessary competencies to succeed on the job.

Individuals that have developed transferable skills from one industry are very attractive to the oil and gas industry and are highly sought-after, imposing additional demands on human resources to not only attract and hire the right people, but to educate and develop the right people. Based on literature review it is recommended for an organization to implement a competency-based human resource system to manage and develop its workforce. The system can be used to provide an organization with a competitive edge and allow it to compete domestically and globally. It help the organization to identifying the current and future anticipated roles so that objectives of the organization are achieved and simultaneously the needs of the employees are also met. Moreover, it enables an organization to develop the capabilities necessary for sustaining skilled talent pipeline that are able to work across political, cultural, and knowledge boundaries.

## **Purpose of the Study**

The most pressing challenges facing global organizations today are directly related to workforce challenges (Tarique & Schuler, 2010). In today's complex global economy, organizations have to attract, manage, and retain talent to achieve sustainable growth and gain competitive advantage. According to the U.S. Department of Labor, employment and Training Administration "although most energy industry careers pay well, the industry faces several challenges in recruiting and training a sufficient number of workers" (p. 11). Therefore, these new challenges are forcing organizations to rethink fundamental practices and strategies in talent management (Mahapatra, 2010).

This paper investigates the need for adopting a transnational competency-based system as a solution to address the energy workforce challenges and to fast-track skilled workers in high demand positions. It also provides an overview of a competency-based system as a strategy to manage and develop a global workforce in the context of the petroleum industry.

## **Workforce Challenges Facing the Energy Industry**

All over the world, organizations are struggling to find an adequate supply of qualified and talented individuals (Wall, 2007). According to Molavi and Satterlee (2014) "industry in general and the energy sector in particular are experiencing a sharp decline in skilled and experienced workers at every level. The oil and gas industry in spite of global expansion in this area, are struggling to hire qualified staff to respond to the volume of demand for these commodities" (p. 17751). A shortage of skilled and qualified workers is compelling many industries globally to change how they attract and employ talent.

A key challenge is that most newcomers to the workforce often lack the practical experiences and skills required in the business world. Furthermore, potential young employees are more likely to seek positions with multinationals and geographically dispersed organizations taking them away from their national roots. In addition, demographic trends point to an aging population with an expanding number of people approaching the retirement age. More people are leaving the workforce in greater numbers than those entering, creating a huge chasm in the talent pool. Therefore, organizations need to ensure future generations are well prepared and equipped with the necessary competencies to meet their predecessor's responsibilities (Miracle, 2004).

## ***Deficient Supply of Skilled Workers***

All job sectors within majority of most industries have raised employers' demands for more knowledgeable, well-trained, career-ready workers. The competition for high-skilled occupations continually rises as massive numbers of talented baby boomers exit the labor pool (Gordon, 2012). Many organizations intense workforce needs and are forced to look outside of the geographical boundaries, as well as, outside of it's own sector to find skilled workers for many of their jobs. Many more have to conduct intense trainings to make their employees effective workers. According to the U. S. Department of Labor, Employment and Training Administration (2007) the energy industry employs more than 1 million people nationwide and represent 4 percent of

total Gross Domestic Product (GDP). It plays an essential role in the country's economic and national security (p. 4). However, the energy companies have big shortages of skilled workers. They reported that "they will need to hire well above replacement levels as new power plants are constructed, new technologies are adopted, mines are opened, and new oil and gas wells are tapped to keep pace with the nation's need for energy" (U. S. Department of Labor, Employment and Training Administration, 2007, p. 4).

Identifying an appropriate worker who matches the job profile and other criterion is not an easy task. Organizations spend considerable time and effort to hire a suitable match. In practice, this will require posting a vacancy and interviewing viable candidates. In addition, adapting to a new job in a new organization typically takes time and most likely extra training to reach full productivity. Therefore, hiring skilled workers may result in substantial expenditures (Blatter, Muehlemann, & Schenker, 2012). The most common practice for matching people to jobs is through job descriptions and job requirements. However, it is important to note that most often, they represent the baseline requirements for a job and are not sufficient for recruiting, selecting, and developing top performers (Dubois & Rothwell, 2004).

### *Aging Demographics*

An aging workforce dramatically impacts the global skill shortages. This is intensified in some countries undergoing major demographic shifts, such as a surge in youth or a rapidly aging population. For example, "In Japan, the country with the oldest median age group, 85% of employers can't find the talent they need. In India, which is experiencing unprecedented population growth, 61% of employers struggle to find talent. In Brazil, where the fertility rate has dropped from six births per woman to two in less than two generations, the talent shortage rate is 68%." (Donovan, 2013, p. 13).

A large number of baby boomers are will become eligible for social security benefits at the rate of 10,000 per day (Galagan, 2010). According to a 2006 Census Bureau Report, the US population aged 65 and over is anticipated to substantially increase in size within the next 25 years. They also anticipated that by 2030, approximately 20% of Americans will be 65 years or older (as cited in Sterns, 2010). This phenomenon is not restricted to the US. In 2003, A Boston Consulting Group researched talent trends and estimated a worldwide skilled labor shortfall of 60 million workers by 2020, including a 17 million-labor shortage in the U.S. (Holland, Sheehan, & DeCieri, 2007).

The lack of technical skills, limited experience, and a shortage of candidates are some of the reasons that positions cannot be filled. However, businesses can start to address the upcoming skills gap by identifying best practices for employing and optimizing an aging workforce, as well as capturing their knowledge to prepare the next generation of workers. The authors recommend implementing a competency-based approach to manage talent. This may include defining job profiles, conducting job interviews, selecting appropriate candidates, implementing engagement strategies, developing learning strategies, and determining organizational capabilities.

## Understanding Competencies

In order to survive and compete in today's highly competitive market, it is essential to determine what competencies a business needs (Sanghi, 2009). Competencies and competency models have become widely practiced in many organizations (Vazirani, 2010). Hofrichter, Spencer, and Lyle (1996) argue that competencies are the right foundation for effective human resources management.

They play a major role in identifying the current and future anticipated roles so that goals of the organization are accomplished and, at the same time the needs of the employees are also met (Mahapator, 2010). According to Bhardwaj and Punia (2013) "a competency is considered as a measurable characteristic of a person that is related to effective performance in a specific job, organization or culture" (p. 74).

Furthermore, competency-based systems are used to improve employees' performance, and align individual capabilities with organizational core competencies (Rothwell & Lindholm, 1999). It can contribute to organizations knowledge base and increase the knowledge utilization capability of an organization. In short, competency-based approach is focused on improving organizational performance (Zaim, Yasar & Unal, 2013). "It thus makes increasing sense in today's business world to think in terms of competencies—which speak to a qualitative view of talent—rather than in terms of head count or work activities" (Dubois & Rothwell, 2004, p. 67)

There are two approaches to competencies: the first approach "defines competency as underlying attributes of a person. It is largely an input-based approach, defining the inputs needed to demonstrate competent performance" (Bhardwaj & Punia, 2013, p. 75; Boyatzis, 1982). On the other hand, the second approach interprets competency as a set of performances and standards (Bhardwaj & Punia, 2013). In essence, "competences describe what people need to be able to do to perform a job well" (Mahapator, 2010). They are intangible resources that are critical for gaining a sustainable competitive advantage (Drejer, 2002).

According to Dubois and Rothwell (2000) "one of the most important determinants of success is whether the people in an organization have accepted and adopted an internally consistent set of definitions and concepts for competency work" (as cited in Rothwell et al., 2015, p. I-16).

Table 1 lists a few key definitions that are essential to understand a competency-based approach.

Table 1: *Key Definitions*

Term	Definition
Competency	Sets of characteristics that a person possesses which is a combination of skills, knowledge, traits, feeling, and job attitude that can be observed, measured, and evaluated (Rothwell et al., 2015).
Job Competencies	“An underlying characteristic of a person which results in effective and/or superior performance in a job” (Rothwell et al., 2015, p. 29).
Technical competencies	Refers to “the specialized primary and highly related knowledge and skill competencies that employees must possess and use in appropriate ways on the job” (Rothwell et al., 2015, p. 29).
Job description	A job description is a written statement of the duties, responsibilities, minimum educational requirements, and minimum experience requirements necessary for the job (Dubois & Rothwell, 2004).
Competency Model	A descriptive tool often represented through illustrations that map competencies in a hierarchical manner. It identifies the knowledge, skills, and behaviors needed to effectively perform a role within a(n) job, occupation, organization, or industry. Competency models can take a variety of forms (Campion, et al. 2011; Cao & Thomas 2013; Rothwell et al., 2015).

### **Importance and Benefits of Competency-Based System**

Focusing only on the job is not enough in today’s business world (Dubois & Rothwell, 2004). Organizations need to focus on both the people and on the job that they are doing. In the workplace, an employee’s traits, attitude, skills, and knowledge will affect the work outcome. These traits, attitude, skills, and knowledge all make up the employee’s competencies. Thus to get the work outcome or to get the job done well, we need to know these competencies. These competencies build the competency-based system.

Implementing this kind of a system can significantly impact an organization’s effectiveness and efficiency (Snell & Dean, 1992; Dubois & Rothwell, 2004). A competency-based system helps an organization to address all challenges, meet their business objectives, and get a competitive advantage in the by integrating its HR strategies with the business strategies (Pritchard, 1997). Also, it links the individual competencies with the organization business goals (Cooper, Lawrence, Kierstead, Lynch, and Luce, 1998; Dubois & Rothwell, 2004). In addition, these systems enhance productivity and create effective processes recruiting, selecting, developing, evaluating, and even compensating high-performance employees (Lucia & Lepsinger, 1999).

A competency-based system fosters the training within organizations. One of the primary reasons for the increased level of competency-based program usage is that these programs can easily assimilate learning activities or initiatives into the daily business processes rather than traditional training, which is often isolated from daily business operations. By linking individual competencies with the desired organizational competencies through competency modeling, the development of successful training and development programs becomes an effort with great potential for meeting the needs of all parties involved. Also, this system, facilitates designing and building more focused training programs (Tompkins & Daly, 1992).

### **Competency-Based Approach in a Transnational Space**

We are no longer bounded. Most business, in some form or another, extends and operates across national boundaries; whether it is their customers, suppliers, or even employees. Popularized by Randolph Bourne, transnationalism describes a new way of interacting across boundaries (Jucan, 2010). This interconnectivity of people is creating a cultural, social, and economical phenomenon. However, as we continue to live and work in a diverse society, the need to develop skills that better equips people to operate effectively becomes crucial in almost every aspect of our lives, particularly in the work environment.

It is no longer enough to assess the right person for the right job, we must also consider the right environment. As previously discussed, a competency-based approach helps to integrate the organization's talent initiatives using a common language that is grounded on the organization's goals and mission. Therefore, implementing a competency-based approach in a transnational space allows an organization to develop talent initiatives that are adaptable based on its current environment. Common uses of a competency-based approach used today includes workforce planning and technical talent management, both of which are critical to today's energy industry.

### **Workforce Planning**

Organizations seeking to grow and improve performance in today's transforming economy are paying a greater attention to workforce planning. Improving organizational performance to gain a competitive advantage in both global and local market requires an effective and efficient workforce plan that can manage talent shortages and surpluses. According to Hirschman (2007), "workforce planning can provide perspective for business success" (p. 44). One of an organization's essential human resource (HR) functions is to ensure that its short and long-term strategic plans are being met (Tripathi, 2010). It also needs to ensure that it has an adequate supply of workers with necessary skills and qualifications to accomplish its mission. However, most organizations struggle in developing and implementing effective and efficient long-term workforce plans and determining the size of the workforce needed for the future.

The terms workforce planning and strategic staffing are used exchangeable in the literatures. It refers to comprehensive planning for the entire organization's workforce (Rothwell, 2005). It is a process ensures that an organization has the right people with the right skills they need at the right place and at the right time (Kazan, 2005).



Helton and Soubik (2004) have defined workforce planning as “a methodical process of analyzing the current workforce, determining future workforce needs, identifying the gap between the present and future, and implementing solutions so the organization can accomplish its mission, goals and objectives” (p. 460). In short, workforce planning is a long-term plan that helps an organization to align workforce strategies to its desired business outcomes. It determines the size and quality levels of workforce required to support the business’ objectives.

### ***Importance of Workforce Planning***

There are urgent needs for workforce planning in organizations and especially organization in the energy industry regardless of their size to develop for the anticipated changes in the workforce demographics and economy. It is obvious that globalized competition, information revolution, and technological advancement are altering the demands for different types and number of workforce. Therefore, to adapt and maintain competitiveness in response to the transformational and dynamic business environment, organizations urgently need to develop a successful workforce plan.

According to Freedman (2009), workforce planning helps organizations make better decisions related to investment in human capital and managing business risks and cost more effectively. It can reduce shortages of workforce and shortages of skilled employees, and to enhance administrative systems (Alturaigi, 1997). Moreover, it analyzes the competencies of the existing workforce against projected needs to identify performance gaps and determine the quantity and quality of the workforce needed to achieve optimum outcome (Ball & Gotsill, 2011). Therefore, the objective of workforce planning is to anticipate the workforce skills organization needs and then prepare an action plan to close emerging gaps and overcome challenges and obstacles that may befall in the future (Kirch, 2008).

### ***Workforce Planning Process***

There are many ways to approach workforce planning, and the best approach is dependent on the organization’s specific needs and capability. Overall, a majority of organizations agrees in four basic steps: 1) supply analysis, 2) demand analysis, 3) gap analysis, and 4) action plan. Anderson (2004) and Vernez, Robbert, Massey, and Driscoll (2007) have suggested four major steps that involved in workforce planning:

1. Supply analysis: describe and analyze the current and projected workforce in term of total number of positions needed, composition, and competencies needed.
2. Demand analysis: describe what the workforce should be now and in the future in term of total number of positions needed, composition, and competencies needed.
3. Gap analysis: compare demand to supply to identify the differences between the present and the future staffing needs.
4. Solution analysis or action plans: prepare and implement a solution to close the most critical gaps between the supply and demand.

In general, the workforce-planning process involves taking steps for identifying and matching the projected workforce needs of an organization with the available and

emerging employee skills in the labor market (Choudhury, 2007). Therefore, in order for workforce planning to be successful: it should be viewed as a business process rather than an human resource process; begin with a few critical positions; recruiting committee or group should participate in the process, it should be reviewed and updated regularly at least every quarter; and use latest technology to develop effective workforce planning (Freedman, 2009). Leonard (2005) stated that “successful workforce planning is an ongoing process rather than a singular event. Only after problems and shortages are identified and repeatedly revisited will a company be able to develop a plan that addresses specific needs” (p. 24).

### **Technical Talent Management**

Since McKinsey produced the “The War for Talent” in 1998, it grasped the attention of the human resources professionals (Chambers, Foulon, Handfield-Jones, Hankin, & Michaels, 1998). Organizations focused on talent recruiting, developing, and retention, which increased the importance of talent and employee value in the business world (Scullion, Collings, & Caligiuri, 2010). However, organizations found that focusing on talent is not enough. There also needs to be a strong focus on technical talent (Kim, William, Rothwell, & Penaloza, 2014).

Technical talent focuses on “the most talented technical and professional workers who rely on professional judgment or specialized training to perform their work” (Kim, William, Rothwell, & Penaloza, 2014, pp. 96). Technical talent management can be defined as “the process that focuses on attracting, developing, and retaining the most talented technical and professional workers and transferring their specialized knowledge to less proficient or less experienced workers” (Rothwell, 2011, p. 12). In the early 70s of the 20-century, the technical talent was used to describe engineers and science professionals (B.G.R, 1971). Also, those employees who work in occupations that require specialized knowledge and training following the North American Industry Classification System’s (NAICS’s) definition of the professional, scientific, and technical service sector (U.S. Bureau of Labor, 2012; Rothwell, 2011).

Thus, it is more than a talent management. It deals with both the talented people and the knowledge that they have. Those employees who spent years working for a company has gained experience, maintained a level of professionalism, and has acquired expertise from working in that industry and particularly in that company. Their knowledge or the intellectual property that they have built over the past years needs to be secured and accessed.

In addition, those employees need special management to attract, retain, and develop. Moreover, those employees could be a good source for competency modeling programs that assist in developing and improving business processes. Thus technical talent programs would focus on those who are high-performance employees, known as ‘high-performers’ (HiPro) to model. Moreover, HiPro knowledge, skills, traits, job attitude, and behaviors can potentially be the focus of a competency-based program.

## **Complexity of Transnational Competency**

Communicating, collaborating, and interacting with people from a multitude of different cultures requires not only intercultural competence, but also transnational competency. According to the Institute of International Education, transnational competence (TNC) refers to (1997, p. 5-6):

... the ability of individuals, organizations, communities, and governments to effectively cope with the rapidly changing transnational environment and to realize their goals ... Transnationalism refers to the emerging era where relations and networks are being formed around common interests, affinities, and sentiments, often with little regard for the constraints of conventional geographic space. Transnational Competence enables the formation and functioning of these networks.

As the world becomes more interdependent, talent challenges become more complex. Therefore, workforce demands will require a dynamic and flexible talent pools that are able to adapt to its surroundings. However, the HR professionals must also adapt and implement talent strategies that are able to hit an accelerated-moving-target. Therefore, the authors have recommended implanting not only a competency-based program to manage a diverse workforce, but a transnational competency-based program that can adapt to its changing environment.

## **Conclusion**

The challenge of effectively recruiting talented individuals into the energy industry, particularly into the oil and gas industry is daunting. Two primary issues confronting the energy industry are: deficient supply of people with necessary skills and the aging demographics with the high rate of retirees. Furthermore, recruiting experienced, skilled professionals for the energy industries is a challenge task and is increasingly affected by the changing global economy and the shortage of educated candidates with the necessary competencies to succeed on the job. Based on literature review it is recommended for an organization to implement a competency-based human resource system to manage and develop its workforce. Adopting a competency-based system as a solution to address the global workforce challenges can help fast-track skilled workers in high demand positions. However, assessing the right person for the right job also requires assessing the right environment. In an accelerated changing environment, talent initiatives must be adaptable cross the political, cultural, and knowledge boundaries. The bottom line is that adopting an effective and efficient workforce strategy is necessary to ensure that organizations thrive, and the energy industry remains a key driver of economic growth on the future.

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*The Importance of Organizational Learning for Change in Higher Education Institutions*

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**Abstract**

Many works have been written about different forms of organizational learning (OL), mostly in business environments. However, currently, academic environments are tapping into the same concepts in order to enhance performance that is driven by competition from other institutions that may have better strategies for student enrolment and retention, high caliber of faculty, more prominence and higher ranking. This presentation takes a librarian perspective and is based on literature review, and the author chooses to refer to a learning organization (LO) as an entity with a plan or proposal or agenda to change while OL refers to having a plan that includes comprehensive strategies or procedures for implementing change (actual actions taken). The same perception is expressed by Argyris (1977) who refers to OL as the process of “detection and correction of errors”. According to King (2009), OL is the goal and at the core of knowledge management (KM) in the sense that it is one of the important ways an organization can maximize use of knowledge. On the other hand, a LO is one that has a culture that supports individual learning, resulting in changes in the behavior of the organization itself. As such, a LO has the potential to operate proactively especially in the current dynamic globalized information environment, and recognize those who develop knowledge. With both OL and LO in mind, this presentation reflects on KM practices at institutions of higher learning.

**Keywords**

Learning organization, organizational learning, lean approach, knowledge management, institutional memory, library leadership, professional development, UAE



## Introduction

Learning is defined by the online *Encyclopedia Britannica* as the “alteration of behaviour as a result of individual experience”. The definition leads to addressing learning as it relates to changes in behavior. The focus of this paper is aligned to discussing behaviors that are indicative of the process taking or having taken place in educational institutions.

Reference is regularly made to academic libraries that belong to, and their functions are a reflection of, their value to their parent university or college. Several theories exist to explain and represent learning in a variety of contexts. Some of them can be divided into clusters that express similar perspectives. They demonstrate that there is no single fixed way of thinking about organizational learning (OL) due to several factors. On the other hand, this paper discusses the argument that a LO encourages and facilitates OL by transforming tacit knowledge into explicit knowledge and diffuses it throughout the organization.

In a research paper on OL theory in schools, Fauske and Raybould (2005) pose questions on how organizational learning is influenced by the nature of an organization's work, its core technology, and the degree to which that work is measurable; how the relative emphasis of the system-structures, interpretations or routines impact OL; and the extent to which theories of individual learning and social cognitive or behavioral theories apply to groups and organizations. Argote and Miron-Spektor (2011) suggest a theoretical framework for analyzing OL. To an extent, they clarify the proposals of earlier theories because of their focus on experience, organizational context, and knowledge.

## Organizational learning (OL)

The mainstream learning theories provide a basis for further studies in OL. For example, Fauske and Raybould (2005) suggest that the focus of an OL theory is the study of how organizational mental/ behavioral models and memories emerge and change. Argyris and Schön (1978) posit that OL can be characterized in terms of single, double, and triple learning. The learning loops model of Argyris and Schön (1978), and Argyris (1977) define OL as the process of "detection and correction of errors" with individuals acting as agents for organizations. Argyris and Schön (1978, p. 28) point out that “double-loop learning in organizational inquiry consists in the questioning, information-gathering, and reflection that get at second-order errors”.

A dependence on feedback and openness to corrections arising from errors made reflects a readiness to learn. “The individuals' learning activities, in turn, are facilitated or inhibited by an ecological system of factors that may be called an organizational learning system" (Argyris, 1977, p. 117). Huber (1991) considers four constructs as integrally linked to OL, viz: knowledge acquisition, information distribution, information interpretation, and organizational memory. He clarifies that learning need not be conscious or intentional, therefore does not always increase the learner's effectiveness, or potential effectiveness, and it need not result in observable changes in behavior. In fact, Easterby-Smith, Araujo, and Burgoyne (1999) advocate for social, political, cultural artifact perspective to OL in their interpretation of the work of Argyris (1977).

Behind all the explanations about change or transformation in this discussion is the tacit implication that everything that takes place leans on the strategic decisions of organizational leadership.

In organizations that encourage learning, individual members are continually engaged in attempting to know their workplace, and to develop a self-knowledge in that context. This is similar to the social learning perspectives of Bandura (1977), Vygotsky (1978), and Brown (2001). By looking at the way that people jointly construct maps in their minds, i.e., such as is mentioned in cognitive learning perspectives where learning is a mental process, it is possible to talk about OL (involving the detection and correction of error).

Direction from organizational leadership is important to the success of this process in the sense that OL minimally happens without management influence and support. What is complicated is how to measure tacit/ difficult-to-articulate knowledge, but perhaps when performance measures are put in place, the assumption could be that certain changes are realized only if individuals have acquired certain knowledge that is not otherwise readily obvious. That way, the economic benefits of OL are realized.

It may be the case that in OL, “individual learning occurs when people give a different response to the same stimulus, but OL occurs when groups of people give the same response to different stimuli” (Duncan & Weiss 1979). The implication is that individuals need not necessarily show the same changes in cognitions for OL to occur. It is successful leadership that enables member knowledge development and use for the enhancement of organizational goals.

For instance, in his *Lean Library Management* book, Huber (2011) consistently mentions that it is necessary for library leaders to promote learning and utilize the talents of their staff, eliminate job monotony, and increase staff retention. In fact, research over a six-year period on transformational leadership and stakeholder management in library change by Sucozhañay et. al.(2014, p. 76) concludes that “library managers should act as transformational leaders creating sustainable and trustful relationships not only with the library staff but also with other stakeholders to reach this goal”. Essentially, favorable outcomes are the product of collaborative approaches.

### **Learning Organization (LO)**

The book *The Fifth Discipline* Senge (1990) was one of the main contributors to the popularity of the term LO. He explained the organization from a systemic point of view and defined five disciplines which are essential in forming a LO. These are: personal mastery, i.e. developing the individual’s own personality; mental models, i.e. deeply ingrained assumptions, which have high impact on how we perceive our environment and how we act; a shared vision, i.e. the ability to create a common image of the future of the organization; team-learning, i.e. to engage in real corporate thinking and dialog; and systems thinking, i.e. the renunciation of linear cause-effect thinking (Senge, 1990, p. 5). McGill, Slocum, and Lei (1992) define the LO as "a company that can respond to new information by altering the very "programming" by which information is processed and evaluated", i.e. an organization that is able to

transform or change by programming and organizing learning for the benefits that it generates.

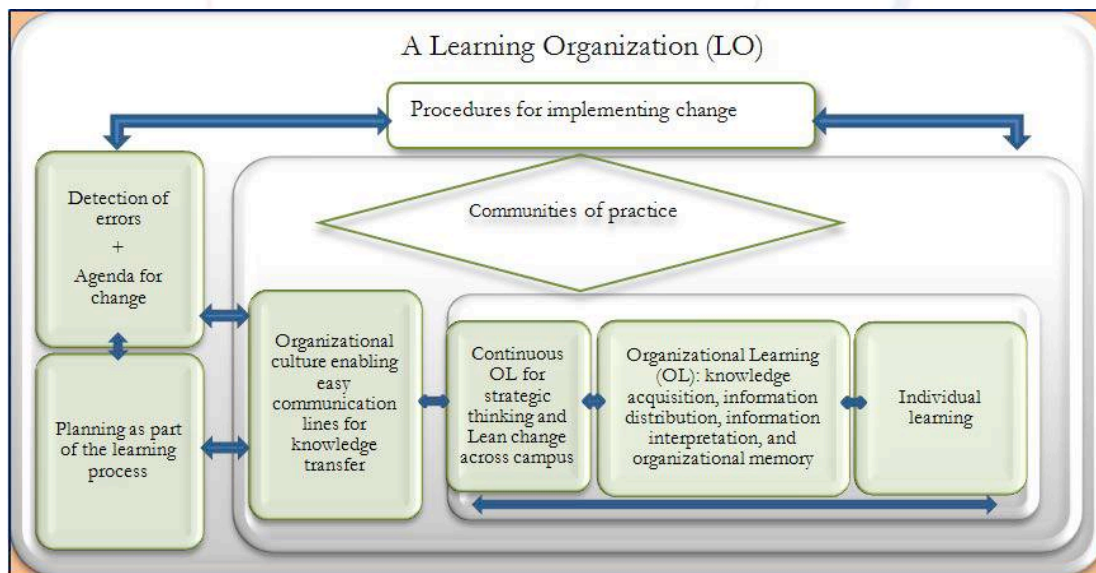
### Relationship between OL and LO

Ang and Joseph (1996) contrast OL and the LO in terms of process versus structure. McGill, Slocum, and Lei (1992) define OL as the ability of an organization to gain insight and understanding from experience through experimentation, observation, analysis, and a willingness to examine both successes and failures. The LO and OL are complete each other because the former is the entity engaged in a process to change/ transformation and the latter is having the process and strategies and implementing change throughout an organization. Tsang (1997, pp. 74-5) suggests that:

Organizational learning is a concept used to describe certain types of activity that take place in an organization while the learning organization refers to a particular type of organization in and of itself. Nevertheless, there is a simple relationship between the two – a learning organization is one, which is good at organizational learning.

The definition explains that one is the organization as an entity, the other is the action happening in it. The diagram demonstrates an integration of OL processes that are an expression of a LO.

**Figure 1:** The LO and OL



The key ingredient of the LO is in how managerial experiences are continuously processed rather than be bound by past experiences. In higher education institutions, the process of educating has to be accompanied by practices that encourage students in their learning endeavors, recognizing their varying learning styles, and rewarding effort and academic integrity skills.

In turn, the educators rely on openness, systemic thinking, creativity, a sense of efficacy, and understanding their students as they collaboratively work. OL and the LO are consequently the concern of the entire community in the educational

institution. It therefore becomes important for the leadership of a university or college to work towards the elimination of processes that inhibit progress so that it transforms into a LO. This is the principle of the Lean approach.

### **The Lean Approach in UAE higher education**

According to Dickenson (2010), universities and colleges are seeking greater efficiency in their academic programs and service delivery areas and are making decisions to prioritize key areas. The concept originates from the post-war Japanese Toyota car production system that sought to eliminate waste while focusing on value addition through customer service, good quality, efficiency, boosting staff morale, and improving internal communication and cooperation (Balzer, 2010).

As such, when applied to a higher education institution, it requires the involvement of all departments in an interconnected manner so that they can continuously improve their own processes. By their very nature, processes are organized hierarchically and each has a parent process which is clearly arranged to create it. The hierarchies can stand in the way of human potential if they are kept as independent silos which are averse to change or transformation. Thus, a systemic approach rather than a sketchy uncoordinated one works better.

A Google search for job openings in the UAE reflects that several places in the commercial sector are looking for individuals who have the capabilities to transform their business approach using Lean concepts. With a domestic program that aims to increasingly have vacancies occupied by UAE nationals, it is necessary for education institutions to re-align the way that they prepare graduands for this environment, including expertise in KM concepts that are the cornerstone of the Lean approach. But then, those institutions can do it better by example.

According to Emirates Competitiveness Council (2011), the UAE Vision 2021 specifies that “a diversified and flexible knowledge-based economy will be powered by skilled Emiratis and strengthened by world-class talent to ensure long-term prosperity for the UAE”. One of the key drivers for this is higher education and training. In that context, higher education institutions have to be knowledge driven and educate students for an efficient knowledge-driven economy.

From a continuous improvement perspective, Lean principles overlap with the Baldrige program (2014) criteria of excellence management and TQM initiatives (Gore, 1999) that are aimed at improving the quality of products and services in response to continuous feedback and refinements. Much like in Argyris’s feedback loops, the process depends on feedback, learning, and maximizing efficiencies. In this sense, Balzer (2010) suggests that the Lean approach can be applied to such high transaction areas as student enrolment, and changes in the campus physical development, but requires cultural sensitivity and cross-departmental involvement.

Other areas where it can be applied are in promotion and tenure (monitoring employee stability), admissions and credit transfer (standardization of qualifications), faculty involvement in university or college governance (Francis, 2014). However, it is important to educate employees about the Lean culture and its concepts so that they do not receive it as an imposition of esoteric notions. Education and learning starts

with the leaders to help them understand and become champions for the approach. As an example, the Sucozhañay et. al. (2014, p. 72) study proved that there is merit in training library managers to become change agents since those studied were found to lack that quality especially because “no analysis of leadership skills was performed before the appointment of library managers to their positions”. Training at various levels is therefore one of the methods of improving performance, whatever the preferred approach is.

### **The role of information systems (IS) in the LO for OL**

Central to LOs and OL is the role and design of information systems (IS). In the current fast-changing information overload environment, Huber (1991) notes that “it might be reasonable to conclude that more learning has occurred when more and more varied interpretations have been developed, because such development changes the range of the organization's potential behaviors...” (p. 102).

However, most contemporary ISs focus on the convergence of interpretation, and are not geared for multiple interpretations (Argyris, 1977). Sharing a similar perspective to that of Argyris (1977), Mason and Mitroff (1973) noted that designs of ISs are based on the convergence of interpretations. What is needed are inquiry systems for facilitating multiple interpretations. These systems also underlie the notion of “unlearning” (Argyris & Schön, 1978; Hedberg, 1981) which implies discarding of obsolete strategies and misleading knowledge. Argyris (1977) re-examines the debate around the implementation crisis in light of the theory of OL (the detection and correction of error).

His analysis suggests that many of the recommendations to overcome the difficulties may be inadequate and, in some cases, counterproductive. That is because ineffectiveness may be more related to organizational factors than to the underlying technology. For example, Sucozhañay, et. al.(2014, p.60) highlight instances where library managers display passive leadership behaviors, expecting librarians to solve problems on their own without their direct supervision as dysfunctional.

This in turn, implies that learning also requires the capacity to know when to identify and correct errors. In that sense, Argyris (1977) argues that the overwhelming amount of learning done in an organization is single-loop because the “underlying program is not questioned” as it is designed to identify and correct errors so that the job gets done but the action remains within stated policy guidelines. This is the reason that a number of universities and colleges are opting for the Lean approach.

### **Knowledge and KM in higher education institutions**

A LO essentially recognizes knowledge as a strategic resource. For that reason, KM is central to its operation. Many higher education environments possess explicit knowledge in the form of financial records necessary for meeting tax, payroll or accounting obligations, files of important historical documents, self-study documents, research articles, conference proceedings, as well as library databases.

Townley (2001) points out that research and scholarship are the tangible assets of an academic institution. In addition to these tangible explicit knowledge assets there are

the tacit or implied knowledge and human expertise of the people who work in the organization, as well as everything that is contained in the intranets.

KM facilitates the utilization and integration of tacit and explicit knowledge. It emphasizes “collaborative learning, the capture of tacit knowledge, and value-add obtained through best practices and data mining” (Gandhi 2004, p.373). Rowley (2003) and Singh (2007) highlight the fact that KM encompasses both the management of people and of information. On the other hand, Barquin (2001) describes KM as a process with phases and components, embedded in time. There is more than one approach to this process; it has different structures and architectures, and there are expected outcomes and performance to be measured.

Concurring with this view, Kok (2012) also points out the importance of identifying ownership and the source of knowledge, and providing mechanisms and incentives for sharing knowledge without possessiveness. The same point is expressed by Singh (2007, p.172) who is also of the view that KM “implies the process of transforming information and intellectual assets into enduring value”. In practice this leads to a process of the interpreting and utilizing of collective intelligence by communities of participants such as faculty, or librarians, or administrators, technicians, and so on. The condition that all involved can create value is when they share a common understanding of intended goals. A disconnect between managers/ supervisors and the rest of the employees does not enhance efficiency.

KM practices in higher education are actions aimed at improving the internal flow and use of information through knowledge acquisition and knowledge sharing for institutional effectiveness (Kidwell, Vander Linde & Johnson 2000). It is a process that enables an organization to improve its performance by enabling learning and innovation whilst solving its problems, acknowledging and resolving gaps in its operations, and recognizing knowledge (comprising people and information) as an organizational asset which has to be managed through enabling policies and institutional tools.

Marburger (2011) points out that innovativeness requires an “educational infrastructure that produces people with a global awareness and sufficient technical literacy to harvest the fruits of current technology”. Therefore the organizations that can identify, value, create, streamline, and evolve their knowledge assets are likely to be more successful than those that do not. Knowledge in a modern organization is an essential resource especially because it is not readily replicated by rivals. Jain (2007) and Senge (1994) point out the learning difficulties that some organizations have due to a failure to function as knowledge-based. It is important for an organization to have a clear understanding of what knowledge management (KM) means to its operations if it needs to consider using those KM practices that enhance efficiency and lend value to organizational knowledge. In this way knowledge becomes a strategic resource (Kok, 2012).

These practices include knowledge generation, which encompasses activities that bring to light all the knowledge that is new to a group or to an individual. Knowledge generation comprises the exploitation of existing knowledge to create new knowledge, as well as finding new knowledge through interacting and collaborating with other individuals or systems (Nonaka, 1991; Nonaka & Takeuchi, 1995; Nonaka & Teece,

2001). This process therefore involves the acquisition of knowledge if it is to be successful. The acquired knowledge is of limited value if it is not organized and stored for easy retrieval. Once it is available for retrieval, there is a need to have systems that enable its sharing and transfer. A process of knowledge retention results when an organization is able to facilitate the capture and transfer of both formal and informal knowledge through knowledge networking, thereby using the available intellectual capital for knowledge conversion to its advantage in a Lean fashion.

### **The knowledge conversion process**

KM literature on knowledge creation centers around four patterns of interaction in the name of the socialization-externalization-combination-internalization (SECI) model of Nonaka and Takeuchi (1995). They suggest that these concepts are based on information flow, with information management tools being a subset of KM tools. The creation of new knowledge as expressed by the SECI model is dependent on the interaction between tacit and explicit knowledge that Nonaka and Takeuchi (1995) present as modes of knowing.

Tacit knowledge is unwritten and resides in people's minds, often reflected as the skills or competencies that an individual possesses (Polanyi, 1962). Its contextual expression manifests itself as "know-how". Then again, explicit knowledge exists where guidance is available and predictable. The implication of this explanation is that explicit knowledge largely relies on being tacitly understood and applied in tasks or assignments at hand.

This can be a catalyst for creating new knowledge that is essential in innovation. In the context of the SECI model, socialization refers to the transformation of tacit or implicit knowledge to tacit knowledge; internalization refers to the transformation of tacit knowledge to explicit knowledge; combination refers to the transformation of explicit knowledge to explicit knowledge; and internalization is when explicit knowledge is being articulated and applied as tacit knowledge. The relevance of a knowledge creation process to the academe and vice versa lies in the importance of new knowledge and its value to the quality enhancement and competitiveness of academia.

Recognizing knowledge as an asset and using it creatively does not always occur in an obvious manner. Institutional strategic goals and values therefore need to be clearly defined for relevant knowledge to be tapped for relevant use. Nonaka and Takeuchi (1995) suggest that knowledge is transferred from one form to another because of a continuous process of interaction between tacit and explicit knowledge in an organization. The result is the ability to create new knowledge which has economic worth and is essential for innovation. For this to take place, a space called Ba (Nonaka & Konno 1998), where knowledge is created and shared through social media, is needed. According to Nonaka and Konno (1998):

Ba can be thought of as a shared space for emerging relationships. This space can be physical (e.g., office, dispersed business space), virtual (e.g., e-mail, teleconference), mental (e.g., shared experiences, ideas, ideals), or any combination of them. What differentiates Ba from ordinary human interaction is the concept of knowledge creation.

Ba provides a platform for advancing individual and/or collective knowledge. It is from such a platform that a transcendental perspective integrates all information needed. Ba may also be thought of as the recognition of the self in all. According to the theory of existentialism, Ba is a context which harbors meaning. Thus, we consider Ba to be a shared space that serves as a foundation for knowledge creation. (p. 40)

Identifying and using the spaces as well as consciously operating in the knowledge conversion mode supports the evolving needs of a typical educational establishment that benefits from its knowledge capital.

However, Chou and He (2004) point out that they do not find a comprehensive and feasible model that delineates the interrelationships between knowledge assets, and that knowledge creation processes are absent. It may well be that the concern raised by Chou and He (2004) will be resolved by means of systematic and repeated studies of actual practice. Instead of concentrating on theory formation, the Lean method utilizes such professional development (PD) methods as project work, various trainings and cross-trainings, and one-to-one work which may bridge that gap between knowledge assets and knowledge creation. The application of KM principles and tools is useful for the Lean approach.

In *The Fifth Discipline*, Senge (1990) points out that the weakness of many organizations which are unable to function on a knowledge basis is that they suffer from learning challenges. Jain (2007) echoes similar sentiments about the importance of a KM approach to a LO. Baskerville and Dulipovici (2006, p. 91) put emphasis on the same point by indicating that a “knowledge culture values learning and creativity”. Francis (2014) questions the absence of an alternative approach to Lean in post-secondary education environments.

However, the fast changing information environment and the expectations that society has on these organizations requires them to continuously re-focus. Successful practices include using Lean as an efficient learning process for stimulating innovation. As such, relevant theory will gradually be appropriately introduced, sometimes refuted, change over time, and is determined by the practitioners involved as they try to understand and explain the reality of OL and the LO.

## **Conclusion**

Any plan to use KM practices implies the need to understand the context that different types of knowledge requires, as well as organizing information (re-packaging it) in the manner most useful to the modern education institution’s community. Use of the Lean approach supports the application of KM principles and tools towards innovation in higher education.

It becomes possible to learn from previous experiences and situations, and be able to anticipate the specific requirements of the organization as indicated in double-loop learning.



In most institutions of higher learning, establishing and maintaining a strong technological base focusing on the intended teaching-learning environment and promoting research activities, and creating and organizing technology-based knowledge and knowledge-based networking are essential initiatives.

Additionally KM practices need to be tapped from institutional skills and the already existing intellectual capital with enabling policies and practices. A supportive institutional climate for OL can therefore bring systemic transformation to the LO.



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***Minimalist Program and Ease of Language Acquisition: Investigating Chomsky's  
Uniformity, Simplicity and Economy***

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**Abstract**

The minimalist program is in part a reaction to some problems that have afflicted GB theory. A theory of grammar introduced by Chomsky in 1995 as an advance on government/binding theory while remaining within the general paradigm of the principle and parameters model of universal grammar. The cornerstone of the theory is that grammars should make use of the minimal theoretical apparatus necessary to provide a characterization of linguistic phenomena that meets the criterion of descriptive adequacy. This goal is motivated in part by the desire to minimize the acquisition burden faced by children and account for the fact that children will acquire any language they are exposed to. MP consists of three important characteristics: economy, simplicity and uniformity. The present study tries to investigate three important characteristics of minimalist program, i.e. economy, uniformity and simplicity by analyzing them from minimalist point of view and regarding different principles which help in proving them. Then it has been tried to explain the relationship between language acquisition, one of the most important principles in the realm of FLA and SLA and the above mentioned characteristics of minimalism.

**Keywords:** minimalism, economy, uniformity, simplicity, language acquisition

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## 1. Introduction

In linguistics, the minimalist program (MP) is a major line of inquiry that has been developing inside generative grammar since the early 1990s, starting with a 1993 paper by Noam Chomsky.

The Minimalist program, a development of earlier work in transformational generative grammar, proposes that the computational system central to human language is a 'perfect' solution to the task of relating sound and meaning. Recent research has investigated the complexities evident in earlier models and attempted to eliminate them, or to show how they are only apparent, following from deeper but simpler properties. Examples of this include the reduction of the number of linguistic levels of representation in the model, and the deduction of constraints on syntactic derivations from general considerations of economy and computational simplicity.

On the basis of Sadighi (2008), MP grew out of the efforts of the researchers in the Principles and Parameters framework. In the minimalist program it has been tried to simplify the theory of the syntax of natural language to the great possible extent. The idea of the program is to develop a language in an economical, simplified and uniform manner.

Different books and articles written by researchers such as Chomsky (1993, 1995), Radford (2004, 2009), Cook & Newson (1998), Rizzi (1999, 1994) and et.al in the realm of minimalism tried to represent language on the basis of three important points. They are economy, uniformity and simplicity. All of which will be discussed at length as follows.

## 2. Economy principle

From the very beginning of the minimalist program, economy was recognized as a central feature. Prefigured in Chomsky (1991), it featured prominently in Chomsky (1993) and (1995). In other words, MP is characterized by principle of economy of representation.

This requires that representation in a syntactic structure should contain only the required elements. Essentially, economy principles require comparison of the number of steps in a derivation (economy of derivation) or number of symbols in a representation (economy of representation). The basic intuition behind economy principles is that, all else equal, one should minimize the number of operations and symbols necessary for convergence (Boex, 2006). In minimalism, economy principle states that syntactic representations should contain as few constituents as possible and derivations should posit as few grammatical operations as possible (Radford, 2009).

For example:

speaker a: What has the chairman resigned from?

speaker b: *The board/From the board*

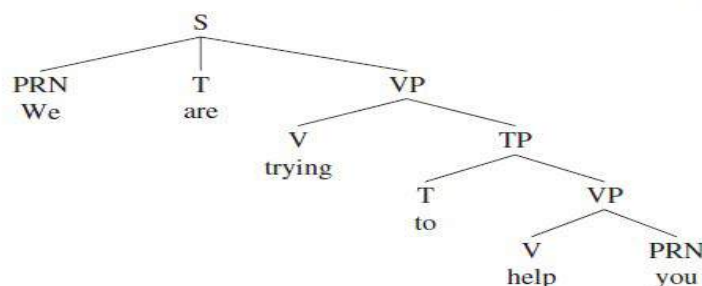
Given the conversational maxim ‘Be concise!’ postulated by Grice (1975), the shorter response *the board* will generally be preferred to the longer response *from the board* for economy reasons.

Following Chomsky and Lasnik’s reinterpretation of Rizzi’s work, several principles of grammar were reinterpreted in terms of economy (Boex, 2006). The following principles can shed light on economy as the cornerstone of MP.

## 2.1 Binariness

Binariness is the simplest non-trivial combination of elements and syntax and is fundamentally economical. Chomsky (2005) claimed that binary branching trees are computationally more efficient/ economical than other kinds of representations. In fact, in the context of binary branching, several rules are reduced to one and it can be claimed that reductionism is one of those things that can be attributed to economy (Boex, 2006).

Binariness states that every nonterminal node in a syntactic structure is binary branching. In other words, the Binariness Principle ensures that syntactic representations will have a binary architecture with each phrase consisting of just two constituents. For instance, in the following example, the S analysis in violates the Binariness Principle in that the S constituent *We are trying to help you* is not binary-branching but rather ternary-branching, because it branches into three immediate constituents, namely the *PRN* *we*, the *T* *are*, and the *VP* *trying to help you* (Radford, 2009).



## 2.2 Preposing Condition

Following the economy condition and considering that only a maximal projection can be preposed for highlighting purposes, so, the preposing condition can be put forth as follows:

When material is preposed in order to highlight it, what is preposed is the smallest possible maximal projection containing the highlighted material.

Example:

- (a) He definitely refused to go to the university
- (b) *Go to the university*, he definitely refused to
- (c) \**To go to the university*, he definitely refused



So, if the semantic content of the VP *go to the university* wants to be highlighted, the VP *go to the university* rather than the TP *to go to the university* is preposed because the VP is smaller than the TP containing it.

### 2.3 Attract Smallest Condition/ASC

Attract Smallest Condition/ASC states that a Probe which attracts a particular type of goal attracts the smallest accessible string containing the relevant goal.

What ASC tells us is that we should first try moving the wh-item on its own, and then (if some constraint makes it inaccessible to movement) move the next smallest string containing it...and so on, until we find the smallest wh-goal which can be preposed without violating any constraint.

If C attracts the wh-word *what* to move to spec-CP on its own, we derive:

- a. [CP *what* [C will] [TP there [T will] [VP [V be] [QP [Q what] [FP new [F  $\emptyset$ ] [N rules]]]]]]]

But the resulting sentence *\*What will there be new rules?* is ungrammatical, because *what* is rendered inaccessible for solo wh-movement by the Chain Uniformity Condition (Chomsky 1995: 253) in which ‘A chain is [only well-formed if every copy in it is] uniform with regard to phrase structure status’.

This is because the resulting wh-chain *what...~~what~~* in (a) is of non-uniform status, in that the deleted lower copy ~~*what*~~ is a head Q/Quantifier which projects into a superordinate QP/Quantifier Phrase *what new  $\emptyset$  rules*, whereas the italicized higher copy *what* is not a head (i.e. does not project into an immediately superordinate QP) but rather is a maximal projection serving as the specifier of CP.

Because *what* is prevented by the Chain Uniformity Principle from moving on its own, we try preposing the next smallest string containing *what* (viz. *what new*), resulting in:

- b. [CP *what new* [C will] [TP there [T ~~will~~] [VP [V be] [QP [Q ~~what~~] [FP ~~new~~] [F  $\emptyset$ ] [N rules]]]]]]]

However, the resulting sentence *\*What new will there be rules?* is ungrammatical, because movement of the string *what new* violates a further universal principle (dating back to constraints on possible ‘syntactic objects’ in the days of X-bar Syntax), namely: Constituency Condition/CC that says Only a constituent which is a minimal or maximal projection can be the Goal for a Probe.

The reason why (b) is ungrammatical is that *what new* is a non-constituent string (i.e. a string which is not a constituent of the structure in 1), and hence not a minimal or maximal projection. By contrast, if the whole maximal (QP) projection *what new  $\emptyset$  rules* is fronted in (1), deriving (c) below:

- (c) [CP [QP [Q what] [FP new [F  $\emptyset$ ] [N rules]]] [C will] [TP there [T will] [VP [V be] [QP [Q what] [FP new [F  $\emptyset$ ] [N rules]]]]]]]

There will be no violation of the Attract Smallest Condition (because we preposed the smallest accessible wh-goal), nor of the Chain Uniformity Condition (because the higher and lower links of the wh-chain have a uniform structure), nor of the Constituency Condition (because the fronted string what new  $\emptyset$  rules is a QP and hence a maximal projection) (Radford and Yokota, 2011).

Therefore, it should be noted that ASC can be subsumed under a more general condition which Chomsky sketches in the Economy Condition that derivations and representations are required to be minimal, with no superfluous steps in derivations and no superfluous symbols in representations. This amounts to requiring that structures (i.e. ‘representations’) be as simple (i.e. ‘minimal’) as possible, and that the syntactic operations involved in derivations should likewise be as simple as possible.

#### 2.4 Locality Principle

- (a) He had said who would do what? (= echo question)
- (b) Who had he said would do what? (cf. He had said who would do what?)
- (c) \*Who would he had said do what? (cf. He had said who would do what?)
- (d) \*What had he said who would do? (cf. He had said who would do what?)
- (e) \*What would he had said who do? (cf. He had said who would do what?)

By comparing the above sentences it can be understood that (b) involves preposing the first wh-word *who* and the first auxiliary *had*, and that this results in a grammatical sentence.

By contrast, (c) involves preposing the first wh-word *who* and the second auxiliary *would*; (d) involves preposing the second wh-word *what* and the first auxiliary *had*; and (e) involves preposing the second wh-word *what* and the second auxiliary *would*. The generalisation which emerges from the data in the above examples is that auxiliary inversion preposes the closest auxiliary *had* (i.e. the one nearest the beginning of the sentence in (a) and likewise wh-fronting preposes the closest wh-expression *who*.

The fact that two quite distinct movement operations (auxiliary inversion and wh-movement) are subject to the same locality condition (which requires preposing of the most local – i.e. closest – expression of the relevant type) suggests that one of the UG principles incorporated into the Language Faculty is a Locality Principle which states that grammatical operations are local.

In consequence of Locality Principle, auxiliary inversion preposes the closest auxiliary, and wh-movement preposes the closest wh-expression. Also, Locality Principle includes movement operations and other types of grammatical operation including agreement and case assignment as a universal grammar principle (Radford, 2009).

By assuming that abstract grammatical principles as a universal and part of people’s biological endowment, it can be naturally concluded that locality principle is biologically wired into the language faculty, and thus forms part of their genetic make-up (Radford, 2004). Also, Rizzi’s (1990) understanding of locality was the

principle within P&P that received an almost immediate minimalist formulation in terms of economy.

## 2.5 Relativised Minimality Condition/RMC

In the realm of syntax, if somebody tries to front an element X of type Y to a position Z, s/he cannot do this if there is an element W of type Y that is in between X and Z. This is the basic idea behind Rizzi's (1990) Relativized Minimality principle or Chomsky and Lasnik's variant in terms of Shortest Move. It accounts for why you must front the first auxiliary in an auxiliary sequence when you want to form questions.

- a. Has John seen it? Cf. John has seen it
- b. \*Seen John has it?

It also accounts for why you must take the first object of a ditransitive clause when you passivize it:

- a. The boy was given the toy. Cf. Somebody gave the boy the toy
- b. \*The toy was given the boy

Interestingly, it is fine to say *The toy was given to the boy* because this sentence starts off as *Somebody gave the toy to the boy*, where *toy* is the first object in the sequence. Finally, Rizzi's principle accounts for why a sentence like *Somebody bought something* can be converted to a question like *Who bought what?*, but not into *\*What did who buy?*

In all these examples, you have the choice between two auxiliaries, two objects, or two wh-words, and in each case you front the 'first' one (or the one closer to the target position; recall that by 'first' I really mean 'higher', as syntactic processes rely on hierarchical structure, not linear structure).

Relativised Minimality Condition/RMC devised by Rizzi states that a constituent X can only be affected (e.g. attracted) by the minimal (i.e. closest) constituent of the relevant type above it (i.e. c commanding X).

It follows from the RMC that a constituent undergoing wh-movement can only be attracted to become the specifier of the minimal/closest C-constituent above it. It also follows that a constituent undergoing head movement can only be attracted to adjoin to the minimal/closest head above it. So, long distance (single-step) wh-movement in the following sentence would violate RMC

[<sub>CP</sub> *What* [<sub>C</sub> *might*] he think [<sub>CP</sub> [<sub>C</sub> *that*] she is hiding *what*]]

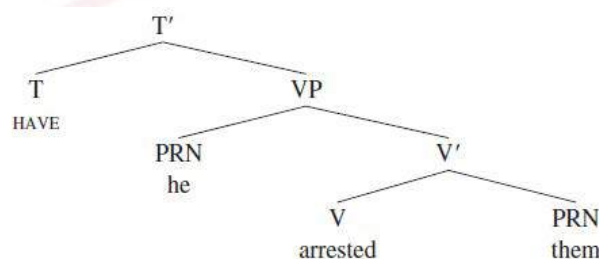
because *what* moves directly to become the specifier of the main clause C constituent containing *might*, and yet this is not the closest C constituent above the original copy of *what*. Since the closest C constituent above the position in which *what* originates is the embedded clause complementiser *that*, RMC requires *what* to become the

specifier of the embedded C constituent containing *that* before subsequently becoming the specifier of the next highest C constituent in the structure, namely the main clause C containing *might*: consequently, RMC requires wh-movement to apply one clause at a time like the following sentence.

[<sub>CP</sub> *What* [<sub>C</sub> *might*] he think [<sub>CP</sub> *what* [<sub>C</sub> *that*] she is hiding *what*]]

## 2.6 Agreement and A-movement

By looking at the sentence *He has arrested them* and also the following derivation, two important points should be clarified that why T can't agree with the complement *them* in an active structure like the following, and why in fact HAVE must agree with the subject *he* and hence is ultimately spelled out as the third person singular present tense form *has*.



One reason is Accusative Case Assignment in which an unvalued case feature on a goal is valued as accusative via agreement with a transitive probe. A second reason is that a head probes only as far as it needs to in order to ensure that all its unvalued features are valued.

When T-HAVE probes in the above structure, the closest goal which it locates is the subject *he*. Since *he* can value all the unvalued (person/number) agreement features on T, there is no need for T to probe any further and therefore in consequence of the Economy Condition no possibility of T probing further and agreeing with the object *them*.

## 2.7 Defective clauses with expletive subjects

On the basis of Radford (2004a, 2004b, 2009), the trace of economy condition can be seen in probe and agreement. For example in the sentence *There are thought likely to be awarded several prizes* and in the following structures the agreement and EPP features alike can only probe as far as the closest constituent which will satisfy all their requirements – and this condition in turn is arguably reducible to the Economy Condition of Chomsky (1989, p. 69) requiring that there should be ‘no superfluous steps in derivations’ and consequently once a probe has satisfied its requirements, it ceases to probe any further.

Since the EPP feature on BE in the following structure searches for a goal with person, it ceases to probe once it locates the closest person-specified goal, namely *there*. But

since the agreement features on BE require a  $\phi$ -complete goal with both person and number, they probe as far as the QP several prizes.

[ <sub>T</sub> BE]	thought likely	[there]	[ <sub>T</sub> to]	be <i>t</i> awarded	[several prizes]
[Pres-Tns]		[3 Pers]	[ <del>3 Pers</del> ]		[3-Pers]
[ <i>u</i> Pers]			[EPP]		[Pl-Num]
[ <i>u</i> Num]					[ <i>u</i> Case]
[EPP]					

### 3. Uniformity

Another important factor of MP is uniformity. What makes the uniformity and rapidity of acquisition even more remarkable is the fact that the child's linguistic experience is often degenerate (i.e. imperfect), since it is based on the linguistic performance of adult speakers, and this may be a poor reflection of their competence. Because language knowledge is common to all, the uniformity requirement stipulates that a model of acquisition must only involve properties of the situation known to affect all children.

The purpose of unification is to make easier the syntactic analysis of natural languages. Unification allows filtering out inappropriate feature options; while the unified feature combination characterizes the syntactic structure under analysis more precisely, leading to the true interpretation of the sentence.

The following principles can put forth the uniformity as an important MP factor:

#### 3.1 Categorical Uniformity Principle

speaker a: I am feeling thirsty  
 speaker b: Do you feel like a Coke?

The sentence produced by speaker *a* is declarative in force (by virtue of being a statement). If force is marked by a force feature carried by the head C of CP, this suggests that such declarative main clauses are CPs headed by a null complementiser carrying a declarative force feature.

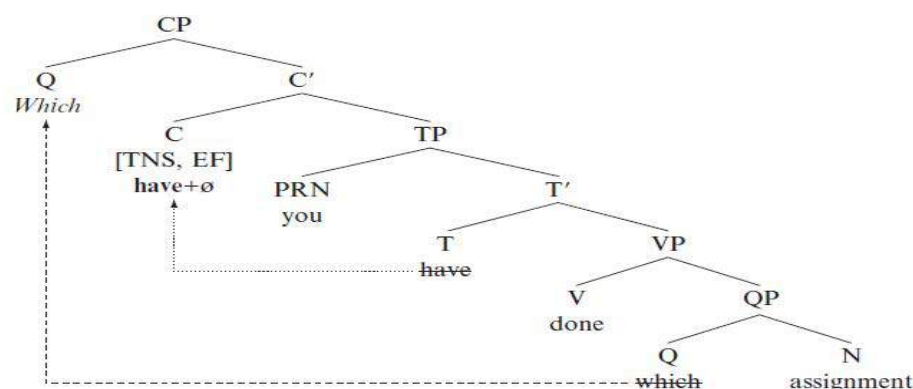
If we suppose that the set of UG principles wired into the Language Faculty include a Categorical Uniformity Principle to the effect that all expressions of the same type belong to the same category (and, more specifically, all clauses with the same force belong to the same category), it can be understood from the Categorical Uniformity Principle that all other declarative clauses (including declarative main clauses) must be CPs. This leads to the conclusion that a declarative main clause like that produced by speaker *a* is a CP headed by a null declarative complementiser. Indeed, the Categorical Uniformity Principle (Rizzi 1998; 2000) 'assume the fewest possible different elements' (Granfeldt and Schlyter 2004) happens to hold for the L2ers.

#### 3.2 Chain Uniformity Condition

It requires that every copy in a movement chain to be uniform. On the basis of Chomsky (1995) a chain is uniform with regard to phrase structure status. So by

referring to the sentence *Which assignment have you done* and the following structure, this condition rules out the possibility of *which* moving on its own in the following structure because the moved wh-word *which* in spec-C has the status of a maximal projection by virtue of being the largest expression headed by the word *which*; by contrast, the null copy *which* left behind by wh-movement has the status of a minimal projection by virtue of being the head Q constituent of the QP *which assignment*.

The resulting wh-chain thus violates the Chain Uniformity Condition by having a maximal projection at its head and a minimal projection at its foot. In simpler terms, the Chain Uniformity Condition means that since the original occurrence of the quantifier *which* heads a QP, all other copies of *which* in the movement chain must also head a QP – and this will only be the case if QP rather than Q moves (Radford, 2004, 2009).



### 3.3 Uniform Theta Assignment Hypothesis/UTAH

- (a) *The students/?The camels/?!The flowers/!The ideas* were arrested  
 (b) They arrested *the students/?the camels/?!the flowers/!the ideas*

Mark Baker (1988) adopted this idea into GB theory in the form of the Uniformity of Theta Assignment Hypothesis (or UTAH). If pragmatic restrictions on the choice of admissible arguments for a given predicate depend jointly on the semantic properties of the predicate and the thematic role of the argument, it will then follow that two expressions which fulfill the same thematic role in respect of a given predicate will be subject to the same pragmatic restrictions on argument choice.

Since passive subjects like those italicized in (a) originate as complements, they will have the same theta role (and so be subject to the same pragmatic restrictions on argument choice) as active complements like those italicized in (b).

It seems reasonable to suppose that thematic structure is mapped into syntactic structure in a uniform fashion, and that this is regulated by a UG principle such as Uniform Theta Assignment Hypothesis/UTAH. The UTAH states that constituents which fulfill the same thematic role with respect to a given predicate occupy the same initial position in the syntax.

So it follows from UTAH that if passive subjects have the same theta role as active objects, it is plausible to suppose that passive subjects originate in the same V-complement position as active objects.

#### **4. Simplicity**

On the basis of Chomsky (1951) the criterion of simplicity is that the shorter grammar is simpler, and that among equally short grammars, the simplest is that in which the average length of derivations is least. As a first approximation to the notion of simplicity, shortness of grammar will be considered as a measure of simplicity. In fact simplicity is increased by:

1. reduction of the number of symbols in a statement
2. reduction of the length of derivations

An obvious decision is to consider minimization of the optional part of the grammar to be the major factor in reducing complexity.

An important point to be considered is that economy and simplicity have mutual relationship. This means that economy leads to simplicity and simplicity causes economy.

#### **5. Conclusion**

Research in the principles-and-parameters framework has come to focus on conditions of minimality, leading to the notions of uniformity, simplicity and economy as three important central facts which a theory of minimalist program must seek to provide. These principles lead to rapidity and ease of acquisition and are related to each other to a great extent.

Also the course of acquisition is determined by a biologically endowed innate Faculty of Language/FL (or language acquisition program) within the brain, which provides children with a genetically transmitted algorithm (i.e. set of procedures) for developing a grammar, on the basis of their linguistic experience (i.e. on the basis of the speech input they receive). In other words, genetically all human beings are the same regarding innate Language Faculty. So, the more the three factors are provided, the easier and faster the acquisition will be.

Chomsky's Minimalist assumptions are based on 'economy principles' which aim to minimize derivations and reduce the burden of grammatical constraints and conditions imposed on the grammars of language; the goal is to make language learning easier and more economical. In fact economy can pave the way for the rapid and easier acquisition of language by unifying and simplifying the language children are exposed to. In fact if a language wants to be economical, it should have two important characteristics: unification and simplification. In other words when it is said that a language is economical it means that it is simplified and unified as well and vice versa.

Consequently, the shortest movement in economy, the simple derivation of structures and the same conditions, all in acquisition, consider the MP principles which leads to ease and rapidity of language acquisition.

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## *The Importance of Arabic Phonological Studies to Nigerian Learners of Arabic*

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### **Abstract**

Foreign language learning has become in recent time a very important academic and professional pursuit. This is in recognition of the position and role of language in the globalized world. Of all levels of language, the phonological level seems to be most important considering the fact that language is basically a speech which mastery is first and foremost based on correct pronunciation of the language. While this assertion is true of any language, Arabic is probably unique in having phonological consideration at all levels, be it syntactical, structural, and morphological levels. This study intends to consider areas of importance of phonology in the teaching and learning of Arabic by Nigerians. The following issues are therefore studied.

These include

1. Importance of phonology in foreign language learning
2. Position of phonology in Arabic morphology
3. Position of phonology in Arabic rhetoric
4. Position of phonology in Arabic syntax
5. Methods of teaching Arabic phonology to Nigerian learners of Arabic. The study is concluded with summary and recommendations.

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## 1. Introduction/Background to Study

The learning methodology of foreign languages in the globalised world is no longer based on grammar-translation method. The ability to speak the language in the way and manner spoken by the native speaker has become the target of language teachers. In the early time of Arabic in Nigeria, it was reading and writing that were emphasized at the expense of speaking and listening. This is because according to al-Ilory (1992) Scholars of Arabic at that time depended on the indigenous languages in their religious speeches. But while religious purpose was very significant for the learning of Arabic in Nigeria, other purposes have been identified for the study of the language. These include among other purposes, diplomatic and commercial reasons. These reasons will naturally require contact between Nigerians and Arabic native speakers, as a result of which the proper sound system in the language must be well observed for the purpose of mutual understanding. It is in view of the above, emphasis on sound system in language learning becomes very significant. But apart from the general importance of sound system in foreign language learning, Arabic by virtue of its nature requires more emphasis on phonological studies if the language is to be mastered very well.

It is however observed that Universities and Colleges of Education studying Arabic in Nigeria do not give deserved attention to the phonological component of the Arabic programme.

This study therefore intends to show why Nigerian students of Arabic require more courses and training in phonetics and phonology as against the present curriculum provision.

## 2. Nigerian Languages and Arabic Sound System

Scholars have not agreed on the exact number of languages spoken in Nigeria. Greenberg, (1971) put it at 248 while Bamgbose, (1970) put it at about 400. The most recent research however recognized 500 languages all of which are considered to be indigenous (NERDC, 2008). These languages belong to three major African languages families: Afro-asiatic, Nilo-Saharan and Niger-Congo. Three languages are chosen for this study. They are Hausa, Yoruba and Nupe.

The three were chosen for three important reasons. First, they represent two major Nigerian language families which are Afro-asiatic and Niger-Congo. Secondly, the three languages have highest number of Muslims in Nigeria who are likely to be attracted to Arabic. The third reason is the geographical representation. Hausa in the North, Nupe in the Central and Yoruba in the South.

It is however appropriate that Arabic sound system be first considered in order to determine which Arabic sounds do not exist in the three languages chosen. This will assist us in predicting what phonological problems are likely to face Nigerian students of Arabic and justify the need for intensive training and expansive exposure to phonological studies.

There are 28 consonants in Arabic which are described by Khuly (1982) as follows:

/b/ /ب/ Voiced bilabial stop  
 /t/ /ت/ Voiceless dental stop  
 /d/ /د/ Voiced dental stop  
 /k/ /ك/ Voiceless velar stop  
 /f/ /ف/ Voiceless dental labial fricative  
 /q/ /ق/ Voiceless uvular stop  
 /dʒ/ /ج/ Voiced palatal alveolar affricate  
 /ʔ/ /ء/ Voiceless glottal stop  
 /t̪/ /ط/ Voiceless velarized dental stop  
 /θ/ /ث/ Voiceless interdental fricative  
 /s/ /س/ Voiceless alveolar fricative  
 /z/ /ز/ Voiced alveolar fricative  
 /ʃ/ /ش/ Voiceless palatal alveolar fricative  
 /ʒ/ /ض/ Voiceless velarized alveolar fricative  
 /ɖ/ /ض/ Voiced velarized dental stop  
 /ð/ /ظ/ Voiced velarized interdental fricative  
 /ɣ/ /غ/ Voiced velar fricative  
 /ħ/ /ح/ Voiceless pharyngeal fricative  
 /x/ /خ/ Voiceless velar fricative  
 /ʕ/ /ع/ Voiced pharyngeal fricative  
 /h/ /ه/ Voiceless glottal fricative  
 /m/ /م/ Voiced bilabial Nasal  
 /n/ /ن/ Voiced alveolar nasal  
 /l/ /ل/ Voiced alveolar lateral  
 /r/ /ر/ Voiced alveolar rolled  
 /w/ /و/ Voiced bilabial semivowel  
 /y/ /ي/ Voiced palat semi vowels.

As for the Arabic vowels, there are three short vowels and three long vowels which are written as critical signs above or below the consonants to which they belong. They are also described by al-Khuly (1982), as follows:

/a/ Voiced unrounded central  
 /i/ Voiced unrounded high front  
 /u/ Voiced rounded high back  
 /a:/ Voiced unrounded Central low  
 /i:/ Voiced unrounded high front  
 /u:/ Voiced rounded high back

Contrastive Study of the Phonemes in Arabic and Nigerian Languages:

In his Contrastive Study of Hausa and Arabic sounds, Rasheed (1980) observes that the following Arabic sounds are not in Hausa language

ف	ظ	ذ	ث	ض	ط	ص
/F/	/g/	/ð/	/θ/	/ɖ/	/t/	/ʃ/

As for Yoruba, Ogunbiyi, (1980) observes that the following Arabic sounds are not in Yoruba language. These are:

ط	t	ض	d	ق	q	ع	ʕ
غ	ɣ	ث	θ	ذ	ð	ظ	ð
ز	z	خ	x	غ	ɣ		

In Nupe language, Ndagi, (2000) asserts that there are twelve Arabic sounds that are not available in Nupe. These are:

ت	θ	ح	ħ	خ	x	ذ	ð
ظ	ð	ص	ʂ	ض	d	ط	t
ع	ʕ	غ	ɣ	ق	q	ه	h

Looking at the sounds in the three languages, it is clear that the three languages do not have interdental sounds. It is also observed that the three languages lack glottal sounds. The implication of this is that Nigerian students of Arabic speaking these three languages and probably speakers of other languages in the country will face many phonetical problems in their study of Arabic.

Another phoneme that distinguishes Arabic from Nigerian languages is *Shadda* /<sup>ʰ</sup>/. This is a situation when a consonant occurs twice without a vowel in between. The consonant is written only once but with the sign above and the pronunciation is also doubled and emphatic e.g. ‘allama’ (he) taught, Najja (he) rescued. *Shaddah* has phonemic difference in Arabic but it does not in Nigerian languages. Apart from the difference between Arabic and Nigerian languages sound systems which make phonological training very important, there are other features in Arabic language that make phonology more relevant and significant. These are: Formation of verbs, *Tajweed* and Rhetoric

### Formation of verbs:

There are three types of verbs in Arabic. These are perfect (*Maadi*) imperfect (*mudar’*) and imperative (*amr*). Since the phonological process in forming the imperfect verbs from perfect are clearer in weak verbs (*al-af’al-ul-mu’tallah*) which literally means sick verbs, some examples are hereby presented for study. It should however be noted that sick verbs are the verbs whose roots contain one or more weak radicals. The weak radicals are the semi-vowels /w/ /y/ and elongated /ā/ as in *naama*. It is explained thus:

Perfect		Imperfect
Wa’ada	.....	Ya’idu
Wahabu	.....	Yahabu
Waqafa	.....	Yaqidu
Wasala	.....	Yasilu
Wada’a	.....	Yada’u

The first words are perfect (past tense) while the second sets are imperfect (present tense). The first sound ‘w’ which is a weak letter was eliminated when forming the present tense. The origin was Yaai’d. But because /w/ that is considered a sister to

/u/ does not normally neighbor /i/ which is a sister to /y/, the /w/ which is a sick letter was eliminated for easy pronunciation. This is the case in other verbs mentioned. Similar thing occurs in the following examples:

Past tense		Present tense
Saaru	.....	Yaseeru
Qaula	.....	Yaquulu
Naama	.....	Yanaamu
Faata	.....	Yafuutu

In the formation of the present tense, there is an internal phonological process. This is by changing weak letter (y) to vowel /i/ for easy pronunciation. In the same vein, the origin of *Yaquulu* is *Yaqwulu*. The weak letter (w) was changed to u for easy pronunciation. Similarly, the origin of *Yanaamu* is *Yanwamu*. The weak letter (w) was changed to vowel (a) for easy pronunciation and so on.

In addition to the above, the formation of derived from VIII from some verbs require some phonological process as shown below:

Zaana	.....	Iztaana	.....	Izdaana
Zaada	.....	Iztaada	.....	Izadaada
Zajara	.....	Iztajara	.....	Izdajara
Zahara	.....	Iztahara	.....	Izdahara

The first set consists of the consonantal root of the verb while the second set is the origin of the verb when it is to be on the template of *ifta'ala* i.e. derived form VIII. The third set is what the words are turned in to after phonological process which is: /z/ is a voiced alveolar fricative followed immediately by /t/ which is a voiceless sound. With the closeness of voiced sound to voiceless, the voiceless /t/ was affected and changed to its voiced sister which is /d/ and the word became *izdaana*. Other examples follow the same pattern.

In a nutshell, almost all morphological issues in Arabic have in one way or another connection with phonological principles such as principle of consonance and principle of less effort.

### ***Tajweed:***

Also related to the importance of phonology to Nigerian students of Arabic is the science of *tajweed* which has been defined by Jimoh (2012) as the art of reading the Qur'an in the most appropriate manner that is error free by pronouncing its letters distinctly giving each of them its full complement by producing it from its right point of articulation and in the correct manner.

The study of *tajweed* becomes imperative considering the fact that over 90% of Nigerians studying Arabic are Muslims and every Muslim will be required as a matter of religious necessity to develop the skill of reading the Qur'an very well.

*Tajweed* in all its contents is not more than phonological study of the Qur'an. Some of the topics learnt under *Tajweed* include: *Makharij\_ul-nuraf* (points of Articulation, voweless nun (*An-nun Sakina*),) and nuntation, labial Assimilation, labial hiding and labial manifestation, elongation etc.

### **Rhetoric:**

The last component of Arabic that is also related to phonology is rhetoric which stands for both *Al-balagha*, popularly translated as rhetoric, and *Alfasha* commonly referred to as eloquence. The two words and similar words have been used interchangeably as understood by the work of *al-Jurjani*, (1976) when he says:

*Al-Balagha* (Rhetoric), *Al-fasahat* (eloquence) *Al-bara'at* (proficiency), *Al-bayan* (clarity) and whatever goes like that (are used) for a speech that is completely meaningful, beautiful and elegant which captivates the heart and penetrates into the soul and makes the annoyance of the jealous longer and spites him harder (p. 87)

We cannot talk of rhetoric and eloquence in Arabic without touching on the issue of the criteria to measure the eloquence of a word and rhetoricity of a speech.

For any word to be qualified to be *fasih* (eloquent), it must be free from the following deficiencies:

#### 1. Cluster of similar phonemes (*Tanafurul huruf*):

This has been defined by *al-qazwiny* (1949) as a situation when phonemes which make a word sound similar, e.g. *Hu'kh'*. *Al-jahidh* (1948) further stated that certain phonemes in Arabic should not co-occupy. He also observed that /J/ does not co-occupy with /z/, /q/, /t/, /gh/. Similarly, /z/ does not neighbor /s/ /S/ /dh/. In view of the above, a verse from *Umrul Qais* Ode was criticized as not being eloquent. The verse is contained in the collection of *sarhan* (1969) as follows: *Mustashziratun ilal ula*. Meaning: his (horse) hair is lifted up.

The reason for the criticism was the cluster of /s/, /t/, /s/, /z/ in a word. We would observe that the four sounds have almost the same point of articulation which makes the pronunciation difficult.

#### 2. Strangeness of a word (*Gharabat ul-lafdh*):

This is a situation when a word is of a low frequency level. It is defined by *Alladiq* (1969) as a word that is so strange that a listener or reader may need to consult the dictionaries before understanding. Some poems of the *Jahiliyya* period contain such strange words (*Sarhan*, 1969).

#### 3. Cacology (*Mulkalfatul Qiyas*)

This is defined by *Alladiqi* (1969) as a word not conforming with the acceptable rule in Arabic. For example, *Abwaqun* is plural of *buqun*, but an Arabic poet used *buqatun* as a plural for *buqun* (trumpet). This has led to criticizing a

verse in *Al-mutanuaby* Ode. For a speech to be *Baligh* (rhetorical), it must be devoid of the following weaknesses:

1) Lexical Incongruity (*Tanafurul alimat*)

This is a situation when words with almost similar sounds neighbor each other, which may hinder flow of reading, like we have in the following verse as contained in the collection of Allay (ND)

*Wa qabru harbi bimakani Qafri*  
*Wa laisa Qurba Qabri Harb Qabru*

**Meaning:**

The grave of Harb is in a plain place so, there is no grave near the grave of Harb. It will be observed that the underlined words have the same consonants neighbouring each another; QRB, DRR and QRR. There is also another word between them with a HRB as its consonants. Repeating this type of words in the same sentence is abhorred and ineloquent. Other criteria are not phonological in nature. These are weak consonant and linguistic ambiguity.

What the present writer intends to emphasize is that phonetics and phonological considerations and concessions are too conspicuous in Arabic language not to be given huge amount of time in its study in Nigeria.

In view of the above observations and considering huge difficulties in acquiring new sound system, certain methodologies and strategies have been recommended to overcome these phonological problems. The first strategy according to Allen and Valleta (1972) is that teachers must insist right from onset on correct pronunciation. This one saves many hours of remedial work later on. Students should be made to appreciate the importance of pronunciation, failure of which can result to not being understood.

Another strategy from theoretical perspective is to consider the observation of Lado (1974) when he says:

Presenting the pronunciation of a language in an introductory lesson, or lessons, is not enough. Students do not acquire the habit of pronunciation of a second language all at once. It is more effective to present an introductory lesson/s and follow them up with a pronunciation section in succeeding lessons until the desired level of mastery achieved.

In practice therefore, the following methods are suggested with their strategies:

**I. Use of minimal pair**

Minimal pair according to al-Khuly (1982) are two words of different meaning but similar in pronunciation except one phoneme e.g. *Sa:la* and *Za:la*. Using minimal pair to train good pronunciation will follow the following strategies:



- a. Both the teacher and students will first of all agree that a particular sound, say /z/ is No. 1 while /s/ is No. 2.
- b. The teacher will pronounce a word from the list of the minimal pairs and ask his students to say whether it is No. 1 or No. 2. This will help students differentiate while listening to different but similar sounds.
- c. The teacher should arrange the minimal pair in such a way that the simple ones will be started with e.g.

Ismu/Ithmu	-	Name/Sin
Sara/Zara	-	Move/Visit
Haraba/Kharaba	-	Runaway/Destroy
Hamma/'amma	-	(show) concern/go round
Sabaha/Dhabaha	-	praise/slaughter
Kalbu/Qalbu	-	Dog/Heart etc.

- d. The teacher should first of all pronounce the word that contains a particular sound for training while the students will listen then, repeat as a whole, after which the class will be divided into group and pronounce the words. After this, individual will be asked to pronounce.

## II. Explaining points of articulation

If language is speech in the first place, there is need to overcome phonological problems in order to make one self-understood and intelligible. The teacher is therefore expected to explain points of articulation to the students as follows:

/Tha/ /ث/: the blade of tongue will be between the upper teeth and lower teeth in such a way that wind is a little bit allowed to pass.

/Dhal/ /ذ/ the blade of tongue will be between the upper teeth and lower teeth allowing the wind to pass but creating a vibration in the vocal cords.

/Zay/ /ز/this will be pronounced as (s) except that the vocal cords will vibrate.

/Ha/ /ح/ the wind passage will be obstructed in the pharynx and there will be some friction.

/Kha/ /خ/ the back of tongue will be raised in such a way that it will almost touch soft palate and there will be tight space to allow the wind to pass with some friction.

/Gha/ /غ/ is not different from /kha/ except that the first is voiced.

/d/ /ض/ the wind stops at the point of meeting between blade of tongue and the upper teeth ridge. And when the tongue is separated from the teeth ridge, there will be an explosion. This is /d/ the sound for which Arabic language is known. In other words, Arabic is sometimes called language of /d/.

/t/ /ط/ this is pronounced like /t/ with velarization.

/dh/ /ظ/ is like pronouncing /dha/ except that it is velarized.

/ʔayn/ /ع/this sound is like /ha/ is voiceless the /cayn/ is voiced.

The other strategy is to call attention of students to the movement of the lips like the one suggested for deaf and dumb by pike in Umar (1985). In addition, some instructional materials have been suggested by al-Khuly (1982). There are mirror and pictures. The students use mirror to see how he is asked to pronounce each sound, while the pictures could also be used to illustrate the position of organs of speech.

### III. Use of language laboratory

The use of language Laboratory becomes imperative in order for the students to see exactly how each sound is pronounced. Each language laboratory is expected to have a mirror in front of each student which assists him articulate the sounds properly by looking at himself. Computer is also useful in this respect if a video disk has been stored where the learners will see the moving films for themselves.

#### Findings:

The major findings of this study are as follows:

1. There are no glottal sounds in most of the Nigerian languages
2. There are no interdental sounds in most of the Nigerian languages
3. There are many phonetical considerations in the grammar and Rhetoric of Arabic
4. Phonetic and Phonology as a Course is not given deserved attention in the Arabic programme in the curriculum of Nigerian Universities and Colleges of Education
5. Phonological training helps students master Arabic

#### Recommendations:

1. More Courses on phonology and phonetic should be introduced in the curriculum of Arabic programme for the mastery of the language
2. Spoken Arabic should be intensified with correct modes of pronunciation in order for the Arabic to achieve its international use by Nigerians
3. The phonetical processes of the grammar and morphology of Arabic should be emphasized while teaching the language.
4. A Course on morpho-phonology of Arabic be introduced and added to the curriculum of Arabic
5. *Tajweed*, though has to do with al-Qur'an, it should be treated extensively in Arabic classes.
6. Modern technologies should be encouraged in the teaching of phonology and phonetics.

## Conclusion

The study has looked in to the Curriculum of Arabic in Nigerian Universities and Colleges of education and discovers that the Course on Phonetics and Phonology is not adequate. The Study discussed four areas of the importance of Phonetics and Phonology to Arabic learning in Nigeria. These are difference between Arabic and selected Nigerian languages, the natural structure of Arabic, the Phonology of the Qur'an, otherwise called *tajweed* and the relevance of phonology to Arabic Rhetoric. The Study has made recommendations aimed at improving the standard of Arabic learning in Nigeria.



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***Development of a Blended Instructional Model via Weblog to Enhance English  
Summary Writing Ability of Thai Undergraduate Students***

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**Abstract**

The objective of this research and development was to develop an effective blended instructional model via weblog to enhance English summary writing ability of Thai undergraduate students. A sample group in the English program of Nakhon Ratchasima Rajabhat University was studied in academic year 2010-2013. The research instruments were an effective semi-structured interview form, the learning and instructional record format, the test of English summary writing ability, and the English summary writing criterion. The data were analyzed by percentage, means, standard deviation, and the t-test. It was found that the blended instructional model via weblog comprised three stages of blended activities: extracting information via face to face instruction, summarizing via weblog, and publishing on weblog. It was named "S2A Model." The model was effective in enhancing the university students' English summary writing ability as the post-test scores of the students met the set criterion of the study.

**Keywords:** Blended instruction, weblog, summary writing, 21<sup>st</sup> century writing

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## Introduction

English is important among Thai university students for at least two reasons. Firstly, it is a means for boosting job opportunities following graduation. Secondly, it is beneficial for use in further advanced studies, both in Thailand and abroad. Thusly, both fundamental and core courses in English are offered at Thai universities that cover a range of different topics.

Although the Thai government has tried to support English instruction at all levels of education, the students have confronted various difficulties in their English studies. Students can read, but cannot write effectively in English, as shown by the English test results of 12,000 foreign graduate students in Australia in 2007 which revealed that 50 percent of Thai students scored low (Charoenwongsak. 2008).

This finding is similar to the results of other written test scores for Thai undergraduate students where low scores pointed to weaknesses in (1) paragraph and an essay writing, (2) writing mechanics, and (3) grammatical structure, parts of speech, and sentence structures (Tidthongkam. 2008; Khansamrong and others. 2004). Similarly, the study of academic writing problems at Nakhon Ratchasima Rajabhat University in 2009-2010 found that most students had confronted some difficulties in locating topic sentences and details, organizing ideas, using grammatical structures and vocabulary, and summary writing (Termsinsuk. 2010).

In accordance with instructional methods and methodology for teaching writing in the 21<sup>st</sup> century, writing in English is taught through the use of technology, teaching fully online, or in a blended way.

Using technology web 2.0, like wikis and weblogs, makes students become more interested in attending online training among real readers, whereas teaching face-to-face assists students in learning the right rules and principles from lectures and obtaining useful feedback (Newman. 2009; Prinz. 2010; Crane. 2012). This is called writing through blended instruction. To solve the problems of undergraduate students and boost the ability of students in this century, the blended instructional model via weblog should be developed, with an appropriate amount of stress placed on summary writing ability.

## Research Objectives

The research objectives were to;

1. Develop a blended instructional model via weblog to enhance English summary writing ability of Thai university students.
2. Develop the efficiency of the blended instructional model via weblog to enhance English summary writing ability of Thai university students.
3. Study English summary writing of the university students taught by the blended instructional model via weblog.
4. Study the effect of the blended instructional model via weblog on English summary writing of Thai university students.

## Literature Review

Summary writing ability is the use of the English language to write a brief account of the concepts contained within a text. This ability focuses on accuracy of information, content clarity and organization, use of different vocabulary, sentence structure, writing mechanics, and citations.

A good summary writing might be shorter than the original and should be written in different words. The most important thing is that it contains all the main points of the original text, and it is composed using proper citation, thesis statements, major details, transitions, grammar and writing mechanics, and having a length of one third the original text. (Langan. 2000; MacMillan. Online. 2009; Newman. 2009; Ramage, Bean and Johnson. 2009).

To produce good summary writers, an effective model of instruction should be developed first. An instructional model is an explanation of learning activity procedures, teachers' roles, students' roles, and the learning environment. It consists of four components: principles, objectives, instructional activities, and evaluation. To design an effective instructional model, the developmental sequence should be considered.

A model can be developed through spiral activities consisting of analysis, design, development, implementation, and evaluation (Clark. 2000). Analysis is a contextual study to discover need and feasibility of the theoretical framework.

Designing for 21<sup>st</sup> century learning focuses on the use of three drivers: (1) knowledge, work and the new economy; (2) cognitive methods of instruction; and (3) technology and training (Clark. 2002). Development takes the form of a drafted model and is explained in more detail via the four components. Implementation is used for effective model development to investigate whether learning can be improved. Evaluation appears at the end of the implementation and shows that the model is proven to produce effective results.

It is important to recognize the three drivers in the new design for building an instructional model, as proposed by Clark in 2002. The first driver responds to social need for the new economy which requires people with decision-making ability and problem-solving skills. That's the way to teach thinking to students. The second is a learning process through integration of new information and prior knowledge within an individual's memory. The process is related to the three types of memory in brain: sensory, short-term, and long-term memory.

Viewing the screen of a computer monitor firstly affects learning in a sensory way, followed by the process of retrieving information in short-term memory, and then by storing permanent knowledge and skills in long-term memory.

The final driver is the use of a computer as a medium for developing and revising the learning task as part of a process. This responds to the characteristics of students' learning methods in the twenty-first century. Use of these three drivers as components blended instruction should be considered for instructional model development in the twenty-first century.



Presently, modern model development is concerned with how students learn amidst the technology changes that are spreading all over the world. These changes have brought about opportunities for the use of educational technology called technology web 2.0. It provides both teachers and students with real situations for language use as two-way communication, especially when teaching writing (Crane. 2010).

Teaching writing in the 21<sup>st</sup> century could be possible in modernized ways as Prinz (2010) suggested in his four components; *multimodality of text* which are audio design, spatial design, visual design, and linguistic design that make the content interesting, *screens as emerging dominant media* is a monitor which is a mediated presenting writing tasks such as weblog and wikis, instead of presenting through papers, *transformation blog mode and medium constellations* are writing mode adaptation for writing process such as collaborative and online interaction, *changing social structures and relations* is a traditional writing structure and a writing format that could be adjustable into a two-way communication which can be responding immediately. These four components make teaching writing effective in this era, when weblog is used in teaching as a tool for two-way communication.

Weblog is a tool of technology web 2.0 used for learning mediation that connects face-to-face learning and online learning. It is mediated in three ways of learning: linking between other weblogs, publishing written tasks of student writers, and performing as an electronic portfolio on the internet.

Besides this, the use of weblog in social networks builds teacher-to-student friendships, students-to-student friendships, and students-to-“any other” friendships. With this communication, students improve their writing skill, being more autonomous writers, presenting their ideas freely, and posting more creative works on their weblogs (Prinz. 2010; Llach. 2010; Clark. 2010; Babae. 2012).

On the other hand, Bahce & Taslaci (2009) found in an EFL experimental study at university level that weblogs affect EFL student writers, as they were used for language improvement, as well as for sharing and exchanging ideas, (not just for being a writing classroom). From this research finding it can be inferred that weblog, as full online learning, will not be suited for EFL learners, but will instead be used in a blended way that is more practical.

Blended instruction via weblog is a combination of in-class learning and online learning activities using weblog as a mediated form of learning. The mediation fare are used for searching among the links between learning sources in the world wide web, for publishing writing tasks, and for collecting the written tasks as portfolios that can be reached at anytime and anywhere (Lee & Lee. 2007; Oh & Park. 2009; Fujishiro & Miyaji. 2010; Prinz. 2010; Tiantong. 2011).

Considering the problems with English writing in Thailand mentioned previously, and the findings of blended instruction presented, the blended instructional model should be developed in Thai universities. Consequently, it should also be investigated whether Thai undergraduate students' summary writing ability is increased after learning via the model.

## Related Study

The study of blended instruction is mostly conducted in EFL context as follow; Miyazoe and Anderson (2010) conducted an experimental study in order to study a development of writing ability and satisfaction of the 61 second year students in Tokyo university using blended instruction via weblog, forum, and wikis.

The face to face activity in class and online writing practice out of class were designed and used. All students were taught via the three technology medias. The lesson started with forums for an online discussion through a key board about a reading passage whereas a blog was used for writing activity after the discussion. Then Wikis was used for translating from English into Japanese for collaboration. All activity is done once a week.

For writing, students practiced on blogs and a teacher also followed their progress via blogs. The finding were revealed that the students presented their positive attitudes to the blended instruction and the students has shown their writing progression as they can used higher level of vocabulary and more complex of sentence writing.

In the same year, Kizil (2010) found a significance of his blended instruction study through experimental research. The aim of the study was to study EFL writing integrated to process writing via weblog. A group of samples used in the study were 27 students who were studying English as a foreign language in Turkey University for 16 weeks.

The group of students owned two blogs for each, for publish writing tasks and for follow up tasks. The tutor's blog was used for material delivery on line. The finding has shown that weblog affected writing performance in all aspects , weblogs affected writing learning in all steps, weblogs affected feedback and revising writing task, and weblogs positively affected interest and motivation in using technology for learning.

Oh and Park (2009) surveyed the use of blended instruction and attitude of the university lecturers in Korea through questionnaires. All participants were 151 lectures from 33 different universities and representative teaching official from Office of the Higher Education Commission of Korea.

The finding were revealed that 1) 64.4 percents of the lecturers used online instructional materials in class 2) 95.9 of the participants designed, developed, and revised online learning materials with the positive attitude towards blended instruction. 3) 70.6 percents of lectures were lack of motivation and 61.8 percents were also lack of enthusiasm in using blended instruction. They all need supporting facilities from faculties which is workshop about instructional design and technology that supports blended instruction in order to increase the use of blended instruction at tertiary level in the country.

Bahce and Taslaci (2009) had conducted an experimental research in order to study writing ability of the students using blended instruction via weblog learning and face-to-face learning. 55 students of Anadolu University in Turkey were used in this study for 1 year (around the year 2007-2008). Teaching time is 6 hours a week. Learning activities were weblog orientation, face-to-face learning, and writing practice via blogs.

At the end of the study, the results indicated that 1) blog is an interaction resource in real life which the students can directly experienced in three folds: learning output, technology, creativity, and learning innovation. 2) Blogs is an effective learning resource that provides real effective learning output 3) blog provides opportunity for interaction at anytime and anywhere with unlimited learning. 4) Blogs is a place for collaborative resource for language development, not a language classroom.

In conclusion, blended instruction via weblog can probably enhance the university students' summary writing in effective ways. The idea of blended instruction is designed for orientation first, and then flowed by both in class and out of class activity via weblogs.

## Materials and Methods

The mixed methodology was conducted in academic year 2010-2013 with four phases: analyzing context using a qualitative procedure, synthesizing the instructional model using document analysis, developing the model's efficiency through action research, and study the effect of the model on English summary writing ability of the university students. To achieve the objective of the study, it was conducted and implemented in academic year 2010-2013 as shown in figure 1 below:

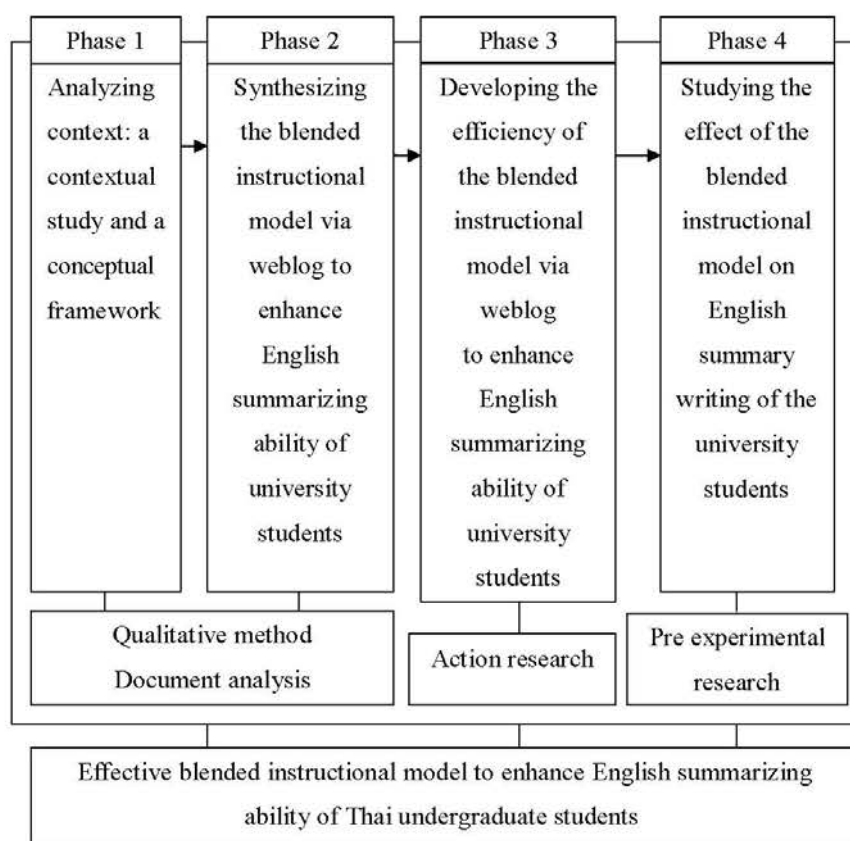


Figure 1: Phases of the study.

Figure 1 shows phases of the study which can be explained as follows;

### Phase 1: Analyzing context.

The objectives of this phase were to study some vital information of undergraduate students in Nakhon Ratchasima Rajabhat University, concerning their problem-solving of English summary writing ability, and to study a conceptual framework.

Participants were composed of thirty students majoring in English. Other participants were two selected lecturers in the English program. Data collection was informal interview using semi-structured interview form and a test. After that document analysis from various sources was reviewed and analyzed. Then typology technique was used to categorize the information. The output was a conceptual framework prepared for the instructional model design and construction.

### Phase 2: Synthesizing the instructional model.

The objective of this phase is to construct the instructional model. It was constructed via the conceptual framework without participants. The instructional model was synthesized and quality-checked its construct validity by three experts.

The experts were qualified in curriculum and instruction, specific in teaching English of at least 10 years of teaching English experience at the university level. The output of this phase was a proposed blended instructional model via weblog for enhancing summary writing ability of Thai undergraduate students.

### Phase 3: Developing the model's efficiency.

The objective of this phase was to develop the efficiency and effectiveness of the proposed instructional model using action research. It was implemented through three action research cycles (Costello, 2010). The criterion was set at 80 percent of the target group achieving the English summary writing criterion at 70 percent of the total post-test scores.

Fourteen students majoring in English of Nakhon Ratchasima Rajabhat University were volunteers as a target group. The instruments used were lesson plans, a semi-structured interview form, the learning and instructional record format, the record format of individualized ability development, efficient writing criteria, and an effective test for English summary writing.

Eight experts were used in this phase. Three of them were phase-two experts for examining and quality-checking the model and its lesson plan, a semi-structured interview form, the learning and instructional record format, the record format of individualized ability development, efficient writing criteria, and an effective test for English summary writing.

Another three experts were qualified in master degree in English and teaching English as a foreign language and hold a certificate in testing and material production for examining and quality-checking a scoring rubric. Another two experts were qualified in master degree in English and English Study and have at least teaching English experience of the campus for 3-5 years for being co-raters of the scoring rubrics with a researcher.

The average mean scores of construct validity among three experts was 3.89; its quality was at a very good level of construction according to theories contained in the conceptual framework. Average scores of reliability among three experts of the proposed model, lesson plan, the record format of individualized ability development, the learning and instructional record format, teaching behavior record format, learning behavior record format, and a semi-structured interview form were 4.08, 4.00, 3.80, 3.92, 3.92, 4.00, and 3.67, respectively.

Also, a writing criterion had its validity at 4.00 with its relevancy among three raters considered in three couples were at 0.73, 0.75, and 0.79 which were at a very high reliability for those written test that could be evaluated by anyone. Besides, an average score of IOC index among three experts of a written test of English summary writing was at 1.00.

The target group took a pre-test then studied a summary writing via the proposed model and its quality-checked lesson plan for three cycles. During each cycle of action research was done, the data were gathered via a semi-structured interview form, the learning and instructional record format, the record format of individualized ability development, and efficient writing criteria.

Instructional activities were altered according to unsatisfied data from each cycle, until the set criterion was achieved. The group took posttest at the end of the study. The data were then analyzed by percentage, means, standard deviation, and the t-test for dependent samples. The output is an efficient blended instructional model via weblog to enhance English summary writing of Thai under graduate students.

Phase 4: Studying the effect of the efficient blended instructional model. The objective of this phase was to investigate the effect of the efficient model on English summary writing of university students. A “one group post-test only design” was used as a research design at this phase. The criterion was set at 80 percent of the students achieving the English summary writing criterion at 75 percent of the total post-test scores.

A sample group was formed of forty-one students majoring in English who registered for an academic writing course in semester 2 of academic year 2013. The instruments were all taken from phase 3. The data were then analyzed by using percentage. The output was the effective blended instructional model via weblog to enhance English summary writing for Thai undergraduate students.

## **Result**

1. A proposed blended instructional model via weblog to enhance English summary writing ability of Thai undergraduate students was synthesized based on the conceptual framework. All instruction activities were described in the five components: background of the model, locating model components, principles, objectives, contents, learning activities, media, and assessment and evaluation. The instruction consisted of preparations, taking notes, summarizing, and publishing. The first three were face-to-face activities, whereas the fourth was on weblog.

2. After three cycles of action research, the proposed model was found to be effective. The model was revised by changing some learning activities based on the qualitative data from the students' interview. Then, two phases of instruction were carried out: the preparatory phase and the instructional phase. The first one concerning the lecturer's and the student's preparation for teaching and learning, and medias preparation relating to the tutor's and students' weblogs.

The second is the instructional phase containing three stages of instruction. Firstly, extracting information involves four activities in class: surveying text, identifying key sentences, taking notes, and analyzing key-words. Secondly, summary writing via weblog comprised of three activities in process writing; drafting, reviewing and revising, and editing. The final stage of instruction: publishing on weblog comprises uploading files, studying comments, selecting possible comments, and visiting classmates' weblogs.

According to the three-staged activities of the instructional model, it was also found in cycle 3 that 100 percent of the students had achieved the writing criterion set at 70 percent (34 scores) of the total post-test scores as shown in table 1.

Table 1 Post-test scores of the students compared to the set criterion at 70 percent of the total scores (34 scores; N=14).

Test	Total scores	Average ( $\bar{X}$ )	Numbers of students passed	Percentage of students passed
Posttest	48	41.43	14	100

Table 1 shows post-test scores of the students compared to the setting criterion at 70 percent of the total scores. It was revealed that the average score that students obtained was 41.43, with 100 percents of students achieving the criterion at 70 percent of the total post-test scores.

3. It was also revealed that the post-test scores of the students after the model implementation was higher than the pretest scores at .05 level of significance as shown in table 2.

Table 2 A summary of writing ability pretest and post-test scores after teaching through the use of the proposed model.

Test	N	$\bar{X}$	S.D.	t	Sig.
Pretest	14	22.7857	3.23867	14.945*	.000
Posttest	14	41.4286	3.79705		

● significant level .05

Table 2 showed a summary of writing ability pretest and post-test scores after teaching through the use of the proposed model. It was revealed that post-test scores were higher than pretest scores at .05 level of significance.

From the results in table 1 and 2, it can be concluded that after teaching using the proposed model, the students significantly improved their summary writing ability.

4. After teaching with the effective model using pre-experimental research, it was revealed that more than 80 percent of the students achieved the writing criterion set at 75 percent of the total post-test scores as shown in table 3.

Table 3 Average post-test scores for English summary writing compared to the set criterion at 75 percent (36 scores) of the total scores (48 scores) N=41).

Test	Total scores	Number of students	Number of students passed	Average ( $\bar{X}$ )	Percentage of students passed
Posttest	48	41	41	43.88	100

Table 3 show post-test scores of the students compared to the set criterion at 75 percent of the total scores. It was revealed that the average scores students obtained was 43.88, with more than 80 percents of the students achieving the criterion at 75 percent of the total posttest scores.

For qualitative data gathered during three action research cycle, they affected the instructional activities lead to some changes of instructional activities as shown in figure 2 below;

Figure 2 The changes of instructional activities among three cycles of the action research.

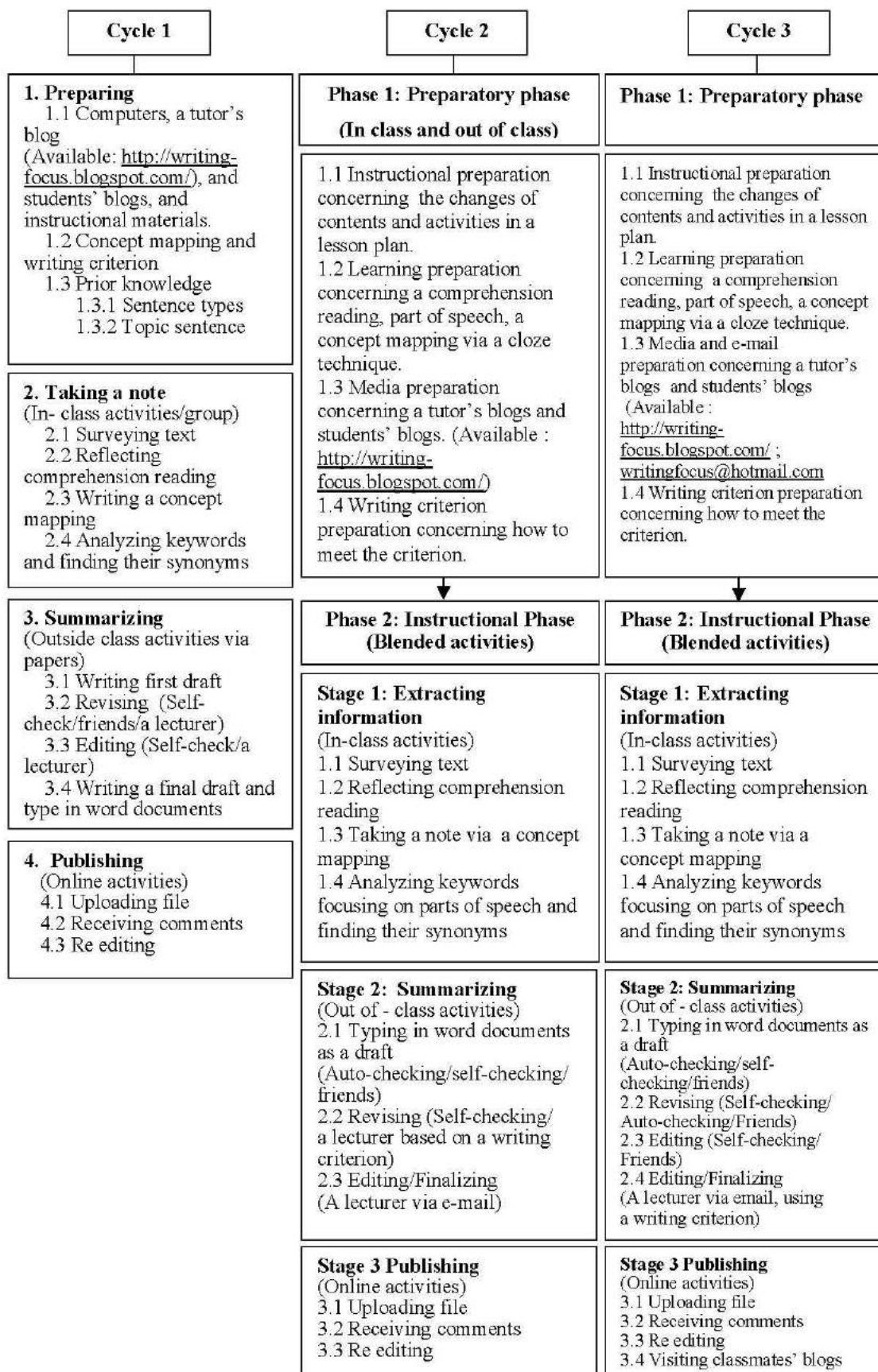




Figure 2 show the changes of instructional activities among three cycles of the action research. Considering cycle three, the instructional model was effective, as the criterion was achieved by 100 percent of the students, with its activities comprised two preparatory phases and three instructional stages as follow;

1. The preparatory phase. There are three activities for three teachers and students;
  - 1.1 Lecturer's preparation for teaching.
  - 1.2 Student's preparation for learning.
  - 1.3 Medias preparation concerning the tutor's and students' weblogs.
2. The instructional phase. The instructional phase containing three stages of instruction;
  - 2.1 Extracting information involves four activities in class: surveying text, identifying key sentences, taking notes, and analyzing key-words.
  - 2.2 Summary writing via weblog comprised three activities in process writing; drafting, reviewing and revising, and editing.
  - 2.3 Publishing on weblog comprises uploading files, studying comments, selecting possible comments, and visiting classmates' weblogs.

Based on the findings, it can be concluded that the model constructed by the researcher was effective, as it increased student's English summary writing ability at all phases of the study. At the end of the study, the model was named "S2A Model" (S two A Model) which stands for "Summary Writing in Academic Area Model".

## Discussion

The model is effective in enhancing writing ability of the students as shown in table 1-3. The effectiveness may be due to the following reasons:

1. The model is designed based on drivers of the new instructional design that develop problem-solving skills, thinking skills, and writing skills via technology web 2.0. In other words; they learned and practiced using searching skills, chunking skills, and using computer skills.

These abilities supported their writing skills by helping them discover vocabularies they needed via the links between networks, grouping the main points leading to accurate summarizing, and conveniently producing and publishing their written tasks via two-way communication technology. Therefore, the criterion was achieved both in phase 3 and 4. The result is related to the ideas of Clark (2002) who stated that modernized instructional design responds to computer literacy, which in turn support writing literacy of students in this era.

2. The model consisted of a combination of face-to-face learning activity (in class) and online practice activity via weblog (out of class); therein focusing on collaboration among students in a learning environment with interesting technology. Students acquire accuracy of knowledge along the correct methods used for finding it in terms of the right citation through the use of online learning supports and group works.

This resulted in students obtaining direct experience during their face-to-face activities in class. When writing, they would receive feedback from the teacher that affected their self-practice out-of-class in positive way. Thus the model is effective in increasing students' writing ability. The result is related to the finding of Kizil (2010)

that positive feedback via learning supports are caused by effective blended instruction via weblog.

3. Weblog helps in solving writing problems such as using words in context, grammar, sentence types, and writing mechanics that students can access from the links a teacher provides in the tutor's blog. This is the help that students need while writing when they are both in and out of class.

Also, weblog plays an important role in terms of an electronic portfolio that can be reached at anytime and anywhere, a place for sharing and publishing their written assignments, and having interaction among friends by linking to each other's weblogs. Furthermore, after face to face activity, students practiced on weblogs, with a teacher also following their progress via weblogs. This boosted the effectiveness of the model as shown in the study.

The finding is similar to the research results of Bahce & Taslaci (2009), Miyazoe and Anderson (Online. 2010), and Babe (2012) who reported that weblog was a place for online collaborative learning during completion of the assignments, and it was two-way communication that helped students improve their summary writing skill via interaction.

4. The findings show that the blended instructional model via weblog is effective. It clearly revealed its effectiveness with its blended learning activities both in and out of class. The model led the students to boost their writing summary skills, as they summarized using more academic vocabulary, accurate punctuation, accurate content and clarity, and accurate citation.

These abilities result from the effective learning activities included in the model. The successful finding is related to the results of Bahce and Taslaci (2009), Kizil (Online. 2010), and Miyazoe and Anderson (Online. 2010) who found significant results which showed that undergraduate students acquired effective writing skills after they were taught using blended instruction via weblog.

## **Conclusion**

According to the results of each phase of the study, it can be concluded that the blended instructional model via weblog was effective with its steps of instruction that significantly enhanced the English summary writing of Thai undergraduate students. Therefore, the blended instructional model via weblog to enhance English summary writing of university students constructed by the researcher or "S2A Model" is an effective model of instruction that is practical in teaching summary writing at Thai university level.

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***Moulding for Excellence at Federal College of Education (FCE) Abeokuta, Nigeria***

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**Abstract**

Moulding for excellence as the motto of the Federal College of Education, Abeokuta, Nigeria is a reflection of the College emphasis on academics with character education. As the college has zero tolerance for undesirable behaviour, however, the society continues to raise doubt on the quality of its teachers as a result of a big gap between the town-gown principle of education due to a lot of moral decadence being witnessed in the country. These social ills include armed robbery, corruption, kidnapping, pipeline-vandalization, hostage-taking, prostitution, ethno-religious insurgencies etc. This paper therefore attempted to investigate what the students perceived as the concept of 'moulding for excellence', its defects and prospects in the college. Chi-square ( $X^2$ ) statistics were used to analyze a sampled opinion of 218 students representing 8.4 percent of the total students' population. Three null hypotheses based on Male-Female, Degree-Non Degree, and Science-Humanities contingencies were tested to investigate the students' perceptions. It was discovered that significant differences existed in the perceptions of the students based on various contingencies specified at  $P < 0.05$ . Even though, the perception of the NCE and degree students in the college were in tandem with the motto of the college, however; most percentages opinion of the degree students were a bit lower to that of their NCE counterparts. Appropriate recommendations were therefore made to strengthen the compliance of the students' and the college authorities to the motto of 'moulding for excellence' and forging synergy between the college and the family system in Nigeria.

**Keywords:** Moulding, Excellence, Behaviour, Nigeria Certificate in Education (NCE)

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## Introduction

Moulding for excellence is a coinage to promote human dignity in education. It is from the belief that “cognitive knowledge is respected only when it serves the moral aim” (Shea, 2003 quoting Cheng, 1998). It also emanates from the philosophy that “great learning and superior ability are of little value unless honour, truth and integrity are added to them” (Sweeney, 2008:8).

Indeed, it is a clarion call for moral and academic excellence in institutions of learning. According to Mezieboi, Fubara, Izuagba, Nkwocha and Okobia (2008), the alarming dimensions of moral decadence in Nigeria has thrown enormous challenges on the school system. The menace of examination malpractices, drug abuse, rape, theft, disobedience, indecent dressing, cultism, armed robbery, forgery, kidnapping etc are common in Nigerian schools, homes and society at large (Abdulkareem, 1992; Mezieobi, Nok and Nwosu, 2009, Onyimadu, 2010; Adetoro 2012). Even, the recurring poor academic performance of students in the college is worrisome (Research and Publication Committee 2007).

This is why Reasoner (2000) discovered a close relationship between low self-esteem, problems of violence, alcoholism, drug abuse, drop-outs and poor academic achievement while Rosenberg and Owens (2001) submitted that adolescents with low self-esteem have difficulty making appropriate moral decisions. Equally, Akindutire (2004) found a relationship between a college vision and the achievement of students. Consequently, the school is called upon as an intervention agency for both academic and moral rectitude and it is along this thought that the motto coinage of “moulding for excellence” emanated at Federal College of Education, Abeokuta a college that has been in existence since 1976.

Studies by Piaget (1932) and Kohlberg (1964) acknowledged that the child is initially amoral and that moral conscience developed in stages. While Piaget submitted that the child develops from egocentric morality to morality of constraint and morality of cooperation, Kohlberg believed that it is from pre – conventional orientation to conventional stage and post-conventional morality. However, while Skinner (1971) agreed to the significance of reinforcement in moral standards, Freud (1957) and Bandura (1973) acknowledged the role of imitation in behaviour modification. Nevertheless, Bruner (1973) submitted that behaviour modification is a function of mental reconstruction.

Moulding for excellence is also in the purview of character and value education. While character education is to help people become ‘good’, understand core values, adopt them and act upon them (Shea, 2003); value education is to help an individual appreciate the worth or merit which people place on various aspects of their life (Adetoro, 2012). This is why in a review of character education literature, McDaniel (1978) submitted that the school is expected to train students to behave responsibly within the ethics of the community. Such training is to produce “a psychologically person” who is “a problem solver, allocentric and empathic”, who will be able to act on “democratic values” with “autonomous and self – directed health” (McDaniel 1998:5 citing Sprinthall, 1997).

This is based on the assumption that “an educational environment in which virtuous conduct is consistently nurtured, valued, and reinforced is presumed to have an impact on the formulation of one’s values and moral reasoning” (Scott, 2004:17 citing Sparks, 1991). This is equally to state that the aim of “moulding for excellence” at FCE, Abeokuta is to produce students who possess valuable knowledge, worthy character and are mostly preferred in the teaching profession.

### **Purpose of the Study**

As part of the normal evaluation processes of a conceptualized project, this study therefore attempted to answer the following questions.

1. How do the students at FCE, Abeokuta conceptualize the term “moulding for excellence”?
2. Do the students perceive the concept of “moulding for excellence” as improving academic performance at FCE, Abeokuta?
3. Do the students perceive the concept of “moulding for excellence” as improving morality of students at FCE, Abeokuta?
4. Do the students perceive the staff doing enough to achieve “moulding for excellence” at FCE, Abeokuta?
5. What suggestions are necessary to enhance “moulding for excellence” at FCE, Abeokuta.

### **Research Hypotheses**

In addition to answering the questions raised, the study equally attempted to test the following hypotheses.

- (i) There is no significant difference in the perceptions of Nigeria Certificate in Education (NCE) students compared to their degree counterparts on the concept of ‘moulding for excellence’ at FCE, Abeokuta.
- (ii) The perceptions of Science and Humanities students on the concept of ‘moulding for excellence’ will not significantly differ at FCE, Abeokuta.
- (iii) The perceptions of male and female students at FCE Abeokuta will not significantly differ on the concept of ‘moulding for excellence’.

### **Methodology**

This survey study used 20-item, close-ended questionnaire administered on three hundred sampled students out of a target population of two thousand and six hundred students. The questionnaire items were validated by three social studies educators at Federal College of Education, Abeokuta using Pearson test-retest method (for 50 students outside the sampled students). A reliability coefficient of 0.73 was obtained. However, during the actual questionnaire administration, only 218 of the questionnaires could be retrieved from the students because of NCE students’ teaching practice engagement outside the college. The data collated from the study were analyzed with percentages and chi-square ( $\chi^2$ ) statistic.



## Results and Interpretations

The results revealed that 89.9 percent of the (109) degree students and 95.4 percent of their NCE counterparts (109) are quite aware of the existence of moulding for excellence as the motor of FCE, Osiele, Abeokuta. Equally, 86.2 and 87.2 percents of the NCE and degree students respectively in the college knew that the coinage 'moulding for excellence' is to inculcate worthy learning and character into the students in the college. These high level of awareness and perception corroborates Bruner's (1973) submission that behaviour modification is a function of mental reconstruction. It equally supports McDaniel's (1978) view that the school is expected to train students to behave responsibly within the ethics of the community.

On the second research question, while 77.0 percent of the NCE students agreed that the motor 'moulding for excellence' has actually improved their academic performances at FCE, Osiele, Abeokuta; only 66.9 percent of their degree counterparts agreed to this assertion probably because degree programmes are just three-years old in the college. However, these high perceptions of the two categories of students justifies the finding of Reasoner (2000) on close relationship between behaviour and academic achievement.

The finding of this study on research question three also revealed that while 71.5 percent of the NCE students submitted that the concept 'moulding for excellence' has positively improved morals of the students at FCE, Osiele; only 47.7 percent of their degree counterparts agreed with this submission. This is probably because majority of the degree students are yet to taste the wraght of the college authorities on zero tolerance for indiscipline. Nevertheless, the high perception of the NCE students on this issue supports Scott's (2004) view that an educational environment is to support the formation of one's values and moral reasoning.

On research question 4, majority of the students (71.6 percent for NCE and 59.7 percent for degree) agreed that the lecturers were presently doing enough to achieve moulding for excellence in the college. Furthermore, 51.4 percent of the degree students and 59.7 percent of their NCE counterparts agreed that the non – academic staff were also trying their best to achieve the college motto. Majority of the students (67 percent for the degree and 70.7 percent for NCE) equally submitted that the College Management were also doing enough to achieve 'moulding for excellence' in the college. The current staff efforts presumably were being carried out to avert what Rosenberg and Owens (2001) perceived as 'adolescents with low self-esteem' that may have difficulty in making appropriate moral decisions.

On research question 5, majority of the students (59.6 percent for degree students and 58.7 percent for NCE students) would want the college authorities to do more to reduce sexual harassment in the college. 55.9 percent of the degree students and 60.5 percent of the NCE students would also want more actions to reduce cultism in the college. These requests are in line with the need to promote more 'virtuous conduct' as submitted by Scott (2004) for the formation of better values and moral reasoning.

### Analysis and Interpretation of Hypotheses Results

**Table 1: Chisquare ( $X^2$ ) Test on Differences in Degree and NCE Students' Perceptions on Moulding for Excellence**

Deg vs NCE	
Chi-square	42.284
df	33
Asymp.sig	.129

- a. 34 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 3.2

As can be seen in table 1, the calculated chisquare value of 42.284 is significant at 0.05 P-value indicating that there is a significant difference between the perception of the degree and NCE students as regards the motto 'moulding for excellence' at FCE, Osiele, Abeokuta. As earlier submitted under the descriptive interpretation, this significant difference may be as a result of the relative newness of the degree programmes in the college.

**Table 2: Chisquare ( $X^2$ ) Test on Differences in Science and Humanities Students' Perceptions on Moulding for Excellence.**

Science vs Humanities	
Chi-square	49.945
df	34
Asymp.sig	.038

- a. 35 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 3.1.

As can be seen in table 2, the calculated 49.945 chisquare value is significant at 0.05 P-value. This result shows that there is a significant difference between the perceptions of Science and Humanities students as regards the concept of 'moulding for excellence' in the college. This finding corroborates the findings of Adetoro and Oniyide (2013) who discovered that there was a significant difference between the perception of Humanities-based and Science-based students on the value of Nigeria Certificate in Education in the College.

**Table 3: Chisquare ( $X^2$ ) Test on Differences in Male and Female Students' Perceptions on Moulding for Excellence**

Male vs Female	
Chi-square	31.200
df	31
Asymp.sig	.456

- a. 32 cells (100.0%) have expected frequencies less than 5. The minimum expected cell frequency is 3.1.

As can be seen from table 3, the calculated chisquare value of 31.200 is significant at 0.05 P-value indicating that the perceptions of both male and female students on the

motto 'moulding for excellence' differ significantly in the college. This result is in line with the findings of Oladiti (2009) who found a significant sex difference in the perceived factors of family conflict. However, it is contrary to the findings of Amdii and Akinola (2009) who discovered no significant difference in the opinions of male and female adolescents on the influence of school on their social adjustment as well as Oderinde and Yusuf (2012) on the desirability of traditional values in the proposed national values curriculum in Nigeria. Furthermore, the finding negates that of Adetoro and Oniyide (2013) on the no significant result of male and female students as regards their value for Nigeria Certificate in Education.

### **Recommendations**

- Based on the findings of this study, the following recommendations are made to enhance the students' appreciation and attainment of 'moulding for excellence' in the college.
- The current zero tolerance for indiscipline in the college should be stepped – up on the issues of sexual harassment and cultism. Indecent dressings that can provoke sexual harassment should attract stiffer penalties of warning and if continued, suspension from the college. Cultists should not only be expelled from the college but also prosecuted in the court and if found guilty, sent to jail for not less than three years with hard labour. These would serve as serious deterrents to others in the system.
- The family system should be more supportive to the school by ensuring that basic necessities for schooling are given to children. Parents also have to be role models in terms of morality and monitoring of their wards in the school.
- There is need to forge a collaborative synergy between the college and the parents of the students. This is to enhance excellence in performance and ethical behaviour (Davidson, Lickona and Khmelkov, 2007). This can be done by the College Management conducting Parents and Guardians Forum once in a semester where the academic performance and moral behaviour of each student can be reported. Exemplary character and academic performance of distinguished students can also be rewarded and lecturers' behaviour appraised in the forum. Excellent performance among lecturers should be rewarded and poorly-behaved lecturers rebuked in the forum.
- Students' rating of workers performance (both academic and non-academic) is very necessary to serve as feedback mechanism in the college. This should be part of the objective assessment report card on all workers to be read during the parents/guardians forum.
- The College of Education entrants need to be well-motivated with bursaries and scholarship to energize the students towards better academic performance and good morality.
- A replication of this study to assess the college workers perception of the college motto (moulding for excellence) and a comparative study of the same with that of the students is necessary for a balanced – evaluation of the

concept. Moreso, that Akomolafe and Ibijola (2012) had observed decline productivity in college system as output (students) are kept static while inputs (human and material resources) are increasing.

### **Conclusion**

There is no doubt that every institution of learning should strive to achieve excellence in their product (students). This is necessary if education is to produce a total personality devoid of greed, corruption, and incompetence. The various social vices and poor academic performance being witnessed in the school system can be partly blamed on lack of needs assessment as regards the motto of the various institutions. Suffice is to state that a regular assessment of institutional motto from all stakeholders perspectives will serve as a feedback to the society and invariably serve as warning signals to all and sundry.



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***Instructional Learning Versus Action Learning: A Grounded Theory Study of Vietnamese Students' Perspective in an International Educational Program***

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**Abstract**

The theoretical stand about learning has evolved greatly over the last century from the belief that the learner is passive and only motivated to learn by rewards and punishments to the belief that the learner is a processor of information and thus the goal of education becomes to increase the amount of learner's knowledge. Later, John Dewey introduced the concept of the "active learner" (Dewey 1911) where the learner is a constructor of knowledge with a process of selective acquisition of relevant knowledge that is coupled with interpreting this knowledge by relating it to previously existing knowledge. (Mayer 1992)

Action learning is the preferred method of teaching in most exported programs from the global north to the global south and thus many scholars studied course design methods based on action learning but few researchers studied students' perspective of this method. This paper presents the results of a grounded theory research in Vietnam studying students' perceptions about active learning in an international Australian college in Vietnam. The results of analysis of the research findings in Vietnam show that students value participation and active learning more than passive traditional teaching methods and link this with their future career success. Comparing the results with other outcomes from similar researches in the same field confirm these findings and support the conclusion. The paper concludes by presenting recommendations to exporting educational institutes about how to better adapt course design of their programs to Vietnamese students' needs and expectations.

**Keywords:** Technology enhanced learning, Vietnam, Internationalization of education, action learning, grounded theory

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## Introduction

This grounded theory study addresses the problem of export of education from western countries to developing countries and the challenges that may be faced in using online learning tools in their teaching methodology. The point of departure for this study was the case of a Danish Business School “International Business School of Scandinavia” (IBSS) that exports its educational programs to developing countries and uses blended learning as the teaching methodology for these programs. IBSS faced many challenges in exporting its programs to developing countries and this study attempts to provide possible solutions for overcoming them.

These challenges go beyond the obvious language barriers to more complicated cross-cultural barriers and infra-structural problems like access to internet and internet speed. The fact that these educational programs are developed in one country and therefore rooted in its cultural values and belief systems and furthermore affected by the social and political system of the society in which it is produced, may in itself pose a challenge in getting students from other cultural backgrounds to adopt and engage in these programs. Students may feel alienated from the program, as it does not conform to their own traditions, values and beliefs.

The current study approaches the problem by studying the differences in the learning practices of students in different countries through exploring and comparing the different educational systems and learning practices in the three countries under study in this research, Denmark, Egypt and Vietnam. I examined the contexts in which higher education in the three countries take place, and the factors that affect students’ concepts of learning in them. By observing the natural settings in which learning takes place and making descriptive analyses of selective learning situations in the three countries, I attempt to develop a better understanding of the different relations between the key players of learning in these countries, namely students, teachers and teaching materials.

Coupling the non-participant observations with other methods of qualitative research such as in-depth interviews and focus groups led to better insight into the reality of how students and teachers (the key players in the learning process) understand and feel about learning, and how this can differ greatly from one culture to another thus affecting their reaction to e-learning tools. The results of this study aim at helping exporting educational institutions to understand how these differences in learning practices affect students’ approach to learning and consequently their acceptance of new tools, as e-learning, and new pedagogies used in teaching.

The purpose of this study is *first*, to identify cultural issues and their impact on students’ as well as teachers’ views of learning in general and how these views affect their acceptance and usage of the e-learning component of blended learning programs. *Second*, to study the educational system and educational practices and traditions in the countries involved in this study, namely, Denmark, Egypt and Vietnam and how these three countries compare to each other in that sense. *Third*, to provide suggestions for western educational institutes involved in exporting of education to developing countries in general and to IBSS specifically, about how these institutes can modify their programs’ structure to suit other cultures.

## Literature Review

Scholars who study the field of internationalization of education vary in their views about the effects of internationalization of education on the economies and development of developing countries. Some scholars, as Philip G. Altbach, believe that internationalization of education represents a form of “colonization” or efforts of the major forces in the world to control the brains of young people in less powerful parts of the world, a concept that he named ‘new neocolonialism’ (Altbach 2004). Yang shares the same views of Altbach, in a critical review about the effects of globalization, Yang suggests that internationalization of education may be responsible for the loss of the original cultural values that students believe in and “the relentless imposition of Western values” and thus could be seen as “the new colonizer”.(Yang 2003)

Internationalization of education is thought to be responsible for “brain drain” of developing countries, which is defined as the uneven distribution of the world’s intellectual wealth. Statistics reported by OECD (Organization for Economic Co-operation and Development) show that around 15-20% of international students migrating from developing to developed countries to enroll in western educational programs continue to live and work in these countries. This out-migration of internationally educated citizens may cause brain drain in developing countries if there was no corresponding in-flow of equally competent citizens of developed countries (Parey and Waldinger 2008); (Lowell, Findlay et al. 2004).

Also, there are many cultural issues that face exporters of education, particularly to Confucian Heritage Countries (CFC) as China, Korea, Japan, Singapore, Hong Kong, Taiwan and Viet Nam. Some of these issues relate to the use of online learning either isolated or as part of a blended learning program. These issues are mostly related to the difference in cultural values and expectations of students. These countries have common cultural traits which are rooted in Confucius teachings, for example the unequal relationship between students and teachers, placing a high value on relationships and group identity and placing higher value on ascription (who one is) than on achievement (what one does). (Nguyen, Terlouw et al. 2006)

Although the body of literature found on the studied problem in these countries show that this is an under-studied field, yet some studies (published in English) were worth studying before embarking on this research project. For Example, in Hong Kong, where the learners are highly influenced by the Confucius tradition in education and all learning practices are teacher-centered, a study was done in an open learning institution that used blended learning mode of delivery. The study concluded that it is advised to use face-to-face teaching methods more than online, since students prefer to interact directly with the teacher. This shows how students value and appreciate the teacher’s presence and consider him/her to be the center of the e-learning process (Aylward 2004)

Language was another issue that was shown in literature, in a study done in Malaysia, many Chinese distance learner participants mentioned in interviews that language barriers were the reason they experienced difficulties in their academic studies. In the same study, Malay learners complained of not having enough time to learn the new technologies associated with online learning (Dzaldria and Walker 2003).

Another study shows that Asian students from CFC prefer to work in groups and they expect the teacher to provide regular feedback on the group performance. Individual feedback should not be provided publicly whether positive or negative, as positive feedback would draw attention to individual students not to the group, which is not appreciated in Asian cultures, while negative feedback would make students “lose face”.

Students prefer structured classes with structured specific assignments and clear expectations from the teacher (Strother 2003). In a study comparing Singaporean and Australian students, findings show that Singaporean students prefer face-to-face interaction to online interaction. Students regularly meet with their peers and review their assignments working together for hours while Australian students prefer short group encounters (Munro-Smith 2002). This shows the importance of group activities and interaction between students and between students and their teacher in CFC cultures.

### **Methodology**

This study uses the “constructive grounded theory ethnography” research methodology (Charmaz 2006) to study the teaching and learning practices within the higher education systems in Denmark, Egypt and Vietnam. The aim of the study is to identify the difference between the pedagogical approach in e-learning settings and the actual sequence of events happening in the learning process in these countries.

By observing the natural settings in which learning takes place and making descriptive analyses of selective learning situations in the three countries, the researcher attempts to develop a better understanding of the different relations between the key actors involved in the learning process in these countries.

Coupling the non-participant observations with other methods of qualitative research such as in-depth interviews and focus groups led to developing a better insight into the reality of how students and teachers understand and feel about learning, and how this can differ greatly from one culture to another.

Inspired by Adele Clarke’s work on “Situational Analysis”, I developed a model which I called the “Learning Situation” (LS) model, where LS represents the relations between the main core constituents of the higher education institutes’ social world. Inside this learning situation, different issues are fought, manipulated, negotiated and agreed upon inside the boundaries of the broader learning system Arena in every country (Clarke 2005).

According to Adele Clarke, the most important focus of negotiations and discourses is the ‘situatedness’ of action and interaction and accordingly, the conditions of the situation are in the situation, where everything in the situation both constitutes, affects and conditions everything else in the situation. (Clarke 1991). The learning situation model represents the unit of analysis in focus in this research, where the main human actors represented are the teacher and student and the non-human actants are the materials and technology (Fahmy, Bygholm et al. 2013). The model also shows other factors that may have an influential effect on the situation, as values, gender roles and context of education. (Figure 1)

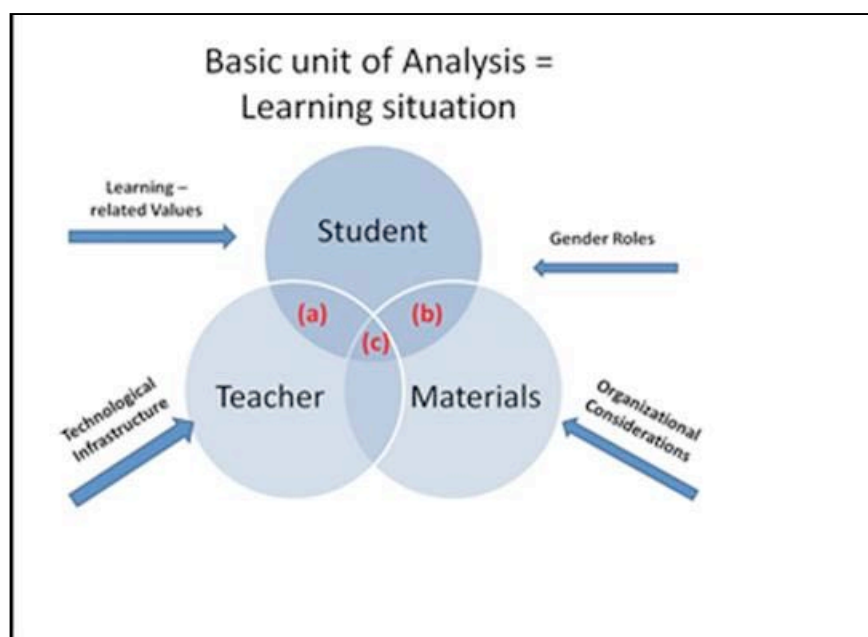


Figure 1 - The Learning Situation Model (LS)

In Vietnam, the sample studied included 24 students, 3 teachers, a private international college and 3 public universities. Tools used in gathering of data included: an initial non-participant observation, interviews with 3 students were also conducted initially, results were open coded and accordingly modifications were done to the sample criteria as well as to interview question guides.

Atlas.ti software was used as an aid for the line-by-line coding, memo writing and category formation processes. The coded materials included: text of observations, transcribed text of audios and video, the audios and videos themselves, and photos taken by the researcher during field study. This paper presents the results of one focus group done in an international Australian College in Ho Chi Minh City where 11 students participated.

The formation of categories, as customary in doing constructive grounded theory research, was done by performing a more focused coding by extracting the codes with the highest incidence of co-occurrence, placing codes into groups of codes within similar concepts and eliminating the codes that seemed of peripheral or isolated relation to the main ideas expressed by respondents.

This process, coupled with the constant comparison between the resulting core categories from the analysis of the currently examined data with other data from similar research projects resulted in the formation of theories which are presented in separate publications.

## Research Findings

These research findings were concluded from the data collected from one focus group in Vietnam and compared with data collected from the other two countries, Egypt and Denmark. This category rose from the correlation of related super codes after comparing them with the respondents' quotes and relevant observations. The category and the super codes that led to it were diagrammed as a network view (aided by atlas.ti software) as shown in the following diagram (Figure 2):

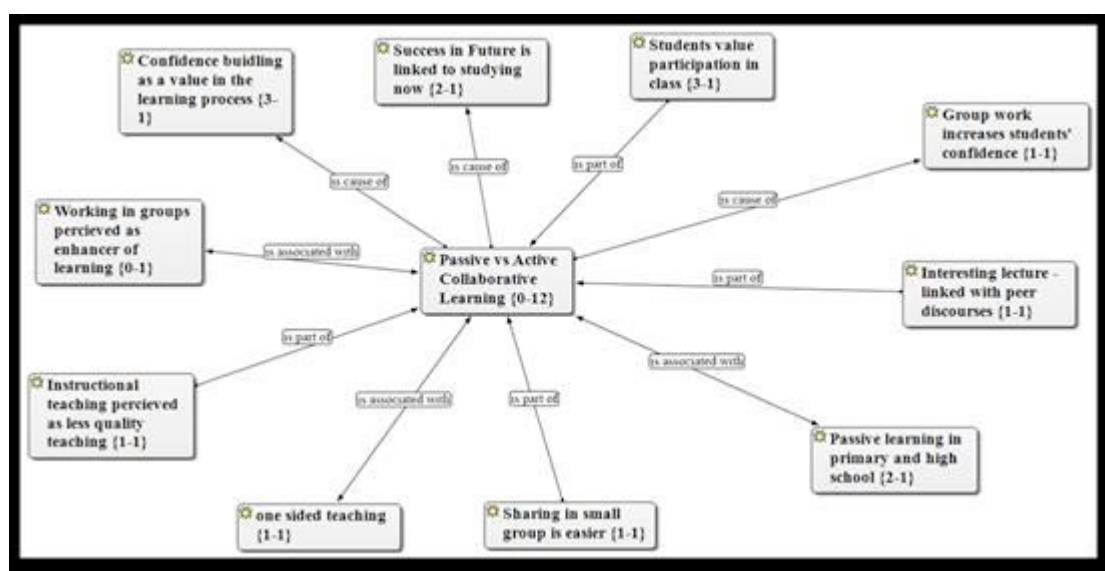


Figure 2: Passive versus Active learning Category and the codes related to it

Students' responses to questions about their preferred method of learning indicated that students preferred classes where they can practice useful activities that would build their personal competency levels. One student explained the reason by saying:

"I like most the presentations because when I present I can build up my confidence"

In the same vein, another student added:

"I also like the presentation part because it gives me a chance to present my ideas and this gives me more confidence and it also gives me support for my future career because when we go to an interview they ask us to make presentations and we must show confidence. When we do a presentation we can show other people our knowledge and our ideas".

Students linked practical activities with building their self-confidence many times as another student said in response to the same discussion:

"I like the activity in class because sometimes we have art or we go to some place new so we can experience what we haven't had before so I think it's a good thing that we do activities in class and to make the students more active and more confident".

The same results were seen in recent empirical data results from a qualitative study done in Taiwan to measure the different motivations for students in getting a university degree. Responses from International students (the majority of which were

Vietnamese) indicate that the main motivation for them to get a university degree was to get a good job in the future. Their responses included comments as:

“In our country, it is not easy to get a college degree. I remember my parents only have the opportunity to study up to secondary education. Taiwan students are very fortunate”... “Having a university degree is a dream come true. In order to realize your dream, you need to pursue it. I believe that after graduating and having a good job will help you accomplish your dream”. (Ao, Ching et al. 2014)

Vietnamese students have constant worries about their future career and they express this by linking their perception about good teaching as based on practice that prepares them for their future careers, as one of the students expressed this by saying:

“I also love Mr Mike. He teaches us how to become a good speaker in front of everybody. He teaches us how to be confident and hide our worry”

Another student elaborated more on the same idea by saying:

“Mr Mike’s class in presentation skill was very good because he is very confident and he knows what the society needs and he gets us to do that. I think that in the future it is very practical. For example, how to be confident when in front of a lot of people, we can control what we say, what we act, what we do”

Students express the natural feeling of students as unconfident and that’s why they appreciate teachers’ efforts to train them on how to act and present in a more confident manner as one student expressed it:

“Students are very shame to talk with a lot of people but he (Mr Mike) teach us how to talk well.”

This is in line with Vietnamese students’ responses in other empirical studies, where students used very similar words by saying:

“In my faculty, the teacher often creates different activities for us to develop presentation skills and team work skills. We can work together in small groups; we can present our work in front of the class. We feel much more confident after all” (Tran 2013).

This reflects the awareness of the decreased level of competencies acquired by university students in Vietnam as compared with the level required by employers in Vietnam. In an empirical study carried out in 2008, 3 surveys were done with 251 department managers, 717 final-year students and 1838 students in different years of four different Vietnamese universities to evaluate their competencies’ levels. The results of the survey showed that students’ level of skills, and especially soft skills was much lower than that required by employers, as the author put it:

“By and large, skills development provided in universities has not matched employers’ needs. This is the inevitable consequence as employers’ needs are, for the most part, neglected in universities’ curriculum objectives. For instance, communication skills, while being highly valued by employers, have not been paid much heed by the universities” (Trung and Swierczek 2009).

The discrepancy between what students learn in universities in Vietnam and the real life skills and competencies required to prosper in the business world has been discussed by other authors as Diane Oliver:

“At the micro-level, the greatest challenge for Vietnam is to balance the curriculum between skills training and education” (Oliver, Thanh et al. 2009).

Vietnamese students’ responses in this focus group reflect this awareness as they keep stressing things like:

“We study with Mr Monroe. He is a really funny guy. You know, he motivates us a lot in class. He teaches us of course how to present, how to work, how to stand in front of everybody, how to please people in front of you, how to make them calm down. He does not teach us just in the book, he teaches us a lot outside like: what is the changing in the world now. He teaches us a lot and he really motivates us. Like when we come back home we have to study more. If you want to have a good future we must study. And he is really a good teacher to us”.

This shows how much students appreciate the value of acquiring skills and competencies that are relevant and needed in their future careers, not just to get a graduate certificate. These results are in line with results from other empirical studies, in an exploratory study on students and graduates in Vietnam using focus groups and in-depth interviews to test the gap between students’ skills and the skills required by employers, many of the students’ responses in this study were very similar to what students express in the current study. For example, one responder said:

“Employers all understand that our knowledge is poor, after employing us, they will have to train us from the beginning, but they always want to know what skills we have, what we are good at and what we still need to develop (graduate—sales manager)” (Tran 2013)

Vietnamese students appreciate applied learning more than theoretical learning as clear in one student’s response by saying:

“I like studying business with Mr Liem, when he teaches he usually gives examples, real examples in the real situations. Like when you are supposed to go to an interview or you apply for a job, how you can communicate with the interviewer in the right way and make a good impression. He also gives examples from real business cases like the way a Chinese company arranges the equipment to bring luck and attract more customers. Something like this”

Vietnamese students learned the difference between passive and active learning by comparing the traditional methods of education that they were used to during primary education level to the more active and practice-focused learning methods that they get in international colleges. They also compare it to how their colleagues who study in other countries learn, as one of the Vietnamese students from a public university said:

“My friend is studying in Holland, he studied abroad and I think he has a very good place to study. Because he’s studying Business Agriculture. He can go to a company, they produce chocolate and he learn how to advertise it and how to make a good marketing project and all things about business. He does not just study in class but in a real company. And at the end of the

semester, he will have the test; he said that, it would be like making a project like what he had learned in the company but about another product like the flowers or something. I think that it's practical and interesting".

All these results show how Vietnamese students appreciate the active learning method more than the traditional instructional method because they realize that practical active learning develops their skills and competencies which results in higher chances of employability for them. They would rather study in an international college that uses active learning than study in a public university that uses traditional teaching methods although they would pay much more money in the public university.

## **Conclusion**

Scholars' understanding about learning has evolved over the last century from the belief that the learner is passive and only motivated to learn by rewards and punishments to the belief that the learner is a processor of information and thus the goal of education becomes to increase the amount of learner's knowledge. In light of these recent advances, action learning was introduced as a method that respects and uses the learner's existing experience and knowledge.

In action learning a process of reflection and action take place within a social context and thus the outcome is learning from experience through this process (McGill and Brockbank 2003). Action learning is the preferred method of teaching in most exported educational programs from western developed countries to developing countries and thus it is important for course designers of these programs to understand the view of students in recipient countries of these programs.

The results presented in this paper show that Vietnamese students prefer the interactive action learning method where they can engage in activities that would help develop their competencies and skills. Unlike the common belief that students from CFC countries like to memorize the contents of the books, this study shows that there is a shift in the younger generations' attitude towards learning.

As much as they still appreciate the presence and authority of the teacher in the classroom setting, they also appreciate being treated as active participants in their own learning process rather than being passive recipients of information. Vietnamese students are becoming increasingly aware of the demands of the workforce market and the required skills for getting a good high paying job and thus they are keen on acquiring these skills rather than being concerned about obtaining a certificate of education without any real development.

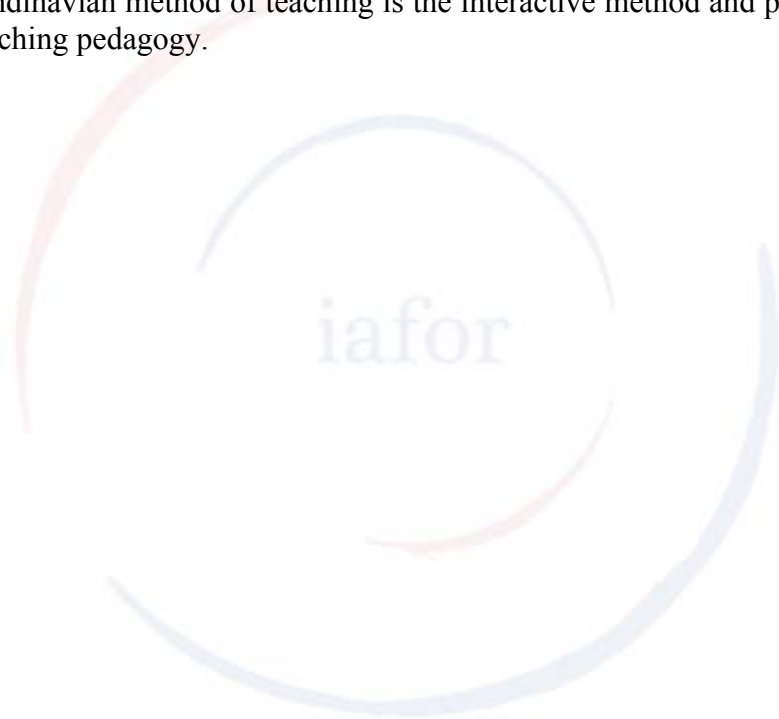
Previously published results from the same study have shown that students from Vietnam prefer the teacher-centered learning style, which is represented in the learning situation model as type "a" (Figure 1), where most learning-related interactions are in the "student-teacher interface" and are controlled and dominated by the teacher.(Fahmy 2014).



Both results have implications for course designers who develop curriculums and educational programs to be exported to Vietnam as International Business School of Scandinavia (the host company for this research project). It is highly recommended to use a constructive teaching approach (as Problem Based Learning) rather than the traditional instructive pedagogy. Vietnamese students are open to trying new methods of learning and consider memorizing and instructional teaching to be a sign of a lack of appreciation of their skills and mental abilities.

Exporters of education using blended learning as their teaching methodology are advised to design their programs so that they would include a considerable deal of encounters with the teacher as well as to be based on action learning pedagogies where students are encouraged to develop their skills and competencies.

This study shows that there is a good opportunity for exporting educational institutes from Denmark and Scandinavian countries to Vietnam since the preferred Danish/Scandinavian method of teaching is the interactive method and problem based learning-teaching pedagogy.



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A large, faint watermark of the IAFOR logo is centered on the page. It consists of the word "iafor" in a lowercase, sans-serif font, surrounded by several overlapping, curved lines in shades of blue and red that form a circular, abstract shape.

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***Building Academic Staff Portfolio to Increase Employee Retention:  
A Case Study of a Thai University***

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Maureen Ricafort, Webster University, Thailand

The IAFOR International Conference on Education - Dubai 2015  
Official Conference Proceedings

**Abstract**

The competition to retain the best employees, specifically learned and research-active faculty members, is now a challenge for universities in Thailand. Retaining these kind of employees is crucial in the growth of universities and in maintaining its QA rating. The Office of the Higher Education Commission (OHEC) requires all universities, both public and private, to comply with the standards of Quality Assurance for continuous quality improvement. Key areas of QA requirements as mentioned by Thaima (2012) which is directed at building academic staff portfolio includes: Teaching & Learning, Research and Provision of Academic Services to the Community. This research paper aims to examine employee retention through employee job satisfaction and its relationship with university support in building academic staff portfolio. Moreover, this study aims to present a clear understanding of the key areas in academic staff portfolio which complies with the requirements of OHEC and how it is perceived by employees as contributing factors to employee job satisfaction thus employee retention. The results of this study will aid the university in identifying key areas in building academic staff portfolio that they should focus on or build upon to retain outstanding employees. It will also assist the university in recognizing the importance of building academic staff portfolio in understanding the needs and expectations of their faculty members.

**Keywords:** Employee Job Satisfaction, Employee Retention, Academic Staff Portfolio, Reward and Recognition, Training and Development

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## Introduction

The competition to retain the best employees, specifically learned and research-active faculty members, is now a challenge for universities in Thailand. Retaining these kind of employees is critical in the growth of universities and in maintaining its QA rating. The Office of the Higher Education Commission (OHEC), Ministry of Education requires all universities, both public and private, to comply with the standards of Quality Assurance for continuous quality improvement. Key areas of QA requirements focus on Teaching & Learning, Research, Provision of Academic Services to the Community and Preservation of Art & Culture. Among these four key areas, the first three key areas overlap with building academic staff portfolio.

Employee job satisfaction measures how happy employees are with their jobs and their working environment so much so they would stay with the organization for a longer period of time, thus employee retention. Losing critical employees according to Ramlall (2004) incurs significant economic disadvantage of a minimum of one year's pay and benefits to a maximum of two for the company.

While different variables contribute to the satisfaction of employees, rewards and recognition as well as training and career development are at the forefront. Hence, this study aims to examine employee retention through employee satisfaction in relation to the support given by the current university to the academic staff.

## Literature Review

While satisfaction refers to the level of fulfilment of one's needs, wants and desires (Morse, 1997), employee satisfaction refers to the fulfilment of one's needs, wants and desires at work (Sageer, Rafat, and Agarwal, 2012). Employee satisfaction describes how happy employees are of his or her position of employment (Moyes, Shao & Newsome, 2008) that is resulting from the appraisal of one's job or job experiences (Islam & Siengthai, 2009).

Satisfied employees tend to be more productive and responsive (Heskett et al, 1994), increases customer satisfaction (Carpitella, 2003) and decreases employee turnover (Maloney & McFillen, 1986). A competitive salary scheme, a functional working environment, career developments, training and education opportunities and a good relationship with colleagues contribute to employee satisfaction (Aydin & Ceylan, 2009). Employees are more productive and loyal when they are satisfied (Hunter & Tietjen, 1997), thereby they stay longer with an organization.

The necessity to retain qualified employees in the higher education sector stems from the need to provide quality education, develop institutional effectiveness and attain accreditation, consequently a higher QA rating from the OHEC in Thailand. Employee retention is now an emerging issue in the workforce management of the near future.

Retention is the process where employees are encouraged to remain with the organization for the maximum period of time (James & Mathew, 2012; Ratna & Chawla, 2012; Balakrishnan & Vijayalakshmi, 2014). It involves strategies and measures taken by employers to create and foster a work environment where

motivating factors are presented to encourage employees to stay with the organization. Thus, this article is focused on key areas of QA requirements in relation to building academic portfolio.

Thaima (2012) described the primary objectives of each key area of QA requirements as described by the National Education Act. According to Thaima, the first key area or folio 1, Teaching & Learning, is directed at the primary objective of universities, colleges and institutions in providing knowledge and skills that would assist their students to be successful in their lives.

The second key area or folio 2, Research, is aimed at encouraging faculty members to conduct research studies supporting the country's goal of self-reliance for continued social and economic development. The third key area or folio 3, Provision of Academic Services to the Community, strives for community development through the provision of different kinds of academic services.

### **Research Methodology**

The study aims to conduct a primary research on the rate of satisfaction of employees when it comes to university support in building academic staff portfolio. The primary objective of the study is to establish a correlation between employee satisfaction and employee retention. The study was carried out using a survey questionnaire in collecting primary data from respondents of a Thai university.

A total of 332 completed questionnaires (Krejcie and Morgan, 1970) were gathered out of the 1,000 disseminated questionnaires. Respondents of the study are limited to faculty members and employee satisfaction is in terms of rewards, recognition, training and career development which is relevant to building academic staff portfolio linked to Thai QA requirements.

A structured and standardized questionnaire scale was developed by the researcher to collect quantitative information. The questionnaire is composed of a demographic section, statements regarding employee satisfaction on university support and determinants of employee retention. The questionnaire was also translated into Thai language for the purpose of ease of data collection.

Descriptive statistics such as frequencies, means and standard deviations were generated and ANOVA (Analysis of Variance) and correlation were applied in the analysis of data to identify the relationship between employee satisfaction on university support in building academic staff portfolio and employee retention. Any information gathered in the survey will only be used for academic writing purposes.

Research Design: Descriptive Research  
Sampling Unit: Faculty Members  
Sampling Method: Convenience Sampling  
Sampling Size: 332 Respondents  
Data Collection Method: Primary Data  
Research Instrument: Questionnaire

## **The Objectives of the Study**

The study aimed to address the following objectives:

- To identify a correlation between employees satisfaction with regards to university support in building academic staff portfolio and employee retention.
- To identify significant relationship between demographic factors of respondents and employee satisfaction as with regards to university support in building academic staff portfolio.
- To aid the university by identifying areas in building academic staff portfolio compliant with Thailand's Quality Assurance requirements that would engage and retain employees.

## **Hypotheses**

Researchers found that demographic factors such as gender, age, educational attainment, length of service and income have a significant and positive relationship with employee satisfaction. For instance, Sageer, Rafat & Agarwal (2012) identified age, gender, and educational attainment as significant determinants of employee satisfaction. It was stated in their study that the younger the employees are, the higher the energy level and the more satisfied they are with their jobs.

The same can be said with educational attainment of employees, the higher the education level, the more opportunities to develop personality traits that could lead to better evaluation process and satisfaction in the workplace. Additionally, the study indicated that women tends to be more satisfied than men when it comes to employee satisfaction. A similar research by Ghafoor (2012) affirmed that demographic factors such as gender, qualification, experience, rank/designation, job status and salary of academic staff positively influences job satisfaction while age has no significant impact.

Moreover, several research studies conducted is directed at identifying employee retention and organizational commitment. A study by Balakrishnan & Vijayalakshmi (2014) focused on job satisfaction leading to retention of qualified faculty members. It was stated in this study that better compensation package, scope of advancement and improvements, better training or working experience, better access to institution sponsored training, workshops and seminars, among others significantly affects the performance and retention in an organization. Another research study conducted by Iqbal (2010), confirmed that organizational tenure or length of service is significantly and positively associated with organizational commitment and thus retention.

In order to achieve the objectives of the study, the following hypotheses were tested:

Hypothesis 1: There is a significant difference between Gender and Employee Satisfaction.

Hypothesis 2: There is a significant difference between Age and Employee Satisfaction.

Hypothesis 3: There is a significant difference between Educational Attainment and Employee Satisfaction.

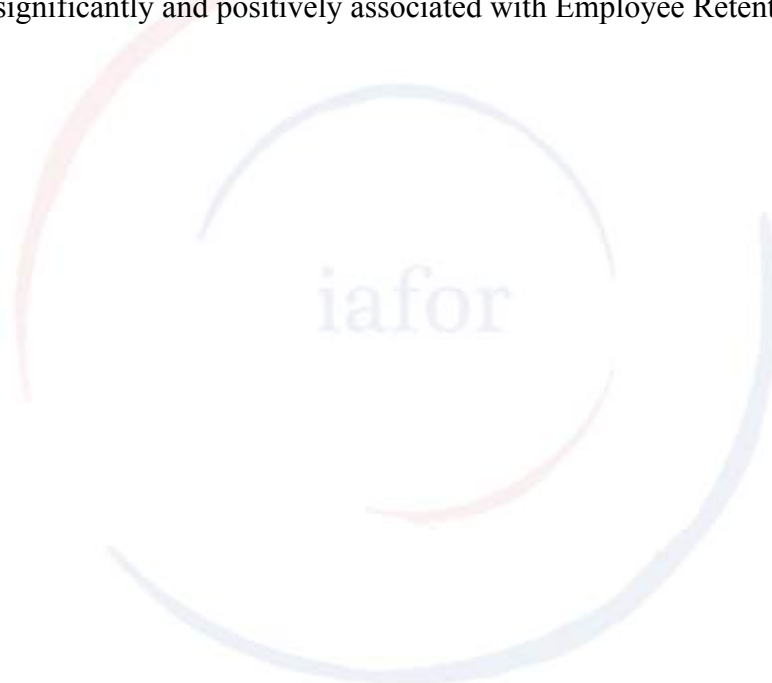
Hypothesis 4: There is a significant difference between Length of Service in Current University and Employee Satisfaction.

Hypothesis 5: There is a significant difference between Length of Service as an Academician and Employee Satisfaction.

Hypothesis 6: There is a significant difference between Academic Title and Employee Satisfaction.

Hypothesis 7: There is a significant difference between Monthly Income and Employee Satisfaction.

Hypothesis 8: Employee satisfaction on university support in building academic portfolio is significantly and positively associated with Employee Retention.





## Data Analysis and Interpretation

### Descriptive Analysis of Demographic Factors

The first section of the survey yielded demographic information on the sample being studied. Demographic data is presented in Table 1.

Table 1: Demographic Characteristics of Academic Staff

Characteristics (N=332)	N	%
<b>Gender:</b>		
Male	115	34.6
Female	217	65.4
<b>Age:</b>		
<20 years	0	0.0
20-29 years	88	26.5
30-39 years	104	31.3
40-49 years	105	31.6
50-59 years	29	8.7
>60 years	6	1.8
<b>Educational Attainment:</b>		
Bachelor	107	32.2
Master	205	61.7
Doctorate/PhD	18	5.4
Others	2	0.6
<b>Length of Service in Current University</b>		
<1 year	46	13.9
1-5 years	193	58.1
6-10 years	55	16.6
>10 years	38	11.4
<b>Length of Service as Academician</b>		
<1 year	14	4.2
1-5 years	114	34.3
6-10 years	101	30.4
>10 years	103	31.0
<b>Academic Title/Rank</b>		
Instructor/Lecturer	210	63.3
Assistant Professor	9	2.7
Associate Professor	1	0.3
Professor	0	0.0
Professor Emeritus	0	0.0
Others	112	33.7
<b>Monthly Income (in THB)</b>		
<20,000 Baht	68	20.5
20,000-50,000 Baht	220	66.3
50,001-100,000 Baht	44	13.3
>100,000 Baht	0	0.0

### Descriptive Analysis of Employee Satisfaction

The second section of the survey described in Table 2 determines the level of satisfaction of employees as with regards to the support they are receiving from the university in line with building their academic portfolio. 9 factors were divided into 3 Folios, Folio 1 described university support with regards to teaching and learning factors, Folio 2 described university support with regards to research factors, and Folio 3 described university support with regards to provision of services to the community. The overall average showed that 89.5% of the academic staff were

satisfied with what they are receiving as university support in the 3 folios, while only 10.1% are neutral and 0.4% was dissatisfied. Out of the 3 folios, the third folio received the highest satisfied average rating with a 90.7% followed by the second folio with a 90.3% and the first folio with an 87.6%.

Table 2: Level of Employee Satisfaction

		Level of Satisfaction					
		Dissatisfied		Neither		Satisfied	
		R.	%	R.	%	R.	%
<b>Folio 1</b>							
1	Student feedback on faculty evaluation communicated to the faculty.	2	0.6	53	16.0	277	83.5
2	Nomination for teaching rewards and recognition.	1	0.3	36	10.8	295	88.9
3	Participation and contribution to the delivery of continuing professional development programs.	2	0.6	30	9.0	300	90.4
<b>Average</b>		<b>2</b>	<b>0.5</b>	<b>40</b>	<b>11.9</b>	<b>291</b>	<b>87.6</b>
<b>Folio 2</b>							
1	Competitive funding relating to publication of scholarly works and conference participation.	1	0.3	40	12.0	291	87.7
2	Publication of scholarly journals, book chapters and textbooks.	0	0.0	29	8.7	303	91.3
3	Participating in collaborative research with other universities, industry, community groups or public agencies.	1	0.3	26	7.8	305	91.9
<b>Average</b>		<b>1</b>	<b>0.2</b>	<b>32</b>	<b>9.5</b>	<b>300</b>	<b>90.3</b>
<b>Folio 3</b>							
1	Dissemination of knowledge through projects, seminars and workshops that impacts community members.	2	0.6	40	12.0	290	87.4
2	Provision of professional expertise to community members and local practitioners.	2	0.6	29	8.7	301	90.7
3	Participation in public affairs and contribution to the development of public policy at a regional, national or international level.	1	0.3	19	5.7	312	94.0
<b>Average</b>		<b>2</b>	<b>0.5</b>	<b>29</b>	<b>8.8</b>	<b>301</b>	<b>90.7</b>
<b>Overall Average</b>		<b>1</b>	<b>0.4</b>	<b>34</b>	<b>10.1</b>	<b>297</b>	<b>89.5</b>

R. = Repetition

### Descriptive Analysis of Employee Retention

The third section of the survey determines the level of satisfaction of employees as with regards to retention factors. Only 2 factors were described in this section and 88.3% of respondents indicated a satisfied rating while only 11.4% were neither satisfied nor dissatisfied and 0.3% was dissatisfied.

Table 3: Level of Employee Satisfaction on Retention Factors

		Level of Satisfaction					
		Dissatisfied		Neither		Satisfied	
		R.	%	R.	%	R.	%
1	The university provides continuous effort in supporting the development of academic portfolio.	2	0.6	41	12.3	289	87.1
2	The university uses academic portfolio in determining promotions.	0	0.0	35	10.5	297	89.4
<b>Average</b>		<b>1</b>	<b>0.3</b>	<b>38</b>	<b>11.4</b>	<b>293</b>	<b>88.3</b>

R. = Repetition

### Analysis of Variance (ANOVA)

One way ANOVA was conducted to determine any significant difference among the demographic factors and employee satisfaction with university support on building academic staff portfolio.

Findings from the ANOVA test between gender and employee satisfaction revealed that there are no significant differences for all the nine factors in three folios, between respondent's gender and their satisfaction with university support on building academic portfolio. Therefore, hypothesis 1 is rejected.

Results of the ANOVA test on significant differences between age and employee satisfaction is shown on Table 4. 8 out of 9 factors proved to have significant differences thus hypothesis 2 is accepted for these 8 factors. Results also show that the younger age group (20-29 years and 30-39 years) has the highest means of employee satisfaction on university support in developing academic portfolio.

Table 4: Analysis of Variance of Age and Employee Satisfaction

	Age	Mean	Std. Deviation	F	Sig.
Student feedback	20-29 yrs	4.06	.488	5.668	.000
	30-39 yrs	4.13	.592		
	40-49 yrs	3.90	.603		
	50-59 yrs	3.66	.614		
	>60 yrs	3.67	.516		
Teaching rewards & recognition	20-29 yrs	4.20	.550	8.223	.000
	30-39 yrs	4.25	.535		
	40-49 yrs	4.02	.537		
	50-59 yrs	3.69	.660		
	>60 yrs	3.67	.516		
Professional development programs	20-29 yrs	4.25	.552	5.025	.001
	30-39 yrs	4.27	.578		
	40-49 yrs	4.11	.593		
	50-59 yrs	3.83	.658		
	>60 yrs	3.67	.516		
Research funding	20-29 yrs	4.16	.523	2.395	.050
	30-39 yrs	4.16	.576		
	40-49 yrs	4.01	.628		
	50-59 yrs	3.86	.581		
	>60 yrs	4.17	.408		
Publication of research works	20-29 yrs	4.22	.535	3.087	.016
	30-39 yrs	4.25	.498		
	40-49 yrs	4.09	.574		
	50-59 yrs	3.90	.673		
	>60 yrs	4.17	.408		
Collaborative research	20-29 yrs	4.30	.438	4.317	.002
	30-39 yrs	4.26	.540		
	40-49 yrs	4.11	.625		
	50-59 yrs	3.86	.639		
	>60 yrs	4.00	.000		
Provision of professional expertise	20-29 yrs	4.25	.509	5.990	.000
	30-39 yrs	4.17	.565		
	40-49 yrs	3.94	.456		
	50-59 yrs	3.93	.753		
	>60 yrs	3.67	.816		
Contribution to development of public policy	20-29 yrs	4.31	.488	5.482	.000
	30-39 yrs	4.25	.517		
	40-49 yrs	4.04	.437		
	50-59 yrs	3.97	.823		
	>60 yrs	3.83	.753		

Table 5 illustrates the findings from the ANOVA test between educational attainment of respondents and their satisfaction. 5 out of 9 factors from the three folios given supported the acceptance of hypothesis 3, stating that there are significant differences between educational attainment and employee satisfaction. The test also proved that the highest satisfaction rating from respondents came from the lowest educational attainment (Bachelor degree). Only one factor, collaborative research, gained the highest employee satisfaction rate than the others from respondents with a Doctorate/PhD degree.

Table 5: Analysis of Variance of Educational Attainment and Employee Satisfaction

	Educational Attainment	Mean	Std. Deviation	F	Sig.
Teaching rewards & recognition	Bachelor	4.19	.631	4.694	.003
	Master	4.10	.515		
	Doctorate	3.83	.618		
	Others	3.00	1.414		
Professional development programs	Bachelor	4.20	.606	2.729	.044
	Master	4.17	.570		
	Doctorate	4.11	.676		
	Others	3.00	1.414		
Collaborative research	Bachelor	4.24	.580	3.465	.017
	Master	4.16	.550		
	Doctorate	4.22	.647		
	Others	3.00	.000		
Provision of professional expertise	Bachelor	4.14	.606	6.396	.000
	Master	4.09	.501		
	Doctorate	3.94	.416		
	Others	2.50	2.121		
Contribution to development of public policy	Bachelor	4.30	.518	10.731	.000
	Master	4.13	.502		
	Doctorate	3.94	.416		
	Others	2.50	2.121		

The outcome from the ANOVA test on length of service in current university and employee satisfaction is supported by Table 6. Hypothesis four, accepted by 6 out of 9 factors of the study, stated a significant difference between length of service and employee satisfaction. Respondents with less than five years but more than one year tenure in the current university gained the highest means of employee satisfaction for all 6 factors.

Table 6: Analysis of Variance of Length of Service in Current University and Employee Satisfaction

	Length of Service in Current University	Mean	Std. Deviation	F	Sig.
Student feedback	<1 yr.	3.93	.490	2.703	.046
	1-5 yrs.	4.06	.588		
	6-10 yrs.	3.93	.634		
	>10 yrs.	3.79	.577		
Teaching rewards & recognition	<1 yr.	4.07	.533	5.988	.001
	1-5 yrs.	4.20	.545		
	6-10 yrs.	4.00	.544		
	>10 yrs.	3.82	.692		
Professional development programs	<1 yr.	4.09	.590	4.598	.004
	1-5 yrs.	4.26	.538		
	6-10 yrs.	4.02	.623		
	>10 yrs.	3.97	.753		
Collaborative research	<1 yr.	4.11	.482	4.024	.008
	1-5 yrs.	4.27	.530		
	6-10 yrs.	4.09	.586		
	>10 yrs.	3.97	.753		
Provision of professional expertise	<1 yr.	4.13	.453	5.783	.001
	1-5 yrs.	4.18	.530		
	6-10 yrs.	3.87	.511		
	>10 yrs.	3.92	.749		
Contribution to development of public policy	<1 yr.	4.13	.499	4.308	.005
	1-5 yrs.	4.25	.511		
	6-10 yrs.	4.00	.430		
	>10 yrs.	4.03	.753		

The ANOVA test on length of service as academician and employee satisfaction proved that hypothesis five should be accepted for only 5 out of the 9 factors stated in the questionnaire.

Table 7 indicates that the three factors of folio 1 gained the highest means of employee satisfaction from respondents who has served to be academicians for less than 10 years but more than five years. While the factor “provision of professional expertise” gained the highest satisfaction rating from respondents with less than a year of serving as academicians, the factor “contribution to development of public policy” gained the highest satisfaction rate from respondents of more than one year to less than five years of academic experience.

Table 7: Analysis of Variance of Length of Service as Academician and Employee Satisfaction

	Length of Service as Academician	Mean	Std. Deviation	F	Sig.
Student feedback	<1 yrs	3.93	.616	4.087	.007
	1-5 yrs	4.03	.540		
	6-10 yrs	4.11	.581		
	>10 yrs	3.83	.612		
Teaching rewards & recognition	<1 yrs	4.14	.663	7.460	.000
	1-5 yrs	4.18	.536		
	6-10 yrs	4.24	.532		
	>10 yrs	3.89	.593		
Professional development programs	<1 yrs	4.14	.663	3.990	.008
	1-5 yrs	4.20	.567		
	6-10 yrs	4.29	.589		
	>10 yrs	4.01	.602		
Provision of professional expertise	<1 yrs	4.21	.579	4.091	.007
	1-5 yrs	4.19	.530		
	6-10 yrs	4.11	.564		
	>10 yrs	3.94	.557		
Contribution to development of public policy	<1 yrs	4.21	.579	4.743	.003
	1-5 yrs	4.30	.497		
	6-10 yrs	4.15	.498		
	>10 yrs	4.03	.585		

The ANOVA findings on significant differences between the academic title and employee satisfaction lead to the acceptance of hypothesis 6 by 5 out of 9 factors. Table 8 which illustrates the mean values, shows that the highest number of respondents (63.3% are instructors and lecturers) gained nearly as high as the employee satisfaction means of respondents under the “Others” category.

Table 8: Analysis of Variance of Academic Title and Employee Satisfaction

	Academic Title	Mean	Std. Deviation	F	Sig.
Teaching rewards & recognition	Lecturer	4.10	.552	4.461	.004
	Asst Prof	3.56	.527		
	Assoc Prof	3.00	.		
	Others	4.16	.594		
Professional development programs	Lecturer	4.17	.592	3.706	.012
	Asst Prof	3.67	.500		
	Assoc Prof	3.00	.		
	Others	4.21	.592		
Publication of research works	Lecturer	4.13	.546	3.939	.009
	Asst Prof	3.78	.667		
	Assoc Prof	3.00	.		
	Others	4.24	.541		
Collaborative research	Lecturer	4.16	.572	3.041	.029
	Asst Prof	3.89	.601		
	Assoc Prof	3.00	.		
	Others	4.26	.549		
Contribution to development of public policy	Lecturer	4.13	.487	5.239	.002
	Asst Prof	3.78	.667		
	Assoc Prof	3.00	.		
	Others	4.28	.588		

Findings from the ANOVA test between monthly income and employee satisfaction appears on Table 9. Hypothesis 7 is accepted for almost all nine factors except the first factor of folio 3, “dissemination of knowledge through projects, seminars and workshops that impacts community members”. Table 9 shows that the higher the salary bracket of the respondent, the lesser they are satisfied with the university support in building academic portfolio.

Table 9: Analysis of Variance of Monthly Income and Employee Satisfaction

	Monthly Income	Mean	Std. Deviation	F	Sig.
Student feedback	<20,000 TSh	4.16	.507	6.848	.001
	20,000-50,000 TSh	3.98	.604		
	50,001-100,000 TSh	3.75	.534		
Teaching rewards & recognition	<20,000 TSh	4.35	.512	13.764	.000
	20,000-50,000 TSh	4.09	.582		
	50,001-100,000 TSh	3.80	.462		
Professional development programs	<20,000 TSh	4.31	.580	4.820	.009
	20,000-50,000 TSh	4.16	.605		
	50,001-100,000 TSh	3.95	.526		
Research funding	<20,000 TSh	4.24	.461	4.930	.008
	20,000-50,000 TSh	4.08	.599		
	50,001-100,000 TSh	3.89	.618		
Publication of research works	<20,000 TSh	4.32	.502	4.682	.010
	20,000-50,000 TSh	4.13	.537		
	50,001-100,000 TSh	4.02	.664		
Collaborative research	<20,000 TSh	4.35	.512	4.995	.007
	20,000-50,000 TSh	4.16	.566		
	50,001-100,000 TSh	4.02	.628		
Provision of professional expertise	<20,000 TSh	4.25	.529	3.607	.028
	20,000-50,000 TSh	4.05	.579		
	50,001-100,000 TSh	4.02	.457		
Contribution to development of public policy	<20,000 TSh	4.34	.507	5.039	.007
	20,000-50,000 TSh	4.14	.532		
	50,001-100,000 TSh	4.05	.569		

## Correlations

A correlation analysis, at a significant level of 0.01 (2-tailed) was also used to test hypothesis 8 of the study, focusing on a significant and positive association of employee retention and employee satisfaction on university support in building academic portfolio. Table 10 shows a positive correlation on all nine factors of employee satisfaction and employee retention.

Two factors, “participating in collaborative research with other universities, industry, community groups or public agencies” and “dissemination of knowledge through projects, seminars and workshops that impacts community members” gained the strongest positive correlation with employee retention factor “the university provides continuous effort in supporting the development of academic portfolio.” While “participating in collaborative research with other universities, industry, community groups or public agencies” gained the strongest positive correlation with retention factor “the university uses academic portfolio in determining promotions”, the second strongest correlation was from the factor “publication of scholarly journals, book chapters and textbooks”.



Table 10 : Correlation among Employee Satisfaction and Employee Retention

	Monthly Income	Continuous effort provided by the university in support of developing academic portfolio	University use academic portfolio in determining promotions
Student feedback	Pearson Correlation	.412**	.373**
	Sig. (2-tailed)	.000	.000
	N	332	332
Teaching rewards & recognition	Pearson Correlation	.370**	.422**
	Sig. (2-tailed)	.000	.000
	N	332	332
Professional development programs	Pearson Correlation	.405**	.384**
	Sig. (2-tailed)	.000	.000
	N	332	332
Research funding	Pearson Correlation	.448**	.443*
	Sig. (2-tailed)	.000	.000
	N	332	332
Publication of research works	Pearson Correlation	.483**	.472**
	Sig. (2-tailed)	.000	.000
	N	332	332
Collaborative research	Pearson Correlation	.518**	.497**
	Sig. (2-tailed)	.000	.000
	N	332	332
Dissemination through projects, seminars and workshops	Pearson Correlation	.528**	.460**
	Sig. (2-tailed)	.000	.000
	N	332	332
Provision of professional expertise	Pearson Correlation	.494**	.434**
	Sig. (2-tailed)	.000	.000
	N	332	332
Contribution to development of public policy	Pearson Correlation	.439**	.416**
	Sig. (2-tailed)	.000	.000
	N	332	332

## Conclusion

The results of the study indicated that six out of seven demographic factors, age, educational attainment, length of service in the current university, length of service as academician, academic title and monthly income, revealed a significant difference as with regards to employee satisfaction on university support in building academic portfolio.

This finding is consistent with other research studies wherein demographic factors affects employee satisfaction (Acuna et al, 2009; Malik, 2011; Urosevic & Milijic, 2012; Ghafoor, 2012). But unlike Ghafoor (2012), this study revealed that there is no significant difference among gender and employee satisfaction on university support in building academic portfolio.

Furthermore, this study indicated that younger academicians at the age bracket of 20-39 years, with a bachelor's degree and instructor or lecturer academic title, whose employment at the current university is less than five years but more than 1 year, has been an academician for less than 10 but more than 5 years, and has an income of less than 20,000 THB, affirmed that they are more satisfied than others, revealed through high ratings/high mean score in employee satisfaction scale, with the university

support in building academic portfolio. An indication of the finding regarding educational attainment as stated by Mowday et al (1982) reveals that the higher the educational attainment, the less satisfied you are, as expectations rise as well. Iqbal (2010) on the other hand confirmed that organizational tenure leads to organizational commitment and retention. The second objective is addressed by these results.

A positive relationship between employee satisfaction and employee retention was also revealed in the study but three factors gained the strongest correlation with employee retention factors. Respondents who gave high ratings on publication of scholarly works, participation in collaborative research and dissemination of knowledge through projects, seminars and workshops, have a high satisfaction rate on retention factors of continuous support in the development of academic portfolio and academic portfolio as one of the basis for determining promotions. The first objective is addressed by these results.

Employees who are satisfied with their jobs are likely to stay with the organization longer. Retention strategies as Lockwood (2006) defined, are integrated strategies aiming to increase workplace productivity through improved processes focused on attracting, developing, retaining and utilizing people with required skills and aptitude. On the basis of the results of this study, universities in Thailand should focus more on the provision of university support in the publication and dissemination of scholarly works. This in turn would attend to the requirements of the Office of Higher Education Commission's quality assurance requirements of universities.

The logo for IAFOR (International Association for Frontiers of Research) is centered on the page. It consists of the lowercase letters "iafor" in a light blue, sans-serif font. The text is enclosed within a circular graphic element made of several overlapping, semi-transparent arcs in shades of blue and red, creating a stylized, circular frame around the text.

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***Factors Affecting the Achievement Level in Biological Science of the Students  
in the University of Eastern Philippines***

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**Abstract**

This study employed the descriptive method of research to describe the achievement level in Biological Science in the areas of cells, tissues and organs among the college students of the University of Eastern Philippines. Using a researcher-made questionnaire, data were collected from students of the College of Science and College of Arts and Communication. Data on gender, socio-economic status, type of high school graduated from, attitude towards Biology were drawn from the respondents.

The analysis and interpretation of the gathered data were carried out using frequency, percentage and mean. The multiple regression analysis was also used to determine the significant relationship of the achievement level in Biological Science and the independent variables.

The findings revealed that majority of the respondents of this study were female; most of the respondents parents were college graduates; majority of the fathers were working as government employees but most of the mothers were not working and were plain housewives; the respondents parents' monthly income ranged from Php1,000 to 5,000; the students obtained scores considered Failure in the achievement test in Biological Science; and, generally, the respondents' attitude towards Biology was "Undecided".

The multiple regression analysis showed that there is a significant relationship between the achievement level in Biological Science and the profile of the student-respondent's gender, mother's educational attainment, father's occupation and monthly family income, further revealed that there is no significant relationship between the achievement level in biological science and type of high school where they graduated, father's educational attainment and mother's occupation.

Keywords: Achievement, Biological Science, Attitude

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## Introduction

Biological Science is a subject offered to non-science major students in the college level as a requirement of the courses they are enrolled in. In this curricular subject, the students are expected to learn the basic knowledge about life and its components.

Today, people live in a science-conscious age. Radio and television advertise products that are the results of scientific researches. The news and media outlets deal everyday with some developments in space science, medical and agricultural sciences, and others. Even the President and Congress of the Philippines have employed the services of advisers on science. Countries spend millions of dollars on scientific researches and development for financial stability. However, there is a surprising lack of understanding and comprehension on what science is (Lopez, 2000).

Some view science as akin to magic, relentless mathematical games and there are those who feel that science should be able to provide definite solutions to all the problems of modern life from water and air pollution to shortage of energy and to the ravages of cancer. Keeton (1983), however, regards science with anxious suspicion as a threat to humane existence.

The threshold of the 21<sup>st</sup> century is characterized by rapid economic growth and technological changes. This era is expected to be marked by great changes in the development and delivery of learning and knowledge systems. It is a century that will lean heavily on science and technology (Fanega, 2001).

In recognition of the role of science and technology in development, Article XIV, Section 10 of the 1987 Philippine Constitution mandates, among others, that science and technology education are essential for development, invention, innovation, training, and services. It shall support indigenous, appropriate, and self-reliant scientific and technological capabilities and their application to the country's productive system and national life.

The Department of Science and Technology (DOST), as the premiere science and technology body in the country, under Executive Order No. 128, is likewise charged with the twin mandate of providing central direction, leadership and coordination of all scientific and technological activities, and of formulating policies, programs, and projects to support national development. The Science Department is further tasked to continuously review the state and needs of science and technology in the context of the country's development goals.

The Department of Education (DepEd), being one of the potent agencies of the government in initiating changes through the learning institutions, believes that education should emphasize more on science and technology, culture and history, and a balance of language and values education. Scientific literacy should be emphasized as an important requirement for individuals to live productive lives. Science education is everybody's business, therefore, it should be given to all, and that it should happen in the classroom.

The school must assume a large share of responsibility for developing scientific attitudes and behavior in students. As an instrument for dissemination of scientific

knowledge, it should take a decisive stride in giving and providing incentives for the development of scientific attitudes, habits and skills, knowledge and appreciation, and enthusiasm among the students.

Knowledge should be attuned and be more responsive to the felt needs of the times. Students need to learn how to take full advantage of the benefits provided by science and technology through the curriculum implementers.

The present science education program is generally geared towards the vertical ladder form of teaching, that is, developing science experiences from one level, which builds on those preceding ones. These provide connecting link to those in the succeeding level. Instruction in science is intended to provide a continuity and variety of experiences in order to help students to grow along with their expanding environment. This may lead to the pursuit of science as a career.

To attain the objectives of science instruction in all schools, science educators, administrators of science programs, and science specialists must pool together all their efforts in order to come up with new set of goals for science teachers in all levels. The overarching goal of science is to produce science literate individuals who can think and act objectively and scientifically to things in their environment, who can employ scientific procedures in searching for ideas and who can exhibit values, appreciations and interests important to their personal and social life. Hence, teachers should realize that their effectiveness depends on how well they can foster a favorable attitude towards the subject.

According to Keeton, Biological Science can and should be one of the most stimulating subject in college, after all, it has such an immediate personal relevance as the phenomena of life. Being a study of life, Biological Science sheds light on what every individual experiences in himself/herself and by observers around him/her.

The role and the study of biology in the country is very vital in order to achieve better changes. Making Biology as a required subject in college is a way of helping the students understand important scientific biological concepts and its relationship which enable them to apply and control the things that surround them.

DECS Order No. 111, s. 89 on Policies and Standards for Basic Sciences states that the basic science program shall aim at providing the country's future generation of scientists, researchers, teachers, engineers, and other professionals with substantial training in the fields of biology, chemistry, mathematics and physics.

This policy statement had motivated the researcher to conduct a study along the area of science and technology to determine the achievement level in Biological Science and the factors that influence the achievement of the selected college students of the University of Eastern Philippines, University Town, Northern Samar.

Furthermore, the result of this study would probably answer if there is a need of experiential learning in Biological Science subject specifically to non-science major students.



## **Statement of the Problem**

The main purpose of this research study was to determine the factors affecting the achievement level in biological science of college students in the University of Eastern Philippines during the second semester of school year 2008-2009.

Specifically, it answered the following problems:

1. What is the profile of the college students of the University of Eastern Philippines in terms of: gender; socioeconomic status of the parents: parents' occupation, educational attainment, monthly income; Program enrolled in; and type of high school where they graduated from?
2. What is the attitude towards Biology of the students?
3. What is the achievement level in Biological Science of the students?

## **Hypothesis**

This research sought to test the null hypothesis "that the factors are not a predictor of the achievement level in Biological Science of the students."

## **Research Design**

To achieve the purpose of this research study, a descriptive-survey method was used through an achievement test in Biology which was administered to the students of the College of Science and College of Arts and Communication of the University of Eastern Philippines, during the second semester of SY 2008-2009.

This method was deemed fit for use in studies like this which gathered data and information through the use of questionnaires which were analyzed and interpreted. To be able to determine the achievement level of the students in the aforementioned subject, the justification on the use of the descriptive method in this study lies in the intention of the researcher to describe the achievement level in biological science of the college students.

## **Locale and Population of the Study**

This study was conducted in the University of Eastern Philippines, University Town, Northern Samar. This university is located in Catarman, Northern Samar, on the northernmost portion of the Samar Island. This institution of higher learning was first opened in 1918 as the Catarman Farm School and became the Catarman National High School in 1951. The school was converted into the Samar Institute of Technology (SIT) which started to offer degree programs in Agricultural Technology, Teacher Education, Industrial Technology, Farm Mechanics, Secondary Vocational Curriculum, and other short courses.

On January 27, 1964 by virtue of Republic Act No. 4126, SIT was finally converted into the University of Eastern Philippines. Under its University status, there has been a dramatic increase in the number of academic program offerings not only in the undergraduate but in the graduate level as well (UEP Annual Report, 2000).

The University offers 49 undergraduate programs, 26 graduate programs, and 11 non-degree courses, not to mention the elementary and secondary schools which are used as laboratories for the teacher education programs of the University.

The population of this study was composed of 130 first year and second year students from the College of Science and College of Arts and Communications in the University of Eastern Philippines, University Town, Northern Samar. The respondents were bonafide students who were officially enrolled in the Biological Science subject during the Second Semester, school year 2008-2009. Further, the student-respondents were non-repeaters of the subject. Repeaters of the subject were not included in this study in order that the student-respondents will have uniform level of knowledge/know-how about the subject, Biological Science. The selection of the courses and year level of the respondents was based on the decision of the researcher.

### **Sampling Technique**

In order that the population would be represented completely, the researcher involved all the students enrolled in the natural science subject under the class of the researcher herself. It utilized the purposive sampling, that is, utilizing a subgroup of the population of students of the College of Science and College of Arts and Communication.

### **Research Instrument**

There were three sets of research instruments used for the purpose of gathering data and information needed for this study.

The first set of questionnaire was distributed to the student-respondents to determine their profile on their gender, type of high school graduated from and socioeconomic status of the parents.

The second set was the Attitude Towards Biology Survey Form patterned and modified by the researcher from the study of Quinones (1997). This was administered to determine student's attitude towards Biology.

The third set was a 60-item, multiple choice type of Achievement Test in Biology adopted and modified from the study of Lopez (2000). There were 20 questions each of the topics on cell, tissue and organ system.

### **Data Gathering Procedure**

The questionnaire was the main instrument used in gathering the pertinent data of the study.

Permission was cordially asked by the researcher from the Deans of the College of Science and the College of Arts and Communication to conduct an achievement test in Biology to all the students enrolled in Biological Science subject under the researcher herself.

Upon the approval of the College Deans, the researcher personally administered the achievement test to the actual respondents of this study during the 2<sup>nd</sup> semester final examinations last March 13, 2009 at the UEP Old Engineering Building.

For uniformity in the giving of instructions and directions, the researcher personally administered the questionnaires to the respondents. A time was set for answering the achievement test after which they were collected for checking which was done by the researcher.

The researcher used a teacher-made achievement test to determine the achievement level of the college students of the University of Eastern Philippines specifically from the College of Science and College of Arts and Communication. It was subjected to item analysis after the pre-test for validation purposes.

### Statistical Treatment of Data

To interpret the data gathered, the researcher employed simple statistics such as frequency and percentage distribution of the respondents according to some specific variables. The mean was used to measure the central tendency while the multiple regression analysis was used to test the relationship between the dependent and independent variables.

**Table 1**  
**Frequency Distribution of the Respondents According to Gender**

Sex	F	%
Male	43	33.08
Female	87	66.92
<b>Total</b>	<b>130</b>	<b>100</b>

### Gender.

Shown in Table 1 is the distribution of the respondents' gender. It appeared that 87 or 66.92 percent were female and 43 or 33.08 percent were male. This indicates that majority of the student-respondents were female.

This confirms Lopez's findings that majority of the respondents were females. This implies that female always dominate the male.

**Table 2**  
**Frequency Distribution of Respondents According to Program Enrolled In**

Program Enrolled In	f	%
B.S. Information Technology	39	30
B.S. Mathematics	26	20
B.S. Chemistry	20	15.38
B.A. Major in Political Science	20	15.38
B.A. Major in Language and Literature Teaching	25	19.23
<b>TOTAL</b>	<b>130</b>	<b>100</b>

### Program Enrolled In.

Table 2 showed the distribution of respondents according to program enrolled in.

Out of 130 respondents, 39 or 30 percent were B.S. Information Technology students, 26 or 20 percent were B.S. in Mathematics students, 25 or B.A. major in Language and Literature Teaching students, and 20 or 15.38 percent were B.S. Chemistry students and B.A. Major in Political Science students, respectively.

The data informed us that majority of the students were enrolled in information technology.

**Table 3**

### Frequency Distribution of Respondents According to Type of High School Where Graduated

Type of High School	f	%
Public	105	80.77
Private	25	19.23
<b>TOTAL</b>	<b>130</b>	<b>100</b>

### Type High School Graduated.

Table 3 shows where the respondents graduated from high school. Out of 130 respondents, one hundred five or 80.77 percent graduated from the public high schools and only 25 or 19.23 percent of the respondents where from the private schools. The data confirmed Lopez's study that majority of the respondents graduated from public high schools.

**Table 4**

### Frequency Distribution of the Respondents According to the Parents' Educational Attainment

Educational Attainment	Father		Mother		Total	
	f	%	f	%	f	%
No Education	3	2.31	1	0.77	4	3.08
Elementary Undergraduate	14	10.77	5	3.85	19	14.62
Elementary Graduate	14	10.77	9	6.92	23	17.69
High School Undergraduate	14	10.77	17	13.08	31	23.85
High School Graduate	19	14.62	26	20	45	34.62
College Undergraduate	24	18.46	30	23.07	54	41.54
College Graduate	37	28.46	36	27.69	73	56.15
Master's Level	5	3.84	5	3.85	10	7.69
Doctoral Level	0	0	1	0.77	1	0.78
<b>Total</b>	<b>130</b>	<b>100</b>	<b>130</b>	<b>100</b>	<b>260</b>	<b>100</b>

The distribution of respondents according to educational attainment is shown in Table 3. Seventy-three or 56.15 percent were college graduates; 54 or 41.54 percent were college undergraduates; 45 or 34.62 percent were high school graduates; 31 or 23.85 percent high school undergraduates; 23 or 17.69 percent elementary graduates; 19 or 14.62 percent were elementary undergraduates; and, 4 or 3.08 percent had no education at all. Out of 130 respondents, 10 or 7.69 percent of their parents were master's degree holders; and 1 or 0.78 percent had embarked on her doctorate.

These findings confirm Francisco's findings which disclosed that majority of the fathers and mothers were college graduates. Evidently, the predominance of the parents who were college graduates and undergraduates, respectively. At the extreme ends of the continuum were the parents who had no education at all and those with doctoral studies.

**Table 5**  
**Frequency Distribution of the Respondents According to the Parents' Occupation**

<b>Parents' Occupation</b>	<b>Father</b>	<b>%</b>	<b>Mother</b>	<b>%</b>	<b>Total</b>	<b>%</b>
Government Employee	34	26.15	27	20.77	61	23.46
Farmer	30	23.08	0	0	30	11.54
OFW	2	1.54	0	0	2	0.77
Self-Employed	38	29.23	15	11.54	53	20.38
Housewife/Housekeeper	0	0	75	57.69	75	28.85
None	26	20	13	10	39	15
<b>Total</b>	<b>100</b>	<b>100</b>	<b>130</b>	<b>100</b>	<b>260</b>	<b>100</b>

Table 5 shows the distribution of the parents' occupation of the respondents.

Thirty-eight or 29.23 percent of the respondents' fathers were self-employed; 34 or 26.15 percent were government employees; 30 or 23.08 percent were farmers; 2 or 1.54 percent were OFWs; and 26 or 20 percent either do not have work and or deceased.

Out of 130 mothers of the respondents, 75 or 57.69 percent were housewives and/or housekeepers; 27 or 20.77 percent were government employees; 15 or 11.54 percent were self-employed; and only 13 or 10 percent do not have any work at all and/or deceased.

The overall results showed that 75 or 28.85 percent were just housewives or housekeepers; 61 or 23.46 percent were working as government employees; 53 or 20.38 percent were self-employed; 30 or 11.54 were working as farmers; and only 2 or 0.77 percent were working as OFWs.

The data presented in Table 5 is an evidence that majority of the parents were housewives and government employees.

**Table 6**  
**Frequency Distribution of Respondents Parents' Monthly Income**

Parents' Monthly Income	F	%
P 1,000 – 5,000	43	33.08
P 5,001 – 10,000	41	31.54
P 10,001 – 15,000	27	20.77
P 15,001 – 20,000	11	8.46
Over P 20,000	8	6.15
<b>Total</b>	<b>130</b>	<b>100</b>

**Parents' Monthly Income.**

Out of 130 respondents, 43 or 33.08 percent had an income between Php 1,000 – 5,000 per month; 41 or 31.54 had an income between Php 5,001 - 10,000; 27 or 20.77 had an income of Php10,001 – 15,000; 11 or 8.46 percent had an income of Php 15,001 –20,000; and, only 8 or 6.15 percent earns over Php20,000 per month.

These findings disconfirmed Francisco's findings which claimed that majority of the students belong to the family income bracket of Php 5,001 – Php10,000 per month.

**Table 7**  
**Frequency Distribution of Respondents' Achievement Test Results**

Test Result	Male	%	Female	%	Total	%
<b>36 – 39 (Fair)</b>	0	0	1	1.136	1	0.77
<b>30 – 35 (Poor)</b>	7	16.67	13	14.77	20	15.38
<b>29 Below (Failure)</b>	35	83.33	74	84.09	109	83.85
<b>Total</b>	<b>42</b>	<b>100</b>	<b>88</b>	<b>100</b>	<b>130</b>	<b>100</b>

Table 7 shows the achievement test results of the respondents. Thirty-five or 83.33 percent of the male-respondents got a score 29 below or failure and 7 or 16.67 percent got a score 30-35 or poor, while 74 or 84.09 percent of the female-respondents got a score of 29 below or failure; 13 or 14.77 percent got 30-35 or poor results; and only 1 or 1.136 percent got a score of 36 or fair.

The overall results show that 109 or 83.85 percent of all the respondents got a score 29 below or failure; 20 or 15.38 percent 30-35 or poor test results; and only 1 or 0.77 percent of the respondent got a score of 36 or fair result. The findings confirmed the research findings of Lopez which stated that the students obtained scores considered failure in the achievement test in Biological Science.

It also confirmed Lanuza's findings which said that there was no significant difference between the achievement of male and female students in Biology.

**Table 8**  
**Attitude of the Student-Respondents Towards Biology**

STATEMENTS	SA	A	U	D	SD	Total	Weighted Mean	Interpretation	Rank
1. Biology is very interesting subject.	36	74	20	0	0	130	4.12	A	1
2. I enjoy Biology class more than any other.	15	70	40	5	0	130	3.73	A	6
3. Biology trains me to discipline.	24	74	23	9	0	130	3.87	A	3
4. I am afraid to take Biology course.	5	24	48	27	26	130	2.65	U	14
5. Biology makes me think logically.	13	73	30	10	4	130	3.62	A	8
6. Life can go without Biology.	12	17	26	42	33	130	2.48	D	16
7. I am very attentive in my Biology class.	12	72	30	16	0	130	3.62	A	8.5
8. I have always enjoyed studying Biology in school.	15	67	38	10	0	130	3.67	A	7
9. In general, I have a good feeling toward Biology.	16	70	43	1	0	130	3.77	A	4
10. I approached Biology with a feeling of hesitation.	4	30	57	29	10	130	2.92	U	13
11. Biology makes me feel uncomfortable, restless, irritable and impatient.	7	17	30	49	27	130	2.45	D	17
12. I really like Biology	16	63	43	8	0	130	3.67	A	7.5
13. I feel at ease in Biology and like it very much.	9	67	42	10	2	130	3.55	A	10
14. Biology is challenging.	31	71	26	2	0	130	4.01	A	2
15. Biology is my favourite subject.	9	44	62	14	1	130	3.35	A	11
16. When I hear the word Biology, I have a feeling of hesitation.	0	23	48	47	12	130	2.63	U	15
17. I don't make my assignment in Biology.	2	11	22	46	49	130	1.77	D	18
18. Biology makes me feel secure, and at the same time it is stimulating.	14	56	51	9	0	130	3.58	A	9
19. I should always come prepared on my biology class.	18	69	30	11	2	130	3.69	A	5
20. I love Biology subject than other subjects.	5	50	54	20	1	130	3.29	U	12
<b>AVERAGE MEAN</b>							<b>3.322</b>	<b>U</b>	

<b>Legend:</b>	<b>Scale Value</b>	<b>Interpretation</b>
	4.51 – 5.00	Strongly Agree
	3.51 – 4.50	Agree
	2.51 – 3.50	Uncertain
	1.51 – 2.50	Disagree
	1.00 – 1.50	Strongly Disagree

The attitude statements toward the subject Biology which the students expressed agreement on were as follows: Biology is a very interesting subject, rank 1; Biology is challenging, rank 2; Biology trains me to discipline; I have a good feeling towards Biology, rank 4; I should always come prepared for my Biology class, rank 5.

The overall interpretation of the student-respondents' attitude toward Biology is that they have a favourable attitude toward the subject. But taking the weighted means for all the 20 attitude statements, it was revealed that the average mean was 3.332 interpreted as "u" or "undecided."

It can then be inferred that studying Biology on the part of the students was not a problem because of their evident interest and positive attitude toward the subject. Likewise, teaching on the part of the teachers will not also be a problem because of the favourable attitude of the students toward the subject.

### **Test of Relationship Between the Achievement Level in Biological Science and Independent Variables**

Table 8 is the summary of the test of relationship between the dependent variable (Achievement Level in Biology) and the profile of the student-respondents.

#### **Gender.**

The findings revealed that the F ratio of gender is 0.8309 which is greater than the significant F which is 0.3637. Hence, gender is significantly related to the achievement level in Biological Science. Thus, the null hypothesis is rejected.

#### **Type of High School Where Graduated.**

The findings revealed that the F ratio of type of high school where graduated is 0.2059 is less than the significant F of 0.6507. Thus, type of high school where graduated is not related to the achievement level in Biological Science. This means that type of high school where graduated is not a factor to awareness. Whether one is from public or private schools, their achievement level in Biological Science is similar. The null hypothesis is accepted.

#### **Father's Educational Attainment.**

The findings revealed that the F ratio of the father's educational attainment is 0.0269 which is less than the significant F ratio of 0.8699. It means that the fathers' educational attainment is not significantly related to the achievement level in Biological Science. Thus, the null hypothesis is accepted.

#### **Mother's Educational Attainment.**

The findings revealed that the F ratio of the mother's educational attainment is 0.7084 which is greater than the significant F ratio of 0.4015. It means that the mothers'



educational attainment is significantly related to the achievement level in Biological Science. Thus, the null hypothesis is rejected.

#### **Fathers' Occupation.**

Result of the study revealed that the F ratio of fathers' occupation is 7.733 which is greater than its significant F of 0.0062, hence it is significantly related to the achievement level in Biological Science. This means that the null hypothesis of there is no significant relationship between the fathers' occupation is rejected.

#### **Mothers' Occupation.**

It was found out that the F ratio of mothers' occupation is 0.2163 which is less than the significant F of 0.6426. Hence, it implies that the achievement level in Biological Science is not significantly related to the mothers' occupation. This means that the null hypothesis of there is no significant relationship between the fathers' occupation is accepted.

#### **Monthly Income.**

The F ratio of the monthly family income is 0.5966 which is greater than the significant F of 0.4412. It means that the monthly family income has a significant relationship with the achievement level in Biological Science. The null hypothesis is rejected.

**Table 9**

**Test of Relationship Between the Achievement Level in Biological Science and the Independent Variables**

<b>Independent Variables</b>		<b>F-Ratio</b>	<b>Significant F</b>	<b>Interpretation</b>
Gender	x1	0.8309	0.3637	Significant
Type of High School Where Graduated	x2	0.2059	0.6507	Not Significant
Fathers' Educational Attainment	x3	0.0269	0.8699	Not Significant
Mothers' Educational Attainment	x4	0.7084	0.4015	Significant
Fathers' Occupation	x5	7.733	0.0062	Significant
Mothers' Occupation	x6	0.2163	0.6426	Not Significant
Monthly Income	x7	0.5966	0.4412	Significant

#### **Summary**

This study employed the descriptive method of research to describe the achievement level in Biological Science in the areas of cells, tissues and organs among the college students of the University of Eastern Philippines. Using a researcher-made questionnaire, data were collected from students of the College of Science and College of Arts and Communication. Data on gender, socio-economic status, type of high school graduated from, attitude towards Biology were likewise drawn from the respondents.

The analysis and interpretation of the gathered data were carried out using frequency, percentage and mean. The multiple regression analysis was also used to determine the significant relationship of the achievement level in Biological Science and the independent variables.

The findings revealed that majority of the respondents of this study were female; most of the respondents parents were college graduates; majority of the fathers were working as government employees but most of the mothers were not working and were plain housewives; the respondents parents' monthly income ranged from Php1,000 to 5,000 per month; the students obtained scores considered Failure in the achievement test in Biological Science; and, generally, the respondents' attitude towards Biology was "Undecided"; the test of relationship between the achievement level in Biological Science and the profile of the student-respondents revealed that gender, mother's educational attainment, father's occupation and monthly family income were significantly related; and there is no significant relationship between the achievement level in biological science and type of high school where they graduated, father's educational attainment and mother's occupation.

### **Conclusions:**

Based on the foregoing findings, the following conclusions were drawn:

1. Majority of the student-respondents were female and were not able to achieve the 75% desired mastery level in Biological Science;
2. Most of the student-respondents parents were college graduates, their fathers are working as government employees and most of their mothers were housewives, with a monthly family income of Php1,000-5,000 only because most of their salary goes to their loans in the banks;
3. There was a significant relationship between the achievement level in biological science and gender, mother's educational attainment, father's occupation and monthly family income were significantly related;
4. There is no significant relationship between the achievement level in biological science and type of high school where graduated, father's educational attainment and mother's occupation.

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***Teaching Skills and Work Behavior of Clinical Instructors of Nursing Schools In Northern Samar***

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**Abstract**

This study intended to determine the instructional and preceptorship skills and work behavior in the classroom and clinical settings of the clinical instructors from three nursing school in Northern Samar, as well as their profile in terms of the number of years in clinical practice, length of service in teaching, highest educational attainment, academic honors received, and type of nursing schools employed in. It is also sought to determine the significant relationship between their profile and their work behavior in the classrooms and clinical settings. The research design used was the descriptive-correlation design. The data gathered were treated with the use of frequency counts, percentages and mean. The multiple regression analysis was used to find out the relationship between the dependent and independent variables. The study-subjects were 13 clinical instructors from the three nursing schools. In terms of instructional and preceptorship skills, clinical instructors were evaluated. The evaluation was done by the study-subjects themselves and by their respective supervisors and students. Almost majority of the clinical instructors had less than five years of clinical practice. Majority had less than five years of teaching service, had master's degree units and had earned a master's degree. Also majorities had graduated from college without academic honors and were employed in a public nursing school. The type of nursing school were the study-subjects were employed was significantly related to their preceptorship skills and work behavior in the clinical setting, but not significantly related to their instructional skills and work behavior in the classroom setting.

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## Introduction

Teaching has always been regarded as one of the most noble professions. Teachers are very important figures in the school system and in the community. Respect for them does not end in the classroom, but goes beyond space and time. Teachers are looked up to as paragons of intelligence and virtues. They are admired for what they are and what they do in molding young minds and preparing the youth to become productive. Hence, teaching is such a challenging profession. It is not technically difficult in that it requires technical expertise, but it is also demanding in a sense that the teachers must set up a good image and must invest extra time and effort to ensure effective teaching-learning process.

The clinical instructors like other teachers are expected to provide quality education and training to their students. They do not merely provide new knowledge and information, but more importantly, organize and manage the teaching-learning atmosphere in the classrooms vis-à-vis the clinical activities. They are the most important factor that brings out the best learning potential in their students. Hence, they should possess that ability to translate concept/theories into nursing practice. Likewise, they should also inspire the students to develop favorable behavior and disposition that will improve their personality by being models themselves. Their educational qualification and experience will not speak well of them as teachers, if they do not have the desirable teaching behavior and good teaching performance. It is their teaching behavior and teaching performance that will have the greatest impact on the teaching-learning process.

The structures and functions of clinical teaching and learning have undergone significant changes over the years. Nursing students demand quality teaching because of the stiff competition in the world of work, not mentioning the increasing expectations of hospitals and patients for better service from nursing care providers.

According to O'Connor<sup>16</sup>, the role of the clinical nursing instructor is multifaceted, requiring shifts in the nature of interaction with learners. She adds that the relationship of teacher to student parallels in many ways the relationship between nurse and patient. The instructor must recognize the uniqueness of his/her students as individuals and must strive to enable them to achieve their goals.

As a teacher, the clinical instructor should provide a great deal of structure and focus for students, deliberately guiding their activities. Therefore, s/he designs the learning experience to meet the identified learning needs of students within the context of the program goals, course objectives and the possibilities presented by the college laboratory and/or clinical settings.<sup>17</sup> It goes without saying, therefore, that the manner by which the clinical nursing instructors manage the learning setting and their learning speak well of their worth as teachers. It is not their scholarly achievements and experiences that will matter in the area of teaching, but rather in the way they handle the class that will their effectiveness as a teacher.

Being a clinical instructor demands a variety of favorable traits and qualities. First and foremost, they must have love for their work and for their students. All other good traits and qualities will emanate from love. If they love their work and their students, they would likely be patient and impatient, sympathetic and not hard, cheerful and not grouchy, understanding and not intolerant, enthusiastic and not dispirited.

Even if teachers are fully knowledgeable of the subject they are teaching if their teaching approach is not the proper or appropriate one for the given situation, the teacher cannot be considered good or effective. As a whole, the teachers' teaching behavior matched with good teaching performance will determine how effective they are as teachers. After all, effective teaching is not gauged by the knowledge stored in the head of the teachers, but more importantly, by the manner they manage the teaching-learning setting, making it conducive to students' learning.

This researcher, being a clinical instructor herself, espouses the principle that good teaching performance and behavior would redound the quality learning. She is, therefore, interested to know how the clinical nursing instructors in her school and in other schools in the locality are faring in this aspect. She observes that the assessment of the teaching and work behavior of clinical nursing instructors done by their respective schools is not enough to objectively reveal what it purports to reveal. Sometimes, it is done for the sake of policy and does not serve the purpose for which it is intended. An independent assessment, such as this study will hopefully give the true picture of the teaching performance and behavior of clinical instructors in this part of the country and will either confirm or disprove the assessment results done by the schools. Hence, this study.

### **Objectives of the study**

The study generally intended to determine the teaching skills and work behavior of the clinical instructors from three nursing school in Northern Samar.

Specifically, the study addressed the following objectives:

1. To draw the profile of the clinical instructors in terms in numbers in clinical practice, length of service in teaching, highest educational attainment, academic honors received, and type of nursing school employed in.
2. To ascertain the teaching skills of the clinical instructors in terms of instructional and preceptorship skills.
3. To determine the work behavior of the clinical instructors in the classroom and clinical settings.
4. To test the significant relationship between the profile of the clinical instructor and their teaching skills in terms of instructional and preceptorship skills.
5. To test the significant relationship between the profile of the clinical instructors and their work behavior in the classroom and clinical settings.
6. To determine the significant relationship between teaching skills of the clinical instructors in terms of instructional and preceptorship skills and their work behavior in the classroom and clinical settings.

## Definition of Terms

The key terms in the study are herein defined conceptually and operationally for better and clearer understanding of terms.

Clinical instructors. Conceptually, this term is defined as one whose central activity of instruction is in the clinical setting which involves direct observation of the patients.<sup>18</sup> Operationally, it refers to the instructors who are teaching nursing concepts and supervising Related Learning Experience (RLE) of nursing students.

Instructional skills. Conceptually, this refers to the ability of the teachers in teaching and furnishing information.<sup>19</sup> In this study, it describes the proficiency level of clinical instructors in managing instructions in the classroom setting assessed by the respondents.

Preceptorship skills. Conceptually, this refers to the ability of the teacher in supervising and teaching students in clinical practice experiences.<sup>20</sup> As used in the study, it refers to the level of competence of clinical instructors' managing instruction in the clinical setting as assessed by the respondents.

Teaching skills. Conceptually, this term refers to the execution or action of duty in a teaching undertaking.<sup>21</sup> Operationally, this refers to the instructional preceptorship skills of clinical instructors as assessed by themselves, their students and their supervisors.

Work behavior. Conceptually, this is defined as the manner in which one acts; the action or reactions of individuals under specific circumstances, i.e. at work.<sup>22</sup> In this study, the term refers to the professional and personal traits, attitude and qualities a clinical instructor possesses in order to be effective in teaching both in the classroom and clinical settings as assessed by themselves, students and supervisors.

## Methodology

### Research Instrument

The study used to sets of structured questionnaire in gathering the data: Set A and Set B. Set A was administered to the clinical instructors and Set B to the student – and supervisor-respondents. Both sets of the questionnaire have two parts. Part I was used to evaluate the instructional skills and work behavior of the study subject in the classroom setting. It was adapted from the Faculty Performance Evaluation form used by the University of Eastern Philippines. To suit the study, some modifications were done and the following areas were excluded: (1) Evidence of Research Competence, (2) Evidence of Extension Competence, and (3) Evidence of Productivity. The rating of the UEP was not adapted, instead, it adopted the 5-point Likert Scale.

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Part I of Set B questionnaire consisted of statements lifted from a standardized instrument to measure preceptorship skills. It adopted the rating scale used in Part I of Set A questionnaire. Part II which measured the work behavior of the study subject in the clinical setting adapted the areas considered in Set B questionnaire for work behavior only that the items were made applicable to the clinical setting. The rating scales for this part follows the rating scales used in Set A questionnaire.

### Data Gathering Procedure

The researcher personally asked permission from the Deans or Directors of the colleges where nursing course is offered. A letter was presented for this purpose. The researcher herself administered the questionnaire with the help of some of her students to the selected respondents. The evaluation period covered the whole year 2007-2008 and 2008-2009. The data gathered were consolidated and tallied, ready for the statistical treatment and interpretation.

### Statistical Treatment of Data

The data gathered were treated and interpreted using frequency counts, percentage and mean. The multiple regression analysis was adopted to find significant relationships between variables. The formula of the multiple regression analysis is as follows:

$$Y = b_0 + B_1X_1 + b_2X_2 \dots + b_nX_n^{23}$$

Where:

Y	=	The Dependent variable to be predicted
X <sub>1</sub> X <sub>2</sub> .....X <sub>n</sub>	=	The known independent variables that may influence y
b <sub>0</sub> . . . . .b <sub>n</sub>	=	Numerical constants which must be determined from the observed data.

### Summary of Findings

This study intended to determine the teaching and work behavior of the clinical instructors from the three nursing schools in Northern Samar. It sought to determine the profile of the clinical instructors in terms in the number of years in clinical practice, length of service, highest educational attainment, academic honors received and type of school employed in. It also tried to determine the teaching skills of the clinical instructors in terms of instructional and preceptorship skills. Likewise, their work behavior in classroom and clinical settings was also ascertained. This study also intended to find out the relationship between their profile and teaching skills in terms of instructional and preceptorship skills, as well as their profile and work behavior in the classroom and clinical settings.

The research design used in this study was the descriptive-correlational. The data gathered were treated with the use of frequency counts, percentages, and the mean.

The multiple regression analysis was used to find out the relationship between the dependent and independent variables.

Almost majority of 46.2 percent of the clinical instructors had less than 5 years of clinical practice, 77.2 percent had less than 8 years of clinical practice, 77 percent had master's degree, 69.3 percent graduated from college without academic honors, 69.3 percent were employed in a public school while 30.7 were employed in private schools.

In terms of instructional skills, the clinical instructor earned grand mean ratings of 4.20 or higher which are equivalent to "most skilled" for the following criteria: knowledge of subject matter, intellectual expansiveness, organizational of lessons, and effectiveness of teaching techniques. On the other hand, they earned grand mean of less than 4.20 but not less than 3.40 which were equivalent to "more skilled" for the following areas: classroom management, clarity of explanation, and language and communication.

In terms of preceptorship skills, the clinical instructors earned grand mean rating of 4.20 or greater which are equivalent to "most competent" for almost all of the criteria. They got mean ratings within the bracket of 3.40 to 4.19 in the rest of the criteria.

As far as the work behavior of the clinical instructors in the classroom setting is concerned, they were rated by the respondents as "most desirable" for personality, promptness, occupational attitude, and physical health. They were, however, rated as "more desirable" for creativity and initiative. As far as their work behavior in the clinical setting, the study subjects was rated as "most desirable" for all the criteria, except for creativity and initiative were they got a grand mean rating which is equivalent to "more desirable."

The test of relationship between the different sets of variables elicited the following results:

- a) The number of years that the clinical instructors have undergone clinical practice is significantly related to their instructional skills, preceptorship skills, and work behavior in the clinical setting, but not significantly related to their work behavior in the classroom setting.
- b) Length of service in teaching of the clinical instructors is not significantly related to their instructional and preceptorship skills, but significantly related to their work behavior in the classroom and clinical settings.
- c) Highest educational attainment earned by the clinical instructor is significantly related to their instructional and preceptorship skills, but not to their work behavior in the classroom and clinical settings.
- d) The academic honors received by the study subjects when they graduated from college significantly influenced their preceptorship skills but not their instructional skills. On the other hand, their having earned academic honors had great impact on their work behavior both in the classroom and clinical settings.
- e) The type of school were the study-subjects were employed is significantly related to their preceptorship skills, and their work behavior in the clinical setting, but not significantly related to their instructional skills and work behavior in the classroom settings.

## Conclusions and Implications

On the basis of the findings of the study, the following conclusions and implications are drawn.

Almost majority of the clinical instructors in Northern Samar have less than 5 years of clinical practice, but all of them have at least 2 years of clinical practice. Majority have less than 8 years of teaching service, have either earned a master's degree or taken master's units, have graduated without academic honors, and are employed in a public school.

The findings on the profile of the clinical instructors in Northern Samar imply that majority of them have met the minimum requirement of having at least one year of clinical practice ; hence are qualified to be clinical instructor. Considering that most of them have been in the teaching service for less than 8 years, it is presumed that they are relatively young and are on the way to the highest peak of their career. They are motivated to upgrade their educational qualification by completing a master's degree or earning a unit towards a master's degree, not to mention that fact that they also have attended seminars and workshop related to their present work as clinical instructors. It is likewise implied in the findings that the government school is more adequately staffed with clinical instructors since most of them are employed in a government school.

The clinical instructors in Northern Samar are generally "most skilled" in classroom teaching and "most competent" in preceptorship activities. Generally, they also have "most desirable" work behavior in the classroom and clinical settings. This probably explains why the nursing schools in Northern Samar are turning out graduates who are potential passers of nursing licensure examination. This finding also implies that the schools in the province have hired clinical instructors who have been trained and can be trained for classroom instructions and preceptorship activities.

The number of years in clinical practice is significantly related to instructional skills, preceptorship skills, and work behavior in the clinical setting, but not significantly related to work behavior in the classroom setting. It can be deduced in the findings that there is really need to impose the minimum requirement of clinical practice for the clinical instructor to be skilled in classroom instruction and preceptorship task. Likewise to have desirable work behavior in the clinical setting.

Length of service of teaching is not significantly related to their instructional and preceptorship skills, but significantly related to work behavior in the classroom and clinical settings. The findings that a clinical instructor does not need to have a long experience in teaching for him or her to become skilled instructor and competent preceptor. However, teaching experience definitely improves one's work behavior in the classroom and clinical area.

Highest educational attainment is significantly related to instructional and preceptorship skills. This findings support the mandate of CHED in requiring college instructors to earn master's degree to qualify them for the position. Indeed, having earned a related master's degree is the key towards gaining expertise in one's field. A competent, but definitely more skillful and competent in what he or she is doing.

Ironically, educational attainment is not related to work behavior in classroom and clinical setting. This probably means that the behavior of one person is innate or is influenced by other contributing circumstances.

Having earned academic honors significantly influence preceptorship skills and work behavior in the classroom and clinical settings, but not instructional skills. The finding points out that one does not need to have graduated with honors to become a skilled instructor. This implies that instructional skills can be better developed by training and experience. This, however, does not well apply to competency in preceptorship and work behavior since this can be influenced by academic honors earned.

Type of school is significantly related to preceptorship skills and work behavior, but not significantly related to instructional skills and work behavior in the classroom settings. A close scrutiny of the data gathered shows that clinical instructors from the private schools are skilled instructors and have desirable work behavior in the classroom setting just like those coming from public school. But there appears to be a significant difference in the preceptorship skills and work behavior in the clinical setting of clinical instructors from the private school and those from government school.

### **Recommendations**

Based on the findings and conclusions of the study, the following recommendations are offered to the:

#### Clinical Instructors:

1. They should endeavor to earn a master's degree related to their field of specialization to upgrade themselves professionally and to comply with the legal mandate requiring all college instructors to be at least master's degree holder.
2. They should examine their strong and weak points as instructors and preceptors and endeavor to continuously enhance their strong points and strengthen their weak points.
3. They should look at feedback from their students and superiors regarding their performance, whether positive or negative, as a way of improving themselves further.

#### Deans of the College of Nursing:

1. They should conduct a periodic evaluation of the performance of their clinical instructors as instructors and preceptors so they will know that intervention they may include in their supervision plan that will further improve the performance of the clinical instructors.
2. They should always discuss the results of the performance evaluation with the concerned clinical instructor and work out together how to further improve the performance of the clinical instructor.
3. They should advise the clinical instructors to finish their master's degree, and better still to recommend them for a scholarship program of the school.
4. They should come up with periodic in-service training for their clinical instructors for the further enhancement of their performance.

5. They should periodically come up with a realistic faculty development plan that would further improve the instructional and preceptorship skills of the clinical instructors.

#### School Administration

1. The performance evaluation should always be one of the criteria for the ranking and promotion of their faculty members.
2. They should continuously expose the clinical instructors to trainings and workshop to further improve their teaching and preceptorship skills. A budget should be provided for this purpose.
3. The instrument used in performance evaluation of their faculty should be periodically reviewed and examined to determine its effectiveness as a tool and revise it, if necessary.

#### Commission on Higher Education (CHED)

1. It should strictly enforce the compliance of the legal mandate on the minimum educational attainment of clinical instructors among nursing schools in the country. It should periodically monitor all nursing schools for their compliance.

#### Nursing Educational and Training Service for Affiliating Hospitals

1. It should periodically review the policies on the qualification of preceptor and the kind of trainings to be given before the clinical instructors are exposed to different areas of nursing care with the end of in view of enhancing their preceptorship skills.

#### Association of Deans of Philippines College of Nursing (ADPCN)

1. It should periodically develop and review the BSN curriculum with the end in view of making it more responsive to the present demands and needs of nursing profession.

#### Philippine Nurses Association (PNA)

1. It should conduct continuing education that would further improve the knowledge and skills of clinical instructors.

#### **Future Researchers**

1. A similar study maybe conducted utilizing different factors that may affect teaching and preceptorship skills of clinical instructors.
2. A study that would compare the performance evaluation done by the students with the evaluation done by the clinical instructors themselves and the supervisors may be undertaken.



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*Education, Power And Political Economy In The 21<sup>st</sup> Century Striking A  
Balance Of Values Within The North – South Dichotomy*

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**Abstract**

Educational institutions are established for a multiplicity of reasons. Fundamentally, these reasons include making significant and milestone contributions to societal growth and development in all fields of human endeavour, research – modeling and postulations of solutions, providing industries with essential services such as staff training, consultancy, playing advisory roles to government, policy makers and the organized private sector. Traditional value systems should constitute the essential pedestal upon which contemporary educational curriculum and pedagogy may be erected. One of the most remarkable paradoxes of contemporary times is the realization that although the capacity to disseminate or communicate large amount of information has increased but the ability to communicate clearly and lovingly has declined. Additionally, if the economic and political systems are not structured in a way that nobody is so poor as to be desperate then no form of educational modeling can do the magic. This paper provides revolutionary ideas on the cultural relevance of educational pedagogy and curriculum. The paper is segmented into parts; the first part examines element of cultural and environmental imperatives of education, the second part appraises the import of digital technology on education, the third part critically examines the influence of politics and economics on the transmittable values, the concluding parts provides recommendations and policy issues on a more desirable distribution of wealth within the global community using the instrumentality of education.

Keywords: Education, Digital technology, power, culture, values

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## **Introduction**

Ancient Egyptians were a highly educated people – what with their pyramids constructed without the use of cranes, pulleys or lifting tackle. The massive Egyptian pyramids are living testimonials and testaments of the ingenious engineering skills of their makers.

Not only the ancient Egyptians but also the men and women of ancient traditions in Mesopotamia, in present day Turkey, Dubai, Iraq, Iran, India, China. The upshot of the foregoing is that ancient non-western civilizations have produced highly cultured, well-integrated men and women of great learning and erudition.

In the last forty years, countries such as Nigeria – a country in the Southern Hemisphere of the North-South dichotomy, has earned about eight hundred three hundred and thirty billion dollars from crude oil. But to what extent has this translated into enhanced living standards for the Nigerian citizens? Generally, in most of the underdeveloped/developing countries such as Nigeria, education is under-funded, the health sector is comatosed, social services are decaying and it is also paralytic and epileptic in supply. But a great ‘progress’ has been made in the area of corruption – corruption is advancing in a geometric progression, collective wealth – the common wealth is appropriated by a tiny cabal, a tiny elite coalition. Regrettably, illegally acquired wealth, which could be ploughed back into the economy of countries where the wealth is stolen in the first place are usually repatriated to accounts in the banks of highly placed individuals in government and their foreign collaborators thereby impoverishing their own people.

There is an urgent need to recalibrate the wheel of the countries in the North-South dichotomy, re-engineer, reposition and reorder them for the challenges of the modern/contemporary digital age and universally subscribed values should be respected by the developed and developing/underdeveloped countries.

## **Cultural And Environmental Imperatives Of Education.**

Education is the ‘drawing out’ and uncovering of the skills, talents and abilities that remains latent or hidden in an individual or a group of people. Unarguably, education is critical to the socio-political, socio-cultural and socio-economic advancement of the human race. This is because education provides the veritable crucible and platform for harnessing and transforming the natural and human resources available into resource base for improving the quality and standard of living. It is on record that even within the dynamics of development, exchange and application of ideas, the South-East Asian countries since the early 1980s have soared high because of their massive investment on education and knowledge.

Socio-economic development conveys a medium or process whereby countries of the world provides for the entire global community the basic needs of life and it is often dynamic with its elements manifested in various forms and indicators. This situation accounts for the equitable/non-equitable distribution and allocation of wealth among the economies of the world conceived as an interdependent international system. communities and countries in the world subsequently exists at varying levels of per capital income, human development index and productive capacities. These variances and differences have culminated in dichotomies such as the North-South dichotomy or the industrialized countries and the non-industrialized countries of the developed or developing/underdeveloped countries.

Generally, the North refers to the industrialized countries of the United States of America, United Kingdom, New Zealand, Australia and countries of Western Europe such as France, Germany etc. The south on the other hand refers to the rest of the global community including countries of Africa, the Caribbean, the Indian sub-continent, Latin America.

Interestingly enough, most of the Southern countries had at one time or the other, colonies ties with one country or the other from the Northern Hemisphere. Historically, the countries of the Southern hemisphere have been uncharitably designated as the backyard or is it the dunkyard of countries from the Northern Hemisphere. This suggests that surplus labour or cheap labour, source of raw materials, dumping ground, testing avenues for latest inventions in ammunitions such as biological, chemical, qualifies countries of the Southern Hemisphere in their relations with the power game of the North-South dichotomy.

Regrettably, the co-conspiracy of such forces as imperialism, mercantilism, colonialism, slavery, capitalism and neo-colonialism have seriously undermined the socio-economic, socio-political and socio-cultural advancement and well-being of the southern countries. Economically appraised, the North technological, military and industrial superiority over the South have been massively deployed over the years to usher in huge and inequitable resource transfer to the North with only very little marginal resource exchange to the hapless south. This is one major source of the undesirable and warped international economic relations and the consequence has been a lingering threat to international economic security. Hunger, huge recurring debt, unemployment, political instability, visionless leadership, missionless looters masquerading as leaders in some of the countries in the Southern Hemisphere readily collaborates with the North to keep their countries in perpetual servitude. These scenarios has worsened the underutilization of resources by most countries of the Southern Hemisphere while reinforcing the wealth of the North.

Examined from the perception of bi-polarity or multi-polarity, the international systems consists of autonomous/non-autonomous nations with varying degrees of socio-economic, socio-political and socio-cultural relations between great and small powers. However, applying the 'minimax solution' as conceptualized by Henri Theil *et al* (1965:142-143), objective function of the North-South dichotomy can work in a mutually reinforcing momentum. In this case, the North's gains would rub off positively on countries in the South in real terms. But for this scenario to occur, the North would consciously emplace policy initiatives to minimize costs to themselves but maximize benefits and advantages to the countries in the Southern hemisphere. This constitutes the cherished, universally subscribed value for both the North and South. Again, one vitiating mechanism is the power dynamics in the UN General Assembly where the South commands majority vote but has never and cannot be translated into effective influence in decision making. Northern permanent members significantly determine the direction of events through such devices as voting against, veto, resolution support with reservations, abstention.



A renowned Professor of Political Sciences and International Relations – Prof. Femi Mimiko 2010 (24-26) notes:

‘...most of what came to be known as the Third World nations were not at Bretton woods at the formation of IMF. They therefore were not in reckoning in establishing an orientation for the aid-agency, the future power-house of the global economy, at that critical formative stage...’

Again, the scholar of International repute and distinctions noted

‘...decisions in the IMF are taken through a voting mechanism that is at variance with the democratic principle of one-man-one-vote. Rather, a voting formula that awards votes according to financial contribution to the fund is adopted. The formula is  $250 + X/100,000$ . Here, 250 represents the basic vote of every member nation, while X stands for the number of quotas a nation has. The implication of this voting formula is that a few western nations led by the US and including Japan and Saudi Arabia, with more than 50% of the votes, effectively controls the decision-making machinery of the fund ...’

Again, it is reported that

‘...nine western nations together with two of their staunchest non-western allies control 53.5% of the total votes in the fund. The implication of this scheme of things is that the IMF automatically follows the dictates of the western industrial nations and by implication, for a country to obtain a loan, it must be a friend of the US in particular and the other members of the group of 11, in general. How more skewed can a system be?’

Newman and Morgenstern (1953) contends that the current skewed and warped international economic structure, the skewed and warped resource transfer, the organization and control of the transfer, and the resultant international economic relations, bear relevance to the game-like characteristics of the oligopolistic market which the ‘game theory’ best illustrates.

Article I of UNESCO University Declaration of Cultural Diversity (2001) insists that:

‘Cultural Diversity: the common heritage of humanity. This diversity is embodied in the uniqueness and plurality of the identities of the groups and societies making up humankind. As a source of exchange, innovation and creativity, cultural diversity is as necessary for humankind as biodiversity is for nature. In this sense, it is the common heritage of humanity and should be recognized and affirmed for the benefit of present and future generations’

One fallout of the above quotation is that REAL EDUCATION should remind those who have been educated that the earth is one but the world is diverse. We live in a world of diversity, biodiversity and most importantly cultural diversity. Although, the western and non-western, the North-South polarities, industrialized and developing/underdeveloped or Third world countries – we all depend on one single biosphere for sustaining our lives. This biosphere is enlaced by the supreme

personality of God variously called God, Allah, Jehovah, Krishna, Olodumare. Each group of people, each societies, over their span of existence as a unique group creates its own distinctive, elaborate, culturally rooted ways of living together. It follows that even the supreme absolute personality of Godhead demonstrates His preference for diversity both in humankind, in the culture and in ecology. Our human – contrived, simplistic attempt to globalize the entire human society without a due respect for cultural diversity cannot even take off in the first place, what to speak of standing the test of time.

Cultural dimensions of education suggest, among other corollaries, that if your culture has not socialized you into the acceptable standards of right and wrong, you are not educated as yet. Moreover, if an educated individual has not internalized those universally subscribed values of integrity, honesty, love, accountability, corporate living, respect for constituted authority, lawfully constituted anyway, communal living, and so on, then no amount of educational structure – formal or informal, primary, secondary, tertiary or even post-graduate or post-doctoral, no form of religion would have any foundation to build upon. And of course, a house that is built without a foundation would be blown off simply by the wind. This is one of the crisis point of modern/contemporary society – the attempt to force values - one single valuation model on the throat of others willy – nilly.

### **Conceptualizing Education**

Education is a form of learning by means of which knowledge, skills and habits of a group of people are transmitted from one generation to the next through teaching, training and/or research. It is a systematic, formal or informal mechanisms by means of which human beings are acculturated into modes of reality. It involves a process of ‘drawing out’ and the end – result of such deliberate and systematic drawing out of talents, skills and technical know-how is to induce CHANGE and TRANSFORMATION. Change however is not a unidirectional concept, it can be for the worse or for the better, it can devalue the scale of humanness or enhance the vibrancy of life and living.

Education involves the creative self-awareness of an individual to the reality of one’s existence with a view to transforming one’s environment through positive and critical action. This is the famous FREIREAN praxis – a powerful combination of reflection and action. This synergy between reflection and action leads to conscientization. Conscientization herein denotes the systematic creation of the sense of critical consciousness and awareness of people to the reality of their situation and challenges. The idea is for the people to be able to re-configure and re-invent the culture of rote-learning and dogmatism in which they are sunk. Education should seek to critically inform with a view to attaining understanding in terms of true knowledge of peaceful co-habitation among mankind as well as of factor responsible for one’s dehumanization and devaluation. The approach and method for imparting education readily comes to mind herein. An approach in this context is a philosophical and administrative framework, that is, a strategy for dealing with a problem. The problem herein is how to make the individual roundly educated, education properly called. A method, on the other hand, refers to the pedagogical or andragogical technique for imparting knowledge or getting the learner to undertake the learning process. Method herein refers to the micro-institutional techniques and impacts on the psychology of learning.

Fundamentally, one major source of oppression and deprivation of the masses is socio-economic and socio-political factors. In other words, economic and cultural setup can be manipulated by the political class in such ways that the welfare and well-being of the masses becomes undermined since the interests of the political elites remains to be protected at all costs.

Swami Krishnapada noted that industrial growth and material advancement have produced undeniable advantages but the associated cost have become increasingly apparent – thousands of fatalities each year, millions of people disabled, billions of Naira in property-damage, urban sprawl and inner-city decay, sexual promiscuity, weaker parental control, increased air pollution, disappearance of acres of farmlands under asphalt, ugly pornographic billboards, large personal and national debts, landscape dotted with automobile junks.

Harman & Kahn Barry Bruce-Briggs in Things to Come have identified ‘mixed blessings of progress’. These includes lack of privacy, increased institutional power over individual, dehumanization, increased vulnerability of centralized administrative and technological systems, a rapid pace of change that makes adjustments, successful adjustments difficult, increasing complexity and uncertainty without the proper knowledge to choose wisely.

Our recommendation would be that we appropriate the inventive ingenuity of the western culture, blend it with the cultural (wholesome) imperatives of the Asian civilization and combine all these with the African force paradigm. Then we would have moved very close to what would roundly benefit humanity.

Researches have shown that pedagogical and instructional practice among some Asian countries – Japan and Indonesia, does not prepare individuals for twenty-first century knowledge – driven economy, Richmand (2007) contends that students learn very avidly the contents of western textbooks which may have little applications to the problems of their own countries. That is to say that through rote-learning, they pass examinations but are largely ill-prepared for the very real difficult problems their nations must transcend if they are to move forward. In Nigeria, the practice is still that lecturers must publish in foreign journals – hence the focus of their researches is how to be accepted in foreign journals and audience. Consequently, all that would be required is for students to be able to pass their examinations that are the basic objective of the teachers.

Unarguably, the Nigerian society places a very high premium on paper qualifications and the number of degrees the individual parades. Scant regard is paid to skills, competences, technical know-how, pedagogical acumen, and so on, required for the 21<sup>st</sup> century knowledge – driven economy. Our considered opinions is that the relevance of these myriad certificates to the environment is highly contestable. One worrisome fall out of this undue emphasis on paper qualifications is that even highly incompetent teachers who can smartly ‘publish’ in many foreign journals can eventually reach the very peak of their academic career – hence, they become an authority, what a skewed educational system!

Most countries in the Southern Hemisphere – including Nigeria in terms of their education systems, suffers from a multiplicity of factors including inadequate planning, policy somersaults, fleeting policies, inconsistent policy evaluation and implementation and most importantly, their gross inability to domesticate the contents of western schools curricula, and this applies to virtually all the different levels of the educational system.

Grosfoguel (2008) contends that all knowledge are epistemically located in the dominant or the sub-altern side of the power relations and that this in turn is related to the geopolitics and body-politics of knowledge. That is to say that the unlocated neutrality and objectivity of the ego politics of knowledge is a western myth. It is delusional and/or illusory compared to the epistemology of development. In Africa, Latin America and Asia, there exists the perpetuation of inherited colonial structures, a deepening crisis in educational policy initiatives. Asia has demonstrated a capacity to understand what is happening around them and equipping themselves with the intellectual and scientific capacity to formulate long-term strategies. They have been able to upgrade considerably, their abilities to analyze economic, social and political issues correctly and to implement such policies with the necessary political will and vision.

Ramose (2011) argues that the way knowledge production and appropriation is pursued can impact positively or negatively on society. The prevailing practice and theory on education in Africa, and many countries in the Southern Hemisphere is inadequate to address their immediate reality. The disregard for embeddedness in a particular cultural ambience has enabled the colonial, neo-colonial and western meaning of formal education to assume dominance. Thus, the colonial dominance brought their values, norms, paradigms and rules to Africa and other third world countries.

Capitalism, mercantilism, reaganomics and other forms of economic paradigms possess their own forms of values, mindsets, assumptions and presuppositions. Capitalism ensues that the lust for profit maximization overrides the consideration for fairness, equity and a sense of community. People can then sell out or sell-off even their father, mother, aunt, nephew, niece, just to maximize profit. It also presupposes that people can sell their bodies or whatever strategic resource their body eventuates beauty, intelligence, vital body statistics, for monetary gains. Prostitution, promiscuity, sexual experimentation, nude dressing, pornography – all of these fall in tandem with values associable with capitalist exploitation.

Ideally, commonality, shared love, communalism, concern for others, respect for cultural diversity, respect for the ancestors, equity, egalitarianism are the ideal and values that drives a village. These values are cherished in most countries of the Southern Hemisphere. Fundamental human rights, basic human rights suggest that government should provide the enabling environment wherein human creative genius is deployed and harnessed for the common good. But millions of people are impoverished by economic policies emplaced by countries of the Northern Hemisphere, people often times are executed by the state even without fair hearing, state – directed inquiry are oftentimes devoid of fairness and equity. Police abuse their powers, extra-judicial killings abound all over the global community, highly placed government officials are often complicit in torture and indiscriminate killings. In their

books of modern protocols, some countries in the Northern Hemisphere even delude themselves into believing that God had given them permission to be the policeman of the entire world; they therefore do not have to respect International treaties and conventions. They even have the right to slay whoever and wherever in the world. Certain intelligence agencies in the Northern hemisphere are empowered by the state to beat up, waterboard, sexually threaten/harass, assault, and terrorize individuals they consider enemies. Considered within the ambit of universally subscribed values in a global community, these actions have the capacity to damage global security interest as well as the reputation for universal values cherished by mankind. Even captured enemies do possess basic human rights! But are these rights even acknowledged, what to speak of being protected. Our highly orchestrated technological ingenuity, excellence in science, literature, films, anti-corruption laws, fine institutions cannot cover up the deep hypocrisy, moral aberrations, duplicity and double standards that permeates the power relations among countries in the global community.

### **Education, Power And Political Economy**

One veritable truism and the essence of political economy is the reciprocal interaction of wealth, politics and power which takes place within the institutional framework of countries and the market forces.

Education, art, life and power appears to be in need of radical integration. One radical consequence of John Dewey's experiential standard is that our aesthetic concepts including the concept of art itself, pedagogical models of education are mere instruments which need to be challenged and revised when they fail to provide the best experience to humanity. For Dewey, the ultimate aim of all enquiry – scientific or aesthetic is not knowledge in itself but better experience or experienced value. This suggests that values cannot be permanently fixed by theory or power game but must be continually tested and may be overturned by the tribunal of changing human experience.

Countries in the Northern Hemisphere have continued to follow in the footsteps of the romantic tradition of defending their position by identifying the concept of power and economic might with the associated sublimity of world influence. This elitist tradition may be rejected by human sensibilities of the 21<sup>st</sup> century because it falls with 'the museum conception of art' Dewey (1987) or the esoteric idea of fine art.

Our motive for convincing opposition to the spiritualized category of the Northern countries as occupying a High Moral Ground is not locatable in our consideration of its naturalistic continuity and emergence. Rather, it is borne out of our realization that education, power and economy should be treated as instruments for improving our immediate experience through socio-cultural transformation where art and the aesthetic would be richer and more satisfying to more people. This occurs only when it is closer to their most vital interests and can thus be better integrated into their lives. The analytic idea of art and aesthetics sees it as a unique realm distinguished by its freedom, imagination and pleasure. But this vision provides a platform for class rivalry and antagonisms, capitalism crass profit-seeking oppression and mindless alienation of labour, covering all its ugly faces with an opulent aesthetic surface. These ugly surfaces are the products of imperialism, colonialism, slavery, neo-colonialism, hegemonism, mercantilism and world-market capitalism. These forces, combined with industrialization and globalization constitutes powers which deprives

art and aesthetics art and education of its intimate social connection. Consequently, modern socio-economic forces are divided between externally enforced labour and free production and consumption so much so that the chasm between art, education and real life has become theoretically convincing and an ever-widening phenomenon. Shasterman (1995), Nelson Goodman (1976), Dewey (1987) have used pragmatist ideas to show how the interpretation of artworks including education can be meaningful. Goodman, for instance, urges the fundamental unity of art and science through their common cognitive function. For Goodman, aesthetics may be conceived as an integral part of metaphysics and epistemology. Aesthetic values may be subsumed on this account, under cognitive excellence.

Cultural dimensions lies at the very heart of the educational process. Consequently, one basic strategy in distinguishing between substantive and referential identity of the historicity and cultural embeddedness of art, education and power. Our aesthetic experience are interpretive but there exists some level of our human or supra-human experiences that lies beneath interpretation. This suggests that a non-linguistic dimension, a cultural dimension of experience do exist shared by all humanity but nonetheless, can be harnessed for the common good of humanity. In our pursuit of democracy, education and power, the role of cultural diversity should be acknowledged as the veritable platform for the propagation of unifying principles among cultures in the world.

### **Emplacing A New Educational Curriculum For The 21<sup>st</sup> Century**

Undoubtedly, proper education and training empowers people to become aware of their environment, the resources that abounds around them and how they can exploit them for their development. In other words, education assists people, or should assist/enable people to make informed decisions about their lives. Education produces well – skilled individuals who constitutes veritable assets to the economy and the household income generating capability.

Interestingly, things are changing rapidly in the world around us. Our world is becoming more interconnected, the environment is becoming less stable and technology is continuously altering our relationships to information. Contemporary global challenges such as the rapidly changing system of things demands that we should rethink the how and why of the educational process. Education that would be suited to meet 21<sup>st</sup> century challenges becomes an imperative. New curriculum should take advantage of digital technologies, help students to become digitally adept since schools no longer have monopoly of academic learning.

Again, policy-makers, employers and educators should form a synergy. They should work more closely together with a view to provide universally cherished values. Designs of educational curricular would also need to correspond with the expectation of real human beings living out their concrete human lives. There should also be centres for skill acquisition where products of tertiary institutional can acquire skill. Educators should also provide opportunities for skill enhancement, the courses could be broken into smaller modules so that students can study them with flexibility.

Advances in Information Communication Technology have created jobs that did not exist a decade or so ago; young people in countries within the North – South dichotomy, needs to be educated for careers that do not yet exist. These developments require radical changes in what has to be learned, how we learn and skills that is considered essential for the 21<sup>st</sup> century. Communication, critical thinking, ethics and value, citizenship, digital literacy, problem-solving, creativity, productivity, re-mixing of cultures, content creation and sharing in virtual environments appears to be universally subscribed 21<sup>st</sup> century values.

Traditional education should be revitalized. That is to say that crafts and skill acquisitions suited to particular environments should be encouraged. Canoe construction, combative skills, navigational capabilities, traditional, unorthodox medical practices, traditional climatology, metereology, midwifery, traditional orthopaedics, sculpture and wood-making – should be factored into the educational process especially in the countries of the Southern Hemisphere.

Universities and other tertiary institutions, in most countries of the Southern Hemisphere, are really serving the interest of countries in the Northern Hemisphere. Research, worldviews and mindsets have been sucked wholly into the European/Western educational system. This trend should be reversed.

## **Conclusion**

The United Nations ranks countries in Human Development Index based on life expectancy, educational enrolment, adult literacy and income per person. Interestingly enough, Middle Eastern countries ranked far better than most other countries within the Southern Hemisphere. Countries such as Nigeria, Kenya, Uganda, Zimbabwe ranked 125<sup>th</sup>, 146<sup>th</sup>, 147<sup>th</sup> and 148<sup>th</sup> respectively (as at 2002).

It follows that education, development and the general human well – being go hand-in-hand. antiquated methods of educational pedagogy and curricula based on moribund or inadequate philosophy of education should be discarded. Education that caters for the needs of the people and incorporate the socio-cultural mores of the people would be suited for the knowledge – driven economy of the 21<sup>st</sup> century. Most importantly, the new curriculum should make learning inclusive, collaborative, digitally friendly and culturally integrated.

- One secret of successful transformation in any country – developed/underdeveloped is that government should be focused on selected major ideas, do them right for a sustained period of time. Those things necessary for Africa and most countries in the Southern Hemisphere to do right include: improving governance and resolving conflict, investing in people, increasing competitiveness and diversifying economies and reducing air dependence and debt and strengthening partnerships. Every one year of bad leadership retards the progress of a country by ten years.
- Singapore plugged into the inventions and technologies of the west and created institutions that ensured sustained prosperity. The way society is organized, including its rules, laws and enforcement processes – matter greatly. Empires and nations have cycles of boom and burst countries that have endured have got a few fundamentals right and kept them right. This suggests that countries in the Northern Hemisphere should not sit on their Olympian heights and feel that nothing else requires to be appropriated from the countries in the Southern Hemisphere. They should look into those areas where the Southern Hemisphere has got it right, plug into them for all-round development. The proper synergy between countries in the Northern and Southern Hemisphere would usher into a more equitable distribution of the Commonwealth and desirable values of the global community.



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