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***Path Analysis of the Effects of Science Literacy and Science Process Skills on
Pre-Service Science Teachers' Efficacy Beliefs***

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Abstract

The behavior of teachers in the achievement of educational goals has invisible complement known as teacher beliefs. In science education, the teachers' beliefs are not left out in leading the students to have a strong belief of succeeding in scientific processes which includes; observing qualities, measuring quantities, sorting/classifying, inferring, predicting, experimenting and communicating. These skills involves in a system known as the science literacy which has become a well recognized global educational slogan and contemporary educational goal. In view of this, the study focuses on path analysis of the effects of science literacy and science process skills on pre-service science teachers' efficacy beliefs. The study sample involved an intact class of pre-service science teachers in a college of education, south-western, Nigeria. The study answered two research questions in which teachers' efficacy beliefs was predicted by science literacy and science process skills. There was an alternate role of being extraneous and predictors by science literacy and science process skills in the research questions. The data analyzed revealed significant relationship among the three variables which is greater between science process skills and teachers' efficacy beliefs. Path analysis skewed towards the direction in which science literacy was the predictor of both science process skills and science teachers' efficacy beliefs. The study was concluded on the need for pre-service teachers' access to sources of positive experiences in teacher education. Intervention programs in teacher training were also raised for further studies to alleviate the teacher efficacy beliefs.

Keywords: Science literacy, Science process skills, Teachers' efficacy beliefs, Teacher training, Intervention programs

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Introduction

The entire edifice of education is constructed on the foundation that teaching can contribute to accelerated and accomplished learning. Hence, the overall process of education certainly involves several players which includes; educational administrators, policy makers, curriculum planners, teacher trainers and teachers among others. However, the player who has a direct contact or bearing on shaping and reshaping the desired learning outcomes is the classroom teachers. These classroom teachers has been described by Kumaravadivelu (2003) to be an artist, architect, scientist, psychologist, manager, mentor, controller, counsellor, sage on stage, guide on the side and lots more . Consequently, the importance of the science teachers in the implementation of the science curriculum at all levels of education is acknowledged worldwide Gbolagade (2009). There is need therefore to constantly review and develop the skills and where withal required for making science relevant in the society.

Pre-service teacher's process skills according to Akpan (2010) are an aspect to be given considerable attention during the training period. This however, required drastic changes in attitude or teaching style but merely involves making the science process more explicit in lessons. It is of necessity as they are being trained to teach others later.

Scientific process skills as shown in Turiman, Omar, MohdDaud and Osman (2011) can be divided into two namely; the basic science process skills and integrated Science process skills. Basic science process skills includes; observation, classification, measurement, using numbers, making inferences, prediction, communication and using the relation of space and time. Integrated science process skills consist of interpretation of data, operational definition, controlling variables, making hypotheses and experimentation. Science process skills according to miller (2002) should be utilized by teachers in the delivery of teaching the facts of science effectively. This is because science is not just of knowledge but it is a way to systematically understand the environment and the world at large.

Science literacy plays an important role in human daily lives. Promotion of science literacy has been recognized as a major goal of science education in the world Zembylas (2002). Meanwhile, Hazen (2002) makes distinction between being able to do science and being able to use science. He stated that science literacy is a mix concept; history and philosophy that help one understand the scientific issues of our time. Hence, scientific literacy has been recognized as an important characteristic that every citizen in a modern society should possess. In this respect, science education which includes 21st century skills is critical for developing student's scientific literacy, which in turn will give rise to scientifically literate citizens in future.

Conclusively, a number of studies have also been conducted on the influence of teachers' gender on teaching. Capri and Cellkaleli (2008) discovered that gender has a significant influence on the professional teaching practice of pre-service teachers. Also, Bulut (2009) identified no difference in teaching efficacy irrespective of type of course and gender. Cerit (2011) discovered that there is a significant difference in teaching efficacy of male and female pre-service science teachers. In another study, Erdemand Demire (2007) shared that pre-service science teachers teaching efficacy

may vary in terms of their background information such as, gender, topic taught, subject combination and so on.

Therefore, this study investigated path analysis of the effects of science literacy and science process skills on pre-service science teachers teaching efficacy belief.

Research Questions

1. What are the levels of pre-service science teachers' science literacy, science process skills and science teaching efficacy belief?

*are there differences based on gender and subject combinations

2. What is the casual path relationships among pre-service science teachers science literacy, science process skills and science teaching efficacy believe

Research Methodology

This study used qualitative data collection of self-report questionnaire containing two sections. Section A comprises of Bio-Data of the respondents as well as their subject combinations. While section B having three (3) parts seeking information on

1) Science literacy of the pre-service science teachers

2.) Science process skills of the pre-service science teachers

3.) Science teaching efficacy belief of the pre-service science teachers

Each part contains 20 questions with 10 positive scoring of strongly agree = 4, agree = 3, disagree = 2, strongly disagree = 1, while the remaining 10 has reverse scoring such as strongly disagree = 4, disagree = 3, agree = 2 and strongly agree = 1 respectively. The instrument was subjected to a content validity with the help of experts in measurement and evaluation in the college. The questionnaire was administered on 100 non-participating pre-service science teachers in the College of Education, Ikere-Ekiti, Nigeria in order to determine the reliability of the instrument. It has a reliability coefficient of 0.85, which was considered reliable for the study.

The participants were an intact class of NCE part III pre-service science teachers from the school of science, College of Education, Ikere-Ekiti, Nigeria. However, a total of two hundred and sixty nine (269) pre-service science teachers made up of (119) males and one hundred (150) females representing different combinations in the school of science. The purpose of their selection was based on their enrolment in the teaching practice which is their real teaching experience outside the school for 2015/2016 session. The administration of the questionnaire took about 25 -30 minutes during the teaching practice orientation for 2015/2016 session where the participants were given the self-report questionnaire to complete.

Data Analysis

The data collected were subjected to descriptive statistics, Pearson's correlation coefficients and multivariate analysis of variance (MANOVA). In addition, the relationships among the three characteristics of pre-service science teachers were tested through hypothesizing a model depicting the casual relationships among science literacy, science process skills and science teaching efficacy belief.

In this model, the following hypothesized paths were tested to determine if

- a) Science literacy has direct effect on science teaching efficacy belief;
- b) If science process skills has direct effect on science teaching efficacy belief;
- c) If science literacy mediates the effect of science process skills on science teaching efficacy belief; and
- d) If science process skills mediates the effects of science literacy on science teaching efficacy belief.

Both models consist of one intervening variable and two internal variables. For model 1, the intervening variable is science literacy while the internal variables are science process skills and science teaching efficacy belief. However for model 2, the intervening variable is process skills whereas, the internal variables are science literacy and science teaching efficacy belief.

The models were estimated using the analysis of variance (ANOVA), the evaluation of the two models were based on t-tests of specific path coefficients and the square multiple correlation of the models to determine whether each of the hypothesized relationships has been confirmed. Prior to the path analysis, the variables were screened for deviation and normality. There was no concern about deviation from normality.

Results and Discussion

Results showed that, on average, the participants reported relatively high teaching efficacy beliefs level ($M=8.24$, $SD=1.98$) and science literacy ($M=6.74$, $SD=1.03$). Moreover, the participants reported low level of science process skills ($M=3.26$, $SD=0.71$). Next, the level of these three constructs was examined with pre-service teachers from various study majors. The multivariate analysis of variance showed an overall significant difference on the three constructs among the study programs (Wilks' $\lambda=0.84$, $F=1.91$, $p=0.012$). Table 1 presents the follow-up one-way ANOVA for each construct by the study programs. As seen in Table 2, there were no statistical differences among the study programs on science literacy, science process skills and teaching efficacy beliefs.

Table 1: Follow-up one-way ANOVA for the three pre-service teachers' dependent variables by the study programs

Dependent	Independent	Sum of Square	df	Mean Square	F	P-value
SL	Study program Error	37.99 721.54	5 253	7.60 2.85	2.67	0.094
TEB	Study program Error	17.55 370.62	5 253	3.51 1.47	2.39	0.165
SPS	Study program Error	7.09 172.43	5 253	1.42 0.68	2.09	0.640

SL= Science Literacy, TEB= Teachers' Efficacy Belief, SPS= Science Process Skills

Table 2: Follow-up one-way ANOVA for the three pre-service teachers' dependent variables by gender

Dependent Variables	Males	Females	df1	df2	F	P-value
SL	15.31	15.95	1	245	13.62	0.00
TEB	17.22	17.09	1	245	0.76	0.55
SPS	12.20	12.22	1	245	0.39	0.76

SL= Science Literacy, TEB= Teachers' Efficacy Belief, SPS= Science Process Skills

Table 3: Pearson product-moment correlation for the three dependent variables

Variables	SL	TEB
SL	-	
TEB	0.307*	-
SPS	-0.257*	-5.40*

SL= Science Literacy, TEB= Teachers' Efficacy Belief, SPS= Science Process Skills

* $p < 0.005$

Table 4: Effects and their t-test for various paths in the two models

Model	Cause	Effect	Direct Effect	Indirect Effect	Total Effect
Model 1	SPS	TEB	-0.49 (10.17)	0.13	-0.49 (10.17)
	SL	TEB	0.18 (3.71) -	(4.24)	0.31 (5.66) -
	SL	SPS	0.26 (4.67)	-	0.26 (4.67)
Model	SPS	TEB	-0.49 (10.17) 0.18	-0.05 (2.90)	-0.54 (11.26)
	SL	TEB SL	(3.71) -0.26		0.18 (3.71) -
	SPS		(4.67)		0.26 (4.67)

SL= Science Literacy, TEB= Teachers' Efficacy Belief, SPS= Science Process Skills

Values in parenthesis are t-test value.

Furthermore, the multivariate analysis of variance showed that the pre-service male teachers differed significantly from the pre-service female teachers on the overall effect of the three constructs (Wilks' lambda=0.85, $F_{3, 245}=2.60$, $p=0.005$). The follow-up ANOVA analysis, in Table 2, revealed that the males and females pre-service teachers differed significantly only on their science literacy. Female pre-service teachers ($M=15.95$) had better science literacy than their male counterparts ($M=15.31$).

An investigation of the Pearson correlations, shown in Table 3, displayed intercorrelations pattern among the three constructs. Science literacy was positively correlated with teaching efficacy beliefs. This reveals that the pre-service teachers who have high positive science literacy tend to show high teaching efficacy beliefs. Moreover, science process skills had negative correlations with both science literacy and teaching efficacy beliefs. This indicates that pre-service teachers who are skillful in science process demonstrate negative science literacy and have most probably low teaching efficacy beliefs.

Table 4 displays results of the two path analysis models of science literacy, science process skills and teaching efficacy beliefs. With Model 1 where science literacy was the exogenous variable, there was a statistically significant negative direct effect of science literacy on science process skills ($\gamma = -0.26$, $t = 4.67$) and a positive direct effect on teaching efficacy beliefs ($\gamma = 0.18$, $t = 3.71$), indicating that manipulating

instruction and activities in teacher preparation programs that foster science literacy tends to reduce science process skills and improve teaching efficacy beliefs. At the same time, science literacy has an indirect effect on teaching efficacy beliefs through science process skills. This indirect effect is about the same as its corresponding direct effect ($\gamma = 0.13$, $t = 4.24$). In addition, as predicted, science process skills has a statistically significant negative direct effect on teaching efficacy beliefs ($\gamma = -0.49$, $t = 10.17$), suggesting that pre-service teachers with a low science process skills tends to have high teaching efficacy beliefs. This model suggests that the total effect on teaching efficacy beliefs was -0.49 which resulted from manipulating science process skills and 0.31 which resulted from manipulating science literacy.

In contrast, with Model 2 where science process skills was the exogenous variable, there was a statistically significant negative direct effect of science process skills on both science literacy ($\gamma = -0.26$, $t = 4.67$) and teaching efficacy beliefs ($\gamma = -0.49$, $t = 10.17$), indicating that manipulating instruction and activities in teacher preparation programs such as micro teaching that reduce science process skills tends to foster high levels of science literacy and teaching efficacy beliefs. At the same time, science process skills have an indirect effect on teaching efficacy beliefs through science literacy. However, this indirect effect is much weaker than its corresponding direct effect ($\gamma = -0.05$, $t = 2.90$). In addition, as predicted, science literacy has a statistically significant positive direct effect on teaching efficacy beliefs ($\gamma = 0.18$, $t = 3.71$), suggesting that pre-service teachers with a high science literacy tends to have high teaching efficacy beliefs. In summary, this model suggests that the total effect on teaching efficacy beliefs was -0.54 which resulted from manipulating science process skills and 0.18 which resulted from manipulating science literacy. In summary, comparison between the two models revealed that Model 1 showed stronger total effects on teaching efficacy beliefs which resulted from both science literacy and science process skills.

Conclusion

Pre-service teachers at beginning of teaching practice showed high teaching efficacy beliefs, moderate literacy toward science as a science teacher and low science process skills. No significant differences among pre-service teachers' study programs on the three affective variables were found. These high levels of efficacy beliefs reported by our participants may and may not reflect the actual levels of teaching competence. Moderate relationships among the three pre-service teachers' affective variables were found. The Strongest relationship appeared between teaching efficacy beliefs and science process skills. The model in which science literacy was the predictor of both science process skills and teaching efficacy beliefs seems to be more supported by the current data. Hence, to promote teaching efficacy beliefs with pre-service teachers, it is advisable to design teacher preparation programs that aim to build positive science literacy in the first hand as well as science process skills. This is because science literacy affects teaching efficacy beliefs directly and indirectly affecting science process skills which by it elevate teaching efficacy beliefs.

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Foreign Language Homepages: Representations of Internationalization

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Abstract

The marketing techniques of higher education institutions (HEI) are evolving due to pressures from an administrative system that closely responds to the business ethos of competition. Currently many HEIs are in the process of internationalizing their programs, due to pressures from the economic sectors and educational policies administered from the government. However, just how a HEI is able to internationalize is dependent upon the structure that is already in place. If how a HEI incorporates the ideals of internationalization is based upon its ability to do so, it follows that how a HEI displays its incorporation of the ideals of internationalization is based on what the institution is capable of offering. This presentation is based on a semiotic analysis of the foreign language homepages of three Japanese HEIs. This analysis discusses how the ideals of internationalization are being captured on these webpages utilizing Barthes' theories of cultural semiotics. First a discussion of the Barthesian approach to semiotics will demonstrate how this approach is applicable to knowledge management. This will expand to how the semiotic theoretical framework can be applied within the structure of foreign language homepage analysis. This will include a brief explanation of what we would expect to see on a foreign language homepage, and sampling methods for this analysis. This paper will conclude with a short discussion of one part of a semiotic analysis will to demonstrate how the foreign language homepage is a representation of how HEI are incorporating the ideals of internationalization within their institutional structures.

Keywords: Internationalization, university homepages, information needs, international students

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1. The Introduction

Changes to educational policies are influenced by social structures. These social structures are in turn influenced by the economic market and the construction of the shared cultural identity of a nation (Hall, 1997) in relation to other nations. Accordingly, when researching how higher education institutions (HEI) are incorporating what it means to be international within the global higher education scene it necessitates understanding not only what the processes of internationalization and globalization are, but what this means in relation to the cultural identity of a specific nation. This would then enable an understanding of how a specific nation's HEIs are incorporating values of internationalization within their structures, as well as facilitate an analysis of the success of this incorporation. This paper will first briefly discuss the role of English through the internationalization of Japanese educational policies. This background will provide the basis of understanding how the foreign language homepages of Japanese HEIs can be analyzed as signs, under Barthes theories of cultural semiotics, as to the degree to which they are incorporating the ethos of internationalization of HEI. Within this, a semiotic analysis of the FLHs at will provide explicit examples of the degree to which Japanese HEIs have incorporated these values under the binary of internationalized or not.

2. The incorporation of internationalization within educational policies

The internationalization of education is often cited as the impetus behind curricula reform. Accordingly, the internationalization of a nation's curricula has subsequently become an indicator of a nation's educational system as being international (Huang, 2006). In Japan, the notion of internationalization is often equated with globalization and the need to benefit from this potential power, while also safe guarding Japan's own cultural identity and power (Hashimoto, 2000; Phan, 2013). Thus, there has been much criticism that the way in which Japan is incorporating the value of internationalization into its educational policies is to both protect Japan's national identity as well as to promote Japan's uniqueness to others (Hashimoto, 2013; Kawai, 2009; Seargeant, 2008). This equates in the development of national educational policies regarding foreign language learning and usage, that these policies have been strongly attached to what it means to be Japanese. English has long been the preferred foreign language taught in Japanese schools, yet it was not until 1989 that the purpose of teaching communicative English as officially declared by the Ministry of Sports, Science, Culture and Education (MEXT) (Tahira, 2012). Furthermore in 2000 the Prime Minister's commission decided to adopt English as an official language to represent Japan in the 21st Century (Hashimoto, 2009). Yet, despite this adoption, it is not until 2009 that educational policies began to focus on the development individuals with a global outlook (Yonezawa, 2014). The implications of this are that instead of solely focusing on the development of language skills amongst students, language learning was developing in tandem with the development of expression through creativity and critical thinking skills. However, it was not until 2013 that MEXT (2013) officially outlined specific targets for communicative language learning by Japanese students. The reasons behind the change in focus is linked to students' prospective "career choices" (MEXT, 2014) – an economic reason, which policies on English language teaching and learning have consistently been criticized for (Hashimoto, 2013, Yonezawa, 2014). These criticisms stem from the notion that English in Japan has been adopted solely because it is the lingua franca of interaction

in the global marketplace (Phan, 2013; Yonezawa, 2014). However within this, these policies are also criticized in terms of national identity formation. The focus on developing English abilities amongst Japanese speakers is to protect what it means to be Japanese – through whom uses Japanese, and to be able to use English as tool in which Japanese can share their ideas with others (Hashimoto, 2009; Phan, 2013). In this light, it can be seen that the incorporation of English within the Japanese education system has become symbolic of internationalizing and being a contributing member of the global marketplace. Accordingly, if the use of English is a representation of the incorporation of the value of internationalization within education, how is this value visualized within HE? One way to analyze the value of international within HE is through an analysis of a HEI's foreign language homepages (FLH). The information inputted on the FLH along with the degree to which conventions to webpage structure and design have been followed are a visual display, a sign of the degree to which a HEI has incorporated the ethos of internationalization into its infrastructure. Accordingly, a semiotic analysis will be employed in the ensuing discussion to assess the degree to which Japanese HEIs are internalizing the ethos of internationalization.

3. Barthes theories of cultural semiotics

Barthes theories on cultural semiotics can be used to understand the meaning of FLHs as a sign of the extent to which HEIs have incorporated the value of internationalization within their structures. In a semiotics a sign is an image, text, or sounds. In a semiotic analysis the elements of a sign are more than a means to illustrate. Signs are images and they are discursive constructs which carry analyzable meaning (Lynn & Lea, 2005). Barthes (1957/1984) focuses on the relationships between the denotation of a sign, its labeling functions or literal meanings, and the connotation of a sign, the additional associations added to it (Barthes, 1957/1984; Bignell, 2002). Meaning within a sign thus becomes representative of concepts and ideas, such as the focus here, the incorporation of internationalization ideals within a HEI's structure. To enable this to happen, meaning is bounded through the cultural context of the sign's production and to whom it is received by. Accordingly, meaning is polysemous, as the representations of concepts and ideas are bound by not only cultural contexts, but also by how they are interpreted in their reception (Barthes, 1957/1984). While the meaning of a sign must be found within the sign (Rose, 2012), it must be understood that through the sign's construction and interpretation additional cultural meanings are added to the original sign. The meaning of the sign is therefore relational as what is considered as normal or not is based upon the common attributes within a specific boundary, which have been socially accepted.

3.1 What we expect to see on a FLH

In order to perform a semiotic analysis of the FLHs of Japanese HEIs it is first important to establish what are considered as universal principles in basic structure in webpage design. The basic design and information conventions, such as the placement of language options, the institution's name and logo, and key navigation tabs all combine to promote user-friendliness. Figure 1 depicts the standardized basic webpage structure, which according to Lynch and Horton (2008), most webpages conform to. Murthy et al. (2011) state that the navigation links available on a HEI's

websites are based on what the institution chooses to offer perspective users of the site. This is of importance because it is the institution that is choosing what it puts on

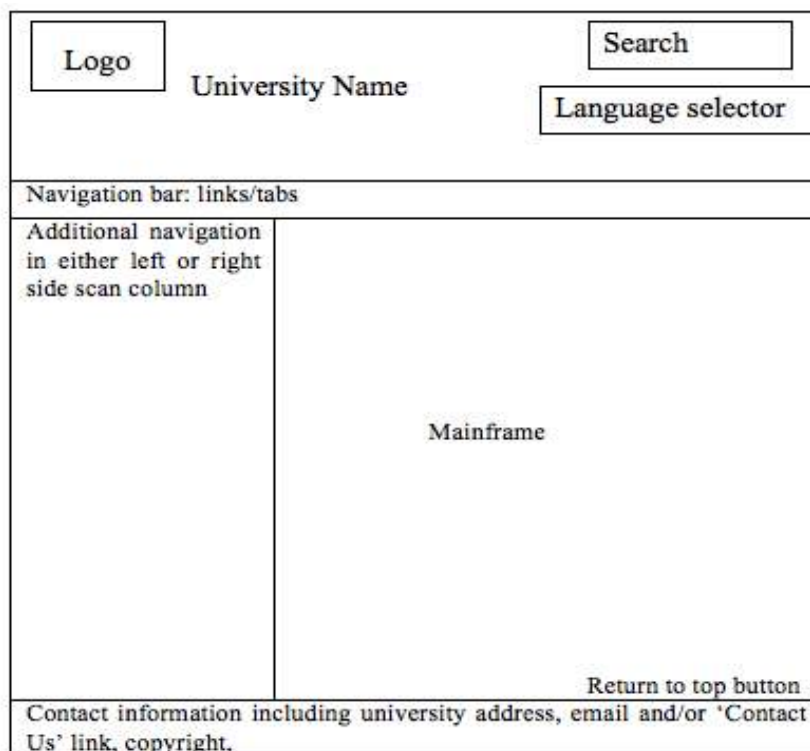


Figure 1 Basic webpage design and major elements (adapted from Lynch & Horton's (2008) Page Structure and Site Design, n.p.)

its site. However, it should be remembered that this choice is also in part based on what the institution can offer. This suggests that it is the HEI's prerogative, and not protocol that dictates what information appears on a specific website. If this is the case, then it suggests that the Japanese HEIs that are more capable of sustaining an international student population would offer specific information concerning studying in Japan more readily through the navigation links available on their websites. The international student would be interested in tuition, admission/ entrance examinations, accommodation, visa, program and course overview, and supervisors. Particularly, the international student in Japan to complete their post graduate research would be interested in the areas of research interests for possible supervisors, so as to see the alignment of their respective areas of study. Accordingly, the connotation of the FLHs at Japanese HEIs that can provide and direct potential international students to pertinent information would be of an institution that has incorporated the ethos of the internationalization of HEI within their infrastructure. However, the connotation of the institutions that have not done this is opposite; the institution has not incorporated the ethos of internationalization.

4. Trends: The structure and design of FLHs

The FLH, as a site of meaning making, with regards to the incorporation of internationalization ethos, can only gain its meaning in relation to other FLHs. Accordingly, this section will present the common trends in the semiotic analysis of

FLHs according to rank. Using webometrics, a website that not only provides a relational ranking of all Japanese HEIs, whether they be four-year universities, graduate schools, two-year colleges, or technical/ trade schools, available from <<http://www.webometrics.info/en/Asia/Japan>> a sampling analysis of the 989 HEIs was completed. Approximately every third FLH was assessed on this website. If an institution was a junior college (a two year institution) or specialized in a specific area, such as early childhood education, which might require requalification in the international student's home nation, the next institution was assessed. This enabled an assessment of the common trends and outliers in FLH construction at Japanese HEIs in relation to each other. This section will describe the trends according to rank the ranks of low (660-989), mid (330-659), and high (1-329).

4.1 The FLH at Lower-Ranking Institutions

The most significant trend at this level is for a HEI to only have a Japanese homepage. All the institutions have a well-developed Japanese homepage which offers readers of Japanese detailed information regarding programs, specific courses with these programs, faculty, a calendar of events, student support, finances/aid, and examinations, as well as noting a last update such. This is found even at institutions which focus on international studies. The level of the develop of the Japanese language homepage is of significance, as it does aim to inform students not only about the institution, but also what their life as a university student would be like. The Japanese language homepage offers extensive support to the Japanese-speaking student. This is in stark contrast to the extent of development of the FLHs at these institutions.

Many lower ranking institutions did not have a FLH. When a FLH was present, it was usually in English. In the higher end of this category Chinese, both traditional and simplified, and Korean FLHs also were seen, however, these were in addition to the English homepage, never on their own. When a FLH was not present, occasionally the main navigation links had English translations below the Japanese. This could be understood as the institution making an effort to direct international users to specific information, which they could subsequently use their own initiative to use an online translation machines to translation pertinent information. However, a very few institutions that had a navigation link to an English homepage, that did not actually connect the user to a functioning webpage. Instead when connected to the FLH the user finds an "Under Construction" message. At other institutions the link to the FLHs is not traditionally placed in the upper right hand corner. Rather the language link is hidden within the mainframe or the left/right-side scan columns. Several lower-ranking institutions had extensively developed FLH in English, and also in Chinese or Korean, however the navigation link to these pages is hidden within another link in the left- or right-hand scan columns of the mainframe. These navigation links are often titled in large Japanese letters, with an English title in much smaller font such as "International Admissions" or "International Activities" or "Study Abroad". Unless the international user is aware of what to look for, it is unlikely that they would find the FLH at these institutions. It is interesting to note that several institutions also resisted to fully translating the name of their institution. Compass directions such as east (*higashi*), or south (*kita*) were not translated. For example *Higashiosaka* College's name should translate into English as '*East Osaka College*', but it remains as *Higashiosaka*, all as one word, not two. Further more the use of '*Jo*' is also not

always translated. The Japanese kanji 女 (*Jo*) refers to woman. Instead of translating the HEI's name as (Name) Women's College, *Jo* is used instead of women's, as exemplified by Seisen *Jo-Gakuin* College. The term "*Gakuin*" is commonly used in Japan to refer to educational institution that accepts students nationwide, and does not translate directly into English. This could be symbolic of Hashimoto's (2013) comment that in selective translation, Japan is creating a distance between itself and others in its internationalization process.

If an institution at this lower-ranking level has a FLH, the content appears to be upload versions of the institution's brochure. The information available is typically in English, and is basic in block format. Additionally, the English used was often not proofread, and contained many grammatical errors. Less than 10 of the sampled institutions at this level had a navigation directed towards the international student. One of these entitled their link '*For Foreign People*'. Yet, the information provided for the international student rarely included admission/ entrance examinations. Furthermore these FLH did not contain information regarding tuition, accommodation, visa, program and course overview, and supervisors. At this level the FLHs can be said to underdeveloped, with information that is not aimed at attracting and including the international students, rather it aims to tell the international user about the institution. The message at this level is clear, if an international student wants to attend these institutions they must be competent in Japanese.

4.2 The FLH at Mid-Ranking Institutions

The trends found within the lower-ranking institutions continue at the mid-ranking level, most particularly with those institutions at the mid- to lower-end of this bracket. Here it is still common to find institutions without FLHs. Furthermore, several of these institutions did not even have the name of their institution written in the Roman alphabet on the Japanese homepage; the institution's name only appeared in Japanese kanji. From the mid- to higher-end of this level, it however is increasingly common for an institution to have uploaded information in block formation, like an electronic brochure, or PDF files not only in English, but also in Chinese and Korean. Occasionally, other languages also appeared, such as Spanish, Portuguese, Vietnamese, or Russian. These additional languages were always in addition to Chinese and Korean, not instead of. These language navigation links often did not appear in the standardized upper right-hand corner of the top page, but were found in the left or right-hand scan columns within the mainframe of the Japanese homepage. Moreover, when a mid-level institution does have a FLH, but when they have only one language choice for their FLH, this page will appear in English. The language navigation links were either indicated all in English, written in the signifying language, or denoted by a symbol such as a flag or a globe. This is distinctly different from the lower part of this category and the lower-ranking institutions where if an institution had a FLH it was most likely to be in English only.

At the mid- to higher-end of the mid ranking institution other trends became noticeable. Several institutions did have a FLH, however there was not link to the FLH from the Japanese homepage. A link to a FLH could only be found if the name of the university was searched for through an online search engine such as Google. Furthermore, within specific sub-sections of the FLH information was often minimal. Some institutions invited international students interested in *International Exchange*

to either email or telephone the administration. While these institutions provide an email address and telephone number, they do not offer specific information on their FLH so that students and first acquaint themselves with some ideas before making contact. The FLHs at these institutions only prove contact information. However at other institutions “Coming soon” messages for sub-navigation links can still be found. This surprisingly happens at institutions with the term ‘International University’ in their name. Like the lower-ranking level, the FLHs at most mid-ranking institutions still aim to inform prospective international students about their institution. There rarely appears information regarding fee and application procedures, dormitories, or classes that international students must complete. Even when a HEI appears to be proffering information regarding Entrance Examinations, the international user will find that this information is a list of numbers of students who have enrolled at the institution or that the navigation link connects the user to information on a Japanese language page. Additionally, Google generated translations of the entire Japanese website is also found at this level particularly at the mid- to lower-end.

At the mid-ranking level, something that was not found extensively at the lower level is confirmation of the institution’s accreditation. Most universities place the seal from different accreditation agencies such as Japan Institution for Higher Education Evaluation (JIHEE), Japan Association for College Accreditation (JACA), or Japan Accreditation Board for Engineering Education (JABEE), visibly on the Japanese top homepage, several also make reference to this in the block information that appears within the FLHs. Yet the actual information directed to the international student remains skeletal. It is not until the higher-ranking mid-level institutions that slightly tailored information of international students begins to appear on the FLH. Furthermore, within the higher-ranking institutions of this level, many distinctly state that students must have a command of Japanese in order to attend classes. Even at the more developed FLH of the mid-ranking institutions, when information does appear, it is minimal, appearing in block formation with little interaction with international students. These institutions are clearly stating which type of international student is welcome to attend: the student with Japanese proficiency. However, the same could be said at other institutions when they provided limited amounts of information in block format, with nothing directed specifically for the international student, or when navigation links to pertinent information for students takes the users to a Japanese language page only. These institutions are also clearly outlining, that without a high command of Japanese, international students will be limited in their formation of their student identity and their functioning as university students.

4.3 The FLH at High-Ranking Institutions

Within the higher-ranking institutions, the most distinct variations could be seen within this division. The FLH at the lower end of this rank were likely to have only an English FLH. As with the other ranks, often these FLHs provided users with statistical information concerning graduation rates, employment success, a geographical breakdown of the international student population or international relationships, the history of the university, a vision/ goals statement, and a message from the president. Furthermore, it was still common to find the navigation link to the FLH in untraditional places such as in the left of the header bar or within the mainframe. It was rarely found that no link to a FLH was available from the Japanese homepage. Within this occasionally, there was a FLH, and access to this page could only be

found through a search engine such as Google. The connotation here is that the institution is still aiming to inform others about it, but the institution is not directly welcoming others with its framework. The accreditation seals, which were very prominent in the mid-ranking level universities, appear less frequently, and almost not at all within the top 100 institutions. These appear to have been replaced with navigation links to social media sites such as Twitter, Facebook, RSS, or Line. This demonstrates that these institutions know how to connect to students, and are aware of changes in the way students use the social media to gain information. These institutions are appearing to be technologically with it.

The lower-ranking universities within this higher-ranking category still cram much information onto the top FLH, in large blocks. It is not until the highest 100 institutions that several levels of animated photos, which are links to specific subpages begin to take prominence over the sterile background which is divided into blocks with headline type links. Within these institutions, the top page of the FLH appears less cluttered, and more organized. This organization is key, as it appears as if thought went into the process of constructing the FLH and directing the user to pertinent information. This symbolizes an institution that is interested in its prospective international student population. Yet, this symbolization dissipates quickly, as often the sub-navigation links take users to PDF files which appear to be uploaded versions of the university handbook/ brochure. An uploaded brochure on an institution's FLH is not providing prospective or current international students with additional information, as these brochures generally lack substance in the information provided. Students are looking for specific details, not shallow descriptions. How and the degree to which information is presented is a symbolization of the degree to which the international student would be supported by the HEI. Furthermore, as in the lower two rankings most high-ranking institutions only have one FLH in English. It is not until the top 50 institutions that FLHs in Chinese or Korean, always appear, despite the fact that most of the international students in Japan are from China and Korea (Huang, 2006). Moreover, throughout this level in general only a few institutions provided an actual contact name and email address for prospective users to make contact with. Many institutions provide an email address to the student administration department, but they do not provide a contact name. This is unfortunate, as it does not facilitate in developing a human contact with prospective international students. Furthermore, the main navigation links do not always direct the user to pertinent information. Prospective students interested in the admission process, fees or general course overview, will find the information if they pursue, but this information is often accessed through several layers of sub-navigation links.

From around the highest 160 ranking institutions, information uploaded on the FLH regularly appears to be divided according to user: the prospective student, current student, alumni, researcher, and occasionally parent/ guardian. While the sub-navigation links may connect users to the same information page, the names of these links have been constructed to quickly direct the user to information that they are searching for. The connotation of this, is that the institution cares about its users, and is not only willing but is able to help its users find the information they require. This connotation however, is lost when the sub-link connects the user to a Japanese page, or they receive a message 'Under construction'. It is not until the top 80 institutions that information specifically for the prospective international student is easily found, including tuition, accommodation, visa, admission/ entrance examinations,

scholarships, and basic overview of programs and courses. However, even the most high-ranking institutions do not provide detailed information regarding their faculty, the courses they teach, and their research interests. Many international students in Japan are in Japan on scholarships from the Japanese government (Phan, 2013), and are doing graduate level research. For these students it is essential that they find a supervisor who has the capacity to mentor them in their research area. Thus while it appears that the higher-ranking institutions are aware of their international students' information needs, they have yet to fully incorporate this into their FLHs. It is interesting to note that the institutions with the most developed FLHs are also amongst Japan's oldest institutions. These institutions have had a long international outlook, and not only have historical international academic relations, but have used this knowledge to develop their infrastructure to support international students.

4.4 Summary of Trends

The FLHs of Japanese HIEs are not fully developed to support its international student body information needs. The FLHs at the mid- to lower-end of the higher-ranking institutions appear similar to those at the mid- to lower-ranking institutions. The goal appears to symbolic expression of the institution within the realm of the globalization of HE. It is not until the higher-end of the higher-ranking institutions, which also tend to historically been research orientated institutions, and/ or medical or scientific institutions, that the FLHs appear to have been constructed with the goal to inform prospective international students about what they can achieve at that institution. Due to their orientation these institutions have had time to incorporate the ethos of internationalization within their infrastructure, and this is displayed on their FLHs. However, if the goal of the FLH is to attract international students, the FLHs at these institutions still require additional development. This would necessitate that the HEI understands why international students have chosen to study in Japan, so that it can tailor specific information to these students. In the global HE arena, many institutions are aiming to attract an international student body. Unless Japanese institutions pay attention to the information needs of its potential international students body, these students will eventually turn to other countries for their HEI.

5. Conclusion

Only a select few of the highest-ranking institutions have the most developed FLHs. These FLHs offer students specific information designed to help them make informed decisions as to whether or not to apply to this institution. This is reflective of the infrastructure of these institutions to support international students. Many lower-ranking institutions did not have a FLH, and this is a trend which continues right through to the mid-ranking institutions. Furthermore, when these mid- to lower-ranking institutions did have a FLH it was most likely to be in English, only one (long) page, consist of PDF files, or uploaded content from the institution's brochure. This trend also continued until throughout the higher-ranking institutions. The significant of these institution's FLHs is that they are a sign of the degree to which the ethos of the internationalization of HE is valued by Japanese HE. The fact that these institutions do not provide even the most basic information about themselves in another language, yet the Japanese homepage contains a wealth of information is a sign to the international student. The sign is that to be a functioning university student, you must have a high command of Japanese if you want to study in Japan.

This sign value is consistent with the way that Japanese educational policy development has traditionally embraced English as a foreign language. It appears, as Hashimoto (2013) states that Japanese HE is reacting to the global society, instead of becoming active members within that society (p. 24). Instead of embracing global HE through encouraging international students to attend Japanese HEIs, the FLHs are displays of how Japanese HE has reacted to the globalization of HE. By uploading English displays of internationalization, where information is limited, incorrect, or inconsequential to prospective international students, the FLH instead becomes a representation of an infrastructure that is unwilling to embrace and develop ethos of internationalization with its tertiary education to the development of both the international and national student body.



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The logo for the International Association for the Advancement of Pedagogical Research (iafor) is centered on the page. It features the word "iafor" in a lowercase, sans-serif font. The text is surrounded by several concentric, curved lines in shades of blue and red, creating a circular, globe-like effect.

***Promoting Self-Competences and Life Skills of Children Coming from Vulnerable Groups:
Research-Based Development of an Inclusive Education Program***

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Abstract

The presented paper combines research and development in the area of cultural diversity and inclusive education. It addresses the improvement of self-competences and life skills of Roma and non-Roma children in Romania by specific teaching and learning programs. The presented study and program “FACE - Families and Children in Education” focuses on promoting the pre-existing competences of primary school children through various elements on a didactical, methodological as well as transcultural level. The research element in FACE includes quantitative and qualitative results. The self-concepts of children coming from a vulnerable group were gathered through a pre-post-design using the Tennessee Self-concept Scale: 2 (TSCS:2) before the intervention and after a one-year-trial period. The results show the changes of self-concept in different age groups over the course of the second trial year. The qualitative analysis includes the coded and categorized qualitative feedback of teachers who worked with FACE over one school year. Interpretation of the results was done through traditional content analysis using grounded theory as a methodical framework. The paper discusses these results aiming at a useful development and adaptation of teaching material and in-service training programs. Following this, key factors are addressed. Through this inclusive school development program the perspectives are changed from a deficit-orientation towards a competence-orientation in a multi-ethnic setting. All interpretations and suggestions are made from a transcultural perspective taking into account the specific cultural context of Romania.

Keywords: minorities, vulnerable groups, teacher in-service training, teaching material, multi-cultural classrooms

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The situation of children coming from vulnerable groups in the Romanian educational system

The most vulnerable group in Romania are children coming from the Roma communities. The integration and education of these children is still facing big challenges. The number of school drop-outs among Roma children is high; children are occupied with household tasks or have to take small jobs to contribute to the family's life. Apart from the economic situation of Roma, Roma (and also non-Roma) children from a very poor socio-economic background show a rather low self-concept and belief in their own self-competences and life skills. Due to the low attendance of school and the difficulties these students face in class, the belief in own competences as well as in education as a value is decreased furthermore. Results of a research study within a project called TERNO (Teachers' Education for Roma New Opportunities in School) identified the educational needs of these children (Vajda 2013): Even though a positive approach towards the social integration of Roma children could be observed (ibid), teachers and representatives of the school system wish for additional school personnel such as social workers, speech therapists, mediators etc. as well as multicultural and intercultural approaches for teaching and learning. Moreover, curricular adaptations and a focus also on teaching Romani language, culture and history are seen as missing and important measures for supporting the education of Roma children (ibid). Raising the school attendance, especially at the entry point into the educational system – nursery, kindergarten and pre-school – is a further point for improvement for the situation of Roma children (Surdu et al. 2011). In the past decade various projects have been carried out in order to improve the situation. A collection of best-practice examples compiled by UNICEF delivers important information for further developing these initiatives (UNICEF 2007a). Apart from systematic approaches and changes on a structural level, also some practical tools have been developed in order to guide and support mediators, teachers, social workers and educators (Nemenyi & Vajda 2014; Rus & Zatreanu 2009).

Introducing a project approach: FACE – Families and children in Education

The project “Families and Children in Education” (FACE) of the Centre for International Projects in Education (IPE) at the Zurich University of Teacher Education aims at improving the self-competences and life skills for Roma and non-Roma children as well as the quality of living and learning together in a multi-cultural and multi-ethnic environment. Through developing and introducing a series of teaching material Roma and non-Roma children work together with their teachers and their parents on various topics related to issues of identity, skills, talents and interests, emotions and heritage. The material consists of three booklets for students and teachers which are jointly developed with experts and teachers in Romania. The FACE booklets start at Kindergarten age (4-6) and follow up in primary (7-9; 10-12). Apart from students and teachers also communities, authorities and parents are involved in the project trying to raise their awareness for education and the future perspective of the children. Through a series of training sessions together with the teachers and local project co-ordinators the FACE program and materials were tested through an accompanying research component in two regions of Romania. The presented research results stem from the second year of piloting and are a follow-up of the results of the first year (2015). By the end of the 4-year long project a total number of 1'675 students, 220 teachers, 1'675 parents and 40

communities will have been in direct contact with the material. All teaching and learning material is now translated and prepared for (electronical) use in Kosovo and Macedonia.

2.1 Self-competences and life skills of children coming from vulnerable groups

Self-concept in the context of this project and research follows the general idea of self-concept as “the individuals’ knowledge and beliefs about themselves – their ideas, feelings, attitudes and expectations” (Pajares & Schunk 2001). Self-concept as understood in this context can be subdivided into self-concept categories. Or it can follow even more detailed subdivisions like non-academic areas (such as physical appearance, popularity, trustworthiness, relations with parents, emotional stability) or academic areas (verbal, mathematics, problem solving, art etc.) (Marsh & Ayotte 2003; Marsh et al. 2006). Self-concept is strongly connected to achievement and to self-esteem. However, self-concept can be described as a cognitive structure, a belief about who you are. Self-esteem is more an overall, general feeling of self-worth that incorporates self-concepts in all areas of life. In the context of the FACE program we use the model of self-concept (O’Mara et al. 2006). Self-esteem is also very much influenced by the culture around a person and by how this culture values the particular characteristics of the person (Bandura 1997; Schunk et al. 2008). This cultural influence is reinforced when children grow up in poor socio-economic circumstances. A positive self-concept is decisive for the satisfaction of children and their social and emotional well-being, as well as their academic achievement. Children with negative feelings towards themselves tend to also have negative feelings towards others (Weidinger 2013a, 2013b). Life skills as a key word used in this project and paper refers to the definition introduced by the World Health Organisation: “Life skills are abilities for adaptive behavior that enable individuals to deal effectively with the demands and challenges of everyday life” (World Health Organisation 2001). WHO describes 10 core skills: decision-making, problem-solving, creative thinking, critical thinking, effective communication, interpersonal relationship skills, self-awareness, empathy, coping with emotions, coping with stress. Life skills therefore, can also be defined as the competences that an individual needs for sustaining and enriching his or her life.

2.2 Using pre-existing competences

Children coming from minorities or vulnerable groups within a society are often not only disadvantaged because of their ethnic backgrounds and difference to the others but also because of a limited access and attendance to school (UNICEF 2007b), (Surdu et al. 2011). However, this does not mean that these children start school as a tabula rasa with no prior acquired competences and skills. On the contrary, children who grew up in socio-economically weak situations often have to contribute to the survival of the family. Within the group of the Roma children this phenomenon is present. They enter the schools with competences and skills that they have acquired in non-formal educational settings, in their families, in the peer-group, on the streets etc. It is the educational system that misses to perceive, measure and value these pre-existing competences. Schools do not offer opportunities where these pre-existing competences and skills can be applied, tested, further developed and transferred into a way that they become useful and accepted by the institution and its requirements. These pre-existing competences often encompass the described life skills but they also include purely subject-related competences such as calculating, verbal

communication skills (when selling things), technical skills (repairing, agricultural work, handicrafts) as well as knowledge about their environment and its materials (agricultural work, weather forecasts etc.). In schools children with such pre-existing or pre-acquired competences cannot show and prove them as they are not asked for in school tasks, tests or other forms of summative assessment procedures. This is also the reason why Roma children – when placed in mixed groups with non-Roma children – quickly become stigmatised. Their perceived lack of cognitive skills becomes visible in the context of the classroom also to their colleagues. The FACE program tries to make pre-existing competences and skills more visible to both groups: to the Roma children and families as well as to the non-Roma families and children in the classroom. Only when both groups and the school itself start to see and value skills and competences that have been acquired elsewhere, the potential of it can be used and learning opportunities can be created in class where these skills can be transferred into useful competences, skills and strategies for the specific learning context in school.

Research design and results

The FACE program including the trainings for teachers, the involvement of the families and the development of teaching materials are based on an applied research component on how self-concepts of children can be supported by these different elements and how the pre-existing competences of children coming from vulnerable groups can be made visible also in a school context. The research component of FACE includes a pre-post-test design and follows a mixed-method approach (Caracelli & Greene 1993).

The FACE research component involves research activities on different levels:

Self-concepts and their development of participating children (quantitative)

Self-concepts and developmental age (qualitative)

Adoption of FACE program (teachers - qualitative)

The qualitative research activity, using children's drawings of a human figure (self) as a way of explaining developmental age and self-concept through projective tests is still in the process of analysis DAP:SPED (Naglieri et al. 1991) and traditional HTP (House-Tree-Person) (Wenck 1977; Machover 1949). Analysis and interpretation of all results was done using the framework of grounded theory.

3.1 Self-concept development

3.1.1 The Tennessee Self-Concept Scale (TSCS:2)

For the analysis of the present self-concept of the participating children the Tennessee Self-Concept Scale (TSCS:2) was applied (Caracelli & Greene 1993). The TSCS is broadly applicable and multidimensional in its description of self-concept as well as validated for different ethnic groups (Fitts & Warren 2003). The TSCS:2 short form of 20 questions was applied with all participating children from age 9 up to 13 (n = 160). The analysis of the self-concept of Roma children is based on the total self-concept scales given for the ages and compared to the post-test results of the same children. The TSCS:2 gives information about the range of the total self-concept scores (TOT) which falls between 40 and 60 for most individuals. This indicates that there is no disturbance or only mild disturbance in self-

concept. High scores of the TSCS:2 between 60 and 70 indicate areas of particular strength. Children with high TOT scores (> 60) tend to define themselves as generally competent, to like themselves and have self-confidence. Specific disturbances in self-concept are indicated by low scores below 40. These individuals are doubtful about their own worth. Children who score below 40 are less likely to say positive things about themselves. They may be anxious, depressed and exhibit little self-confidence. These may also be children or adolescents who have a self-concept that varies from one set of circumstances to another. What is the case for most children with a low self-concept score is the fact that their self-concept does not reflect good fit between their abilities and their goals. As a result, these children do not take any risks, they avoid situations where they might experience failure or rejection.

Results

The self-concepts of the participating children ($n=160$) as recorded by the TSCS:2 can be described as very low in both pilot regions. 58% of the tested children show a total self-concept score that is lower than 40 before the beginning of the program. 39 % of the participating children show a self-concept between 40 and 60. Only 1.8% of the tested children show an extremely high score of over 60. 25% of the students show a TOT score less than 30 which is alarming. After a year of working in the FACE program the picture changes in the positive way, however with great variance between the groups. Only 28% now show a total self-concept score below 40, and 68 % show a “normal” self-concept score between 40 and 60. 4% of the questioned participants now show an extremely high self-concept score of over 60.

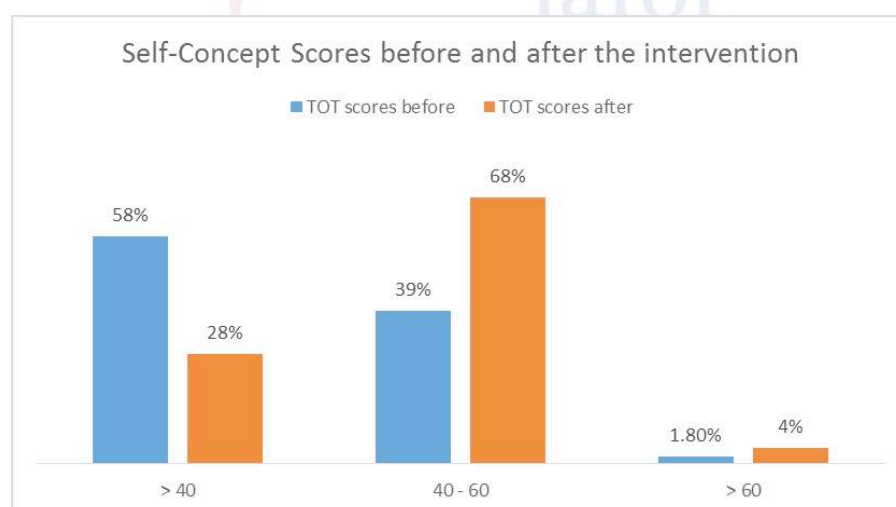


Figure 1: TOT Scores before and after the intervention

It is significant to note that there is great variance between schools located near cities and schools located in pure rural areas, even if the rather urban schools host solely Roma children. From among the children tested in the rural area only 34% show a “normal” self-concept even after one year and still 66 % still range below 40. No child in the rural pilot region shows an extremely high TOT score.

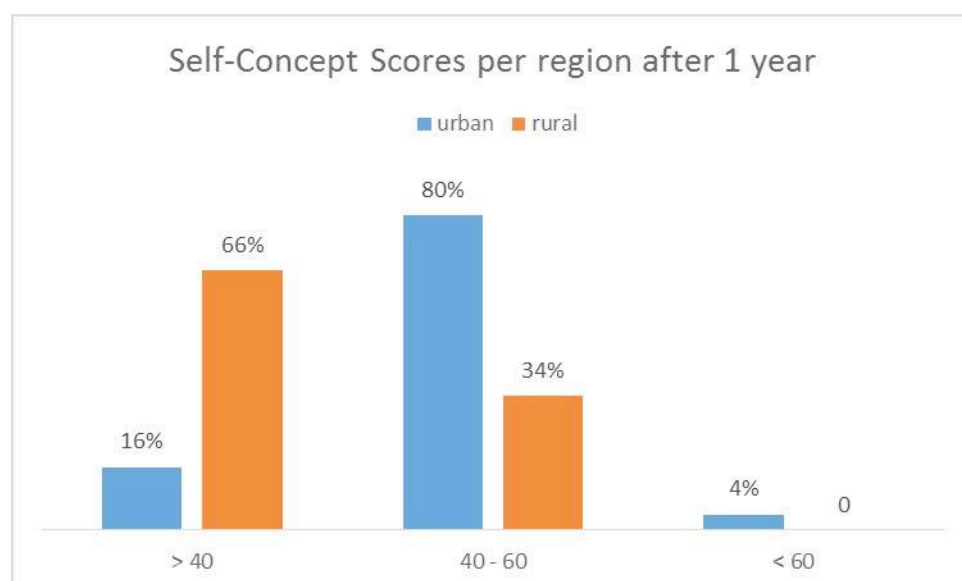


Figure 2: TOT Scores per region after 1 year intervention

Looking at the self-concept of the participating children a year after they had started the program, 74 % show an improvement in their self-concept and the perception of their person. 18 % show that their self-concept has not been improved, in some cases it even decreased (8 %), but only in rural areas. What is evident when looking at the age groups, is the fact that the majority of strongly decreased self-concepts can be seen in older children. The reasons for this phenomenon could lie in the developmental stages of the children or adolescents and their changing view of themselves (Stipek 1981; Wigfield et al. 1996). As children mature, they become more realistic and may not be accurate judges of their own abilities (Paris & Cunningham 1996). Some adolescents suffer from “illusions of incompetence” – they seriously underestimate their own competence (Phillips & Zimmermann 1990). Looking at the special group of minority children this could also lie in the starting perception of future perspectives in a country where the chances are still limited like in Romania.

Adoption of trainings and teaching material

The method used for the analysis of the FACE teaching and learning program was traditional qualitative content analysis according to Mayring of the oral and written feedback given by the teachers and local co-ordinators (Mayring 1983). All feedbacks were documented in personal portfolios by each teacher of the pilot collected by the co-ordinators.. The analysis of the FACE teaching experiences and material was done along three major dimensions including four subcategories for coding. For computerised processing of the coded texts and documents the MAXQDA 11 tool was used (MAXQDA 2014). The following table gives an overview of the coding dimensions and sub-categories:

General dimension	Didactical dimension	Teaching material dimension
Benefits	Self-directed learning	Complexity
Challenges	Creativity	Language and wording
Favourite tasks	Classroom organisation	Gender

Most difficult tasks	Time management	Graphics
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Fig. 3: Qualitative content analysis dimensions and sub-categories

Feedback was given by all participating teachers who worked with the material and the students ($n = 40$). Feedback of the teachers was triggered by questions along the three major dimensions listed above. However, feedback was also given orally in group discussions during the workshops, translated and coded for the interpretation via qualitative content analysis. Out of the interpretation of the feedback along the two given dimensions several key factors were extracted by using grounded theory for designing programs like FACE.

General understanding and perspective of learning – pedagogical dimension

Use of approaches and methods – didactical dimension

The following collection of key factors represents in short the main aspects which made FACE a successful implementation program in the context of the Romanian educational system.

Key factors on a pedagogical and didactical dimension

Pedagogical key factors: Teaching and learning perspectives

4.1.1 Learner centeredness

Teaching and learning in multi-cultural and multi-ethnic schools that want to support life skills and self-competences of students have to be learner-centred. It is based on the assumption that the structure, choice of content and organisation of all teaching must be tuned to the students' needs. Student-centred teaching means that the focus of attention is on the learner's individuality, i.e. students are recognized as individuals with an independent personality (Helmke 2012). In student-centred education students are taken seriously and valued as personalities, regardless of their learning performance or success. Children are perceived as acting and active subjects and not as mere objects of the teacher or of the educational program. A key requirement of student-centred education is, therefore, to stimulate children in a holistic way to become active. As a result, this educational concept does not foresee the teacher at the centre of teaching but the learners. Learner-centred teaching means planning and structuring a lesson from the learners' point of view, in cooperation with them and geared to their needs (Wiater 2012). Or, as Andreas Helmke (2012) puts it: learner-centred education is characterized by a high degree of student participation and activity. As opposed to teacher-centred education, the variant experienced in most countries of South Eastern Europe, learner-centred education asks for a radically different role of the teacher. FACE tries to make this shift in teaching and learning culture through the design of the teaching materials but also through the training seminars themselves.

Learning from and for life

Any teaching must take students' actual everyday lives and future conditions into account when choosing learning contents. This becomes even more necessary when dealing with children coming from poor socio-economic situations or have a short and unsuccessful school

biography. This means that topics must be chosen so as to be life-relevant and actual for learners. 50 years ago, Wolfgang Klafki expressed this pointedly in the following question: “How relevant is the content or topic in question in the cognitive development of the children in my class? Or more precisely, what experience, ability or skill are they meant to acquire by its means? How relevant is the content from the pedagogical point of view?” (Klafki 1958). However, not only the relevance of the content for the students’ present needs to be taken into account, but also for their future. Life-relevant learning means that the interests, the biography and background, the living conditions (life situation) and the specific needs of learners are perceived and respected – and represented also in the teaching material. This is also reflected by the feedback of the teachers: Overall, the children enjoyed working with the teaching and learning material. This was pointed out several times by the teachers. When grouping the tasks the children liked best it becomes evident that they lie in two different areas: a) tasks that are closely related to objects, people or experiences in their lives and b) tasks that are very closely related to the individual identity.

Orientation towards competences

Teaching and learning in multi-cultural and multi-ethnic classrooms has to be competence-based in order to leave behind a deficit-oriented pedagogy. Instructional science has produced various definitions of everything belonging to “competences”. The definition most commonly used in the German speaking countries is Franz E. Weinert’s: “Competences are the cognitive skills and abilities available to individuals or acquired by them to solve specific problems as well as the motivational, volitional and social readiness and abilities associated therewith to apply problem-solving successfully and responsibly to variable situations.” (Weinert 2001). Teaching methodology distinguishes two kinds of competences, namely subject-specific and transferable competences. Subject-specific competences are all the skills closely connected to one particular school subject. Transferable competences are skills and abilities necessary to be able to cope in life and not specifically linked to a school subject. These could be, for example, personal competences (self-reliance, reflection etc.), social (cooperation skills, conflict resolution skills etc.), but also methodical skills (communication skills, problem-solving skills etc.).

The developed teaching and learning resources of FACE lead the children and young people to discover and become aware of their own pre-existing competences and focus on these transferable competences. Furthermore, the resources aim to further the self-concept and self-confidence of the students, their cooperative work with each other, the development of a healthy culture of learning from mistakes, the intrinsic motivation for self-directed learning, the evaluation competence of their own learning as well as the competence to be able to make decisions and carry the consequences for these decisions (Weidinger 2013a, 2013b). The interpreted data and feedback given by the teachers suggests a strong focus on conflict resolution, co-operation competence and taking responsibility. Leaving behind a deficit-oriented perspective means a huge shift also when it comes to assessment practice of teachers – especially when dealing with children from a vulnerable group. Furthermore, the teachers point out the importance of making the mentioned pre-existing competences visible also in a school context. The FACE program made them discover unseen talents and skills the children and the families have. With an emphasis on self-reflecting tasks that promote self-awareness

and a positive view of themselves, the students made great progress towards a more positive self-concept.

Changing the teacher's role

For students competence-oriented teaching means being highly active. In order for this to happen, the teacher must plan suitable learning activities, supervise the students along the way and give them active support if needed. More and more, teachers take on the role of “learning coaches”, i.e. of initiator, supporter or evaluator of learning processes; they exert their role as a traditional lecturer less and less. The FACE program and the teaching materials stress this shift in the teacher's role. To be able to fulfil this new role, the teacher must be able to assess the learning needs and the prerequisites of each student. Other tasks entail planning challenging lessons with regard to content and methodology, developing learning paths, choosing exercises, observing and supervising the learning process and, if problems arise, intervening in an adequate way. During and at the end of a learning sequence it is also necessary to analyse the learning success by personal feedback. Another important aspect, is the ability to gain insights through the conversations with students, to reflect upon their learning and record the results. Within the FACE program the teaching and learning materials are built up in a portfolio-oriented way and represent a yearlong learning journal for the students. Thus, also the relationship and the cooperation between teachers and students is different, i.e. much more equal and intense than in a more traditional kind of education.

Didactical key factors: Approaches and methods

4.2.1 Supporting task-based learning

In the FACE program students learn via task-based-learning which means that the students work on the task, it is not the teacher who works on them. The FACE materials are designed in a way that students solve problems that lead to something useful and meaningful. In the process of solving these tasks they will explore many ways to the solution. This way the students will acquire the necessary competences and skills. Therefore, working on a task itself already means that the students learn something. It is recommended in the trainings also to give students the freedom for trying out different ways for problem-solving and limit the time of explanations given by the teacher to five minutes maximum. FACE is based on focussing on the students and their activity during the lessons and on integrating their pre-existing competences as well as their family backgrounds into the given tasks. Task-based learning focuses on asking students to do meaningful tasks aiming for the competence the teacher wants them to acquire. Such tasks not only include a possible solution but also reflecting one's own ways of solving conflicts, making short surveys, conducting interviews, exchanging opinions with others, creating a role play etc. Assessment is primarily based on task outcome (in other words the appropriate completion of tasks) rather than on accuracy of language forms (Ellis 2003).

Enabling co-operative learning

In the light of the different areas of self-competences individuals learn about themselves also by interacting with others. FACE encourages the concept of co-operative learning. Co-

operative learning focuses on developing openness when working together, on communication and on discussion. When working together, task content can be understood in more depth and students can develop greater self-confidence. When working in groups, students experience being accepted by others and valued as team members and can share their knowledge more freely. Cooperation can be encouraged by group games, group activities and group discussions. Teachers should take care to offer individual work periods and group work periods in a balanced ratio. Co-operative learning means that after the students engage in solving a task individually they will have the chance to discuss differences with a partner. Only then the discussion takes place in the plenary with the teacher. The teaching material of the FACE program uses variations spread over the different units. Feedback of the teachers of all pilot classes suggests that they themselves gained a lot in terms of applying co-operative learning methods, getting to know more and other sides as well as competences of their students through group work and being able to understand emotions of their students in a better way. Furthermore, the teachers note that FACE not only contributed to co-operation among the students but also to co-operation among their own colleagues.

Orientation towards goals

Every booklet, every day and every task in the FACE program includes descriptions of goals that should be reached by task-based learning. When explaining a task and giving oral instructions to the students it will still be very important to communicate the objectives (Brophy 2000). Only then will students understand why they are doing what they are doing. Students tend to adopt the goal orientations that are stressed in their classrooms. Given that the research is clear that approach mastery goal orientations are related to better motivational and cognitive outcomes, Schunk and Pintrich make suggestions such as focussing on meaningful aspects of learning activities, making evaluations private, designing tasks for novelty, using heterogeneous co-operative groups, helping students see mistakes as opportunities for learning and not failures etc. (2010). The FACE program does integrate these recommendations. The FACE booklets for students consist of a clear description of goals, methods and group organisation information. Writing is reduced to its minimum. For the training sessions a teacher training booklet was developed that gives more detailed information about pedagogical and didactical aspects as well as assessment recommendations. According to the pilot teachers' feedbacks orientation towards goals does not only give guidelines for the students but also contributes to a better time management and to the flexibility of adapting times according to individual needs. Orientation towards goals in the FACE pilot study was associated with organisational aspects of classroom management by the teachers most of the times.

Differentiating for different needs

Differentiated instruction is simply providing instruction in a variety of ways to meet the needs of a variety of learners. In multi-cultural and multi-ethnic classes differentiation becomes an even more important issue as the levels of academic achievement often differ to a great extent. When working through the FACE program students receive tasks in the teaching and learning material. Often, they can choose how to solve these tasks, by choosing the way they want to work, the pace they want to work and which product they want to produce. The experience shows that especially in groups with a very high percentage of children with low

literacy skills not necessarily the seemingly easiest way of drawing is chosen (Weidinger 2014). The pilot teachers of FACE state that the differentiated approach of FACE contributes most to getting to know the different individual needs of their students in terms of learning processes. For them, the program helped with re-setting the learning situation and enabling students to work at their own pace and rhythm. Furthermore, FACE seems to really stimulate different learning types and incorporates all senses and competence areas in the given tasks. It is hardly impossible, so the teachers formulate, to fail at everything in FACE. This fact represents the most important aspect for them – that it promotes self-awareness, self-efficacy and a positive self-concept of the students.

Conclusion

The research-based extraction of key factors on a pedagogical and didactical level delivered important information for the further planning, developing and realising of the FACE program or similar inclusive education programs. The pedagogical and didactical key factors serve as the basis for future trainings and adapting the FACE teaching and learning material for the use in the context of teaching vulnerable groups. Following up the participating children and the development of their self-concepts showed that programs like FACE do have an impact on self-competences and life-skills when based on theoretical pedagogical and didactical ideas and concepts. However, rural and remote areas have to be considered especially in the design of implementation programs. The research study will continue in the coming years in Macedonia and Kosovo. What will be dealt as a separate subject of research and development is the impact that programs like FACE have on the involved families. The research in this context revolves around the question how the view on education in general and the view on the learning processes of their own children can be influenced. It is one of the declared goals of FACE to raise the awareness for education among Roma families and to improve the relationship between school and home by making pre-existing competences of children (and families) visible in the school context. Besides the ongoing implementation of the trainings for kindergarten, primary school and upper primary school formal integration into the school system will be the major objective for FACE in the project countries.

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***The Idea of Autonomy in Child-Centered Education: The
Preschool in Saudi Arabia as a Case Study***

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Abstract

The Saudi Self-Learning Curriculum for Kindergarten is based on Western models of child-centered education. It is a reformed curriculum that was designed within the frameworks provided by the UNCRC, Education for All (EFA), Millennium Development Goals Program and Saudi Arabia's National Development Plans (UNCCSF 2012). These reforms have created the need for pedagogical practices that incorporate an awareness of children's rights (UNICEF 2014). In order to comply with Articles 12 and 13 of the UNCRC the main aim of the preschool environment should be on working with children in ways that maximize their autonomy: their right to be 'heard' 'seen' and 'included' in decisions that affect them (UNCRC). In Saudi Arabia both the teachers and the children are embedded in a social system based on religious beliefs and principles and social hierarchy. Autonomous learning is based on social freedoms and participatory rights. Based on documentary analysis and semi-structured interviews in three preschools in Makkah, this paper argues that many teachers have found it difficult to comply with the Ministry of Education guidelines and service rules. Whilst 'choice' is understood as a theoretical concept in self-learning, it seems not to play a role in the classroom. Teachers and children are 'invisible in policy' in the sense that they have no say in the decisions affecting them (Kilderry 2013, p: 242). Thus the philosophy and objectives of Western child-centered education appear to be in tension with the Saudi concept of self-learning.

Keywords: Autonomy, children's rights, curriculum reform, policy, religion, culture, pedagogy

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Introduction

Education in a global context

According to Heckman (2006) 'Early childhood education and development is a rare public policy initiative that promotes fairness and social justice, and at the same time promotes productivity in the economy and in society at large' (cited in SESRIC, 2013, p: 1).

The above quotation indicates that early childhood development which includes early year's care and education is a vitally important sector in developing countries, not only in terms of the benefits it brings in health, education and social welfare but also as a tool for promoting social justice and economic productivity. UNESCO uses the term Early Childhood Care and Education (ECCE) to refer to all developmental services that are provided in an organized way for children during the period from birth until a child begins formal schooling, usually on entry to primary school at age six or seven. Today, the provision of education takes place within a globalized context. In 1990, the World Declaration on Education for All (EFA) proposed that learning begins at birth (SESRIC, 2013, p: 1). In order to acknowledge the importance of learning from birth, in 2000, the UNESCO-Dakar World Education Forum agreed a Framework for Action on specific targets and goals related to 'Education for All' (SESRIC, 2013, p: 1).

Education policy in Saudi Arabia is designed to meet the goals and objectives set out by UNESCO in the EFA program and the Ninth Development Plan (2010-2014) (SESRIC, 2013, p: 1). According to Al-Shaer (2007)

The policy of the Kingdom of Saudi Arabia with regard to early childhood education is informed by the conceptual framework of early childhood and is based upon care, play and education, with attention given to the qualities of excellence, fairness and effectiveness (2007, Ministry of Higher Education, 2010).

However, Saudi Arabia is a 'non-harmonized country' because it signed up to the United Nations Convention on Children's Rights (UNCRC) on 26 January 1996 subject to the proviso that none of its recommendations should come into conflict with Islamic law. At least 70 States Parties including Saudi Arabia have entered reservations to the Convention. Many of these reservations attempt to subject the Convention under various religious, cultural or traditional observations. This situation highlights the fact that tensions exist between the universality of rights claims and the specificity of cultural context. Developing countries must achieve a balance between the goals of the international framework which are rights-based and the specific socio-cultural aims of the society.

The Saudi Self-Learning Curriculum for Kindergarten is a reformed curriculum that was designed within the framework provided by the UNCRC, Education for All (EFA) Millennium Development Goals Program and Saudi Arabia's National Development Plans (United Nations Common Country Strategic Framework [UNCCSF], 2012). One specific area of difficulty concerns the concept of children's rights as set out in the UNCRC. Article 12 relates to the child's opinion and it

emphasizes the child's right to have his or her voice heard in all matters affecting him/her. Article 13 relates to freedom of expression and it emphasizes the child's right to seek, receive and impart information and ideas of all kinds in any chosen medium (United Nation Convention on the Rights of the Child, 1990). In order to comply with Article 12 and 13 of the UNCRC the main aim of the preschool environment should be on working with children in ways that maximize their *autonomy* (their capacity to develop and participate) using diverse forms of expression. The etymology of the word autonomy derives from the Greek word *autonomia* which means the 'the condition or quality of self-governance or self-direction' (Castle, 2003, p: 4). The current curriculum in Saudi Arabia dates back to 2006 and it represents efforts by the Saudi Ministry of Education to meet its obligations under the Convention whilst remaining socio-culturally specific. According to Gahwaji (2006) these reforms were intended to initiate a shift from traditional methods of teaching towards more child-centered practices in order to provide more high quality experiences for children. This comment highlights another area of tension because as Gahwaji points out, the 'teacher-directed and child-initiated' approach which is synonymous with high-quality childcare is indicative of a 'trend' that 'reflects a rights-based approach to working with children' (2006, p: 70). However, the concept of 'rights' is not part of the prevailing framework of discourse in Saudi Arabia. The concept of 'right' occurs within a moral framework of right and wrong behavior or beliefs and not in association with political rights and freedoms.

Two competing paradigms

Within a Western paradigm of education the aim is to maximize the autonomy of children whereas in Saudi Arabia the aim of early childhood education is 'to prepare children through a righteous upbringing, to be resilient in the face of life's diverse experiences' (Nyland and Alfayez, 2012, p: 396). 'Islam is religion that informs every part of daily life' and the fundamental aim of all educational provision is to teach children about Islamic beliefs and practices (Gahwaji, 2006, p: 24). Government educational policy sets out the basis on which education is provided which derives from Islam 'the religion of knowledge and learning' (Gahwaji, 2006, p: 24). The most important foundation of education is as follows:

To have faith in Allah as a God, in Islam as a religion, and in Mohammed (peace be upon him) as a prophet and a messenger (Educational policy, Article 2, Ministry of Education, (MOE) 1976).
The objective of education: understanding Islam correctly and completely, implanting and spreading the Islamic doctrine, providing students with Islamic values and instructions, acquiring knowledge along with different skills, developing constructive behavioral tendencies; advancing society economically, socially, culturally, and qualifying members in order to become useful in the construction of their society (Educational Policy Article 28, MOE, 1976).

Saudi Arabia is an Islamic state in which *Shari'ah* (Islamic Holy Law) functions as both constitution and legal framework (Sedgewick, 2001, p: 1). The *Wahhabi* interpretation of Islam is the official doctrine and it is rigidly enforced. The literary antecedents are the great Islamic scholars such as Ibn Sina (1058-1111) and Al-

Ghazali (1058-1111) In the Islamic teachings (the Hadith or sayings from the Prophet Mohammad) there is the view that young children should be listened to with respect, they should be treated kindly, they should be shown overt affection and the importance of play is emphasized (Nyland and Alfayez, 2012). The objective of Islamic education is to instill the beliefs, values and practices of Islam. The stated aim and purpose of early childhood education in Saudi Arabia appears to leave no space for the right of any individual to be self-determined i.e. to organize his/her activities. There is no room for autonomy and agency on the part of children or teachers. And yet, this aim is at the heart of the Western paradigm of child-centered education. As a result, the Islamic paradigm of education and the Western paradigm of education are necessarily in tension with each other. The key issue is that the Saudi-Self Learning Curriculum is an *adapted* curriculum in which religion, culture and pedagogy are inextricably entwined. Hence the aims and principles of child-centered education are interpreted very differently. The concepts underpinning the language of reform take on very different meanings when they are transposed from a Western context into an Islamic context.

Autonomy as an educational aim

The roots of child-centered education can be traced back to Friedrich Froebel one of its founding figures and a pioneer who advocated the idea that children learn best when their learning is self-directed or autonomous. Froebel believed that knowledge should come from within rather than outside the child. For Froebel, education involved 'the unfolding of principles rather than merely following rules by heart' (Froebel, 1826, p: 156). According to Froebel:

We possess a great load of extraneous knowledge, which has been imposed on and which we foolishly strive daily to increase...we have very little knowledge of our own that has originated in our own mind and grown with it (Froebel, 1895, p: 156).

In order to put Froebel's ideas into practice and to give autonomy to children in the classroom, the preschool must provide structures designed to allow both teacher and child 'ownership and control' (Robson, 2006, p: 75). These structures should be designed to increase participation by allowing children to pursue their own goals and interests in the classroom. Maximizing autonomy necessarily involves children exercising their freedoms: freedom of speech, freedom of choice and freedom of association. The Saudi Self-Learning Curriculum (2006) is based on child-centered approaches to education: American High/Scope is the chosen model of curriculum and the teaching methods and content are informed by the idea of Developmentally Appropriate Practice (DAP). In a High/Scope setting the children are encouraged to become 'active learners' by:

making choices about materials and activities during the day. As they pursue their choices and plans, children explore, ask and answer questions, solve problems and interact with classmates and adults (Pramling, Sheridan & Williams, 2004, p: 8).

In order to give children autonomy, teachers must also be able to act as autonomous agents. According to Pramling, Sheridan, & Williams, (2004) 'High Scope teachers

give children a sense of control over the events of the day' (p: 9). The above description of a High/Scope setting makes it clear that both teachers and children are engaged in relationships that are 'mutual and reciprocal' (Castle, 2003, p: 6). In the classroom both teachers and children are equal participants in the knowledge creation process. According to DeVries and Zan (1994) autonomy in relationships is dependent on teachers 'providing opportunities for child decision making' and 'reducing their adult authority' (Castle, 2003, p: 6). In addition, De Vries and Zan (1994) advocate that teachers must 'encourage children's thinking, problem solving and rule creating' (Castle, 2003, p: 6). From a Piagetian perspective (1965):

autonomy ...did not mean simple "independence" in doing things for oneself without help. Rather, the individual who is autonomously moral follows moral rules of the self. Such rules are self-constructed, self-regulating principles ...The individual who is autonomously moral follows internal convictions about the necessity of respect for persons in relationships with others (Castle, 2003, p: 6).

According to De Vries & Zan, (1994); Kamii & Houseman, (2000) autonomy is seen as an important goal of early years education because it helps children not only to acquire problem-solving skills but also to pose their own problems and to raise questions in a spirit of 'creating rules for the good of all' (Castle, 2003, p: 6). Producing children that can 'think for themselves' and make choices 'even ...poor choices' allows them to reflect on the consequences and 'helps them to learn better in the future' (Castle, 2003, p: 6). Autonomy is also seen as bringing positive benefits for teachers because it gives them the freedom to 'make intellectual and moral decisions by considering various perspectives and deciding on what is in the best interests of all' in other words it 'enables teachers to exercise their professionalism' (Castle, 2003, p: 6). Classrooms in which autonomy for both teacher and child is the goal are based on the idea that 'learning for understanding' is to be prioritized over 'learning to memorize' (Castle, 2003, p: 7).

Autonomy versus constraint

Teachers who have been trained in child-centered practices recognize the importance of responding to the needs and interests of each individual child. However, this requires a flexible curriculum in which teachers are able to challenge and critique 'taken-for-granted methods' and 'mandated outcomes' (Castle, 2003, p: 7). Collaboration and ongoing dialogues amongst both educators and those involved with children on a daily basis such as friends, parents and so on are another important factor in promoting autonomy. Whilst these ideas are embedded in Western approaches to early childhood education, they have criticized because they do not take into account the impact of culture (Phillips, 1995; Wertsch, 1985). De Vries and Zan, (1994) emphasize the importance of the 'socio-moral atmosphere of the school' which plays a vital role in encouraging and supporting both teachers and children to become autonomous agents. These comments highlight a number of areas of difficulty in Saudi Arabia where the dominant socio-cultural framework is Islam. Islam dominates all aspects of Saudi life and it shapes the beliefs, values and practices of the society. In addition, Saudi society is hierarchical, patriarchal and gender segregated. Islam is the core of the education system. Saudi teachers and children are embedded in a system that is based on religious beliefs, principles and practices, social hierarchy and

adherence to rules. According to the *Report about the Role of Early years education in the preschool in Saudi Arabia* (2013) the first responsibility of the pre-school teacher is as follows:

The teachers must follow the instructions and guidance of the head teachers and supervisors in order to understand how the education process is implemented in the classroom. She must provide her signed agreement paper as evidence (MOE, 2013).

The preschool teachers work under the direct authority of the head teachers. The teacher must meet with head teacher twice a month to be updated on policy directives and any obligatory duties issuing from the Ministry of Education in Riyadh via the regional Ministry in Makkah. The teachers are also under the authority of the Ministry Supervisor from Makkah and must attend monthly meetings during which their teaching practice and training requirements are assessed and monitored. A monthly report on each teacher is sent to the Minister in Makkah to be compiled for an Annual Progress Review. If a teacher does not meet the required standard her salary will be reduced and she will receive a low professional ranking.

The socio-moral framework

The Government regards the early years stage as a crucially important developmental stage because 'his personality is forming and he is discovering his identity' (Ministry of Education, 1976; 2013). The role of the preschool teacher is defined as follows:

The teacher is like a friend, mother and caretaker to the child and an alternative to his mother during the time he spends in the preschool. The teacher must guide the child and correct his behavior because this stage is so dangerous. The teacher has significant responsibility for directing and guiding the child in accordance with Islamic beliefs and practices (MOE, 1976; 2013).

The role of the preschool teacher is to deliver the Self-Learning Curriculum which is the basis of the Early years education policy in the Kingdom. The *Teacher Guide Book* 2013-14 is the key source of knowledge for teachers; the manual has five chapters and is considered essential reading. Teachers are not expected to use any other source of information and they are not expected to exercise their professional knowledge or training. In Saudi Arabia, the idea of the good child is synonymous with becoming a good Muslim which is defined as obedience to God and the Prophet Mohammed. This stage is defined as 'dangerous' because the child is in need of guidance and direction to become a good Muslim. Hence, guidance and direction are seen as the central skills of the preschool teacher. Morality is outer-directed in the sense that it is conceived as adherence to rules rather than being inner-directed which sees the child as 'autonomously moral' and able to form and follow 'moral rules of the self' (Castle, 2003, p: 6). Although the recommended teaching methods are stated as self-discovery, research and investigation which seem to design to allow the child autonomy, in practice, the dominant style of pedagogy is the best Model of the Prophet Mohammed. Using the Prophet Mohammed as the Best Model produces a *transmissive* view of teaching in which pedagogy is based on a set of rules or principles; the art of teaching is reduced to delivering information or modeling a set

of behaviors which the child then copies. In the classroom the teachers are caught between an approach to teaching which values autonomy and an approach to teaching which values conformity. According to Oyler (1996) teachers who are placed between two different sets of values and beliefs are forced to 'negotiate between teacher's authority (as old idea) and children's autonomy (as new idea) in a child-centered classroom' (Tzuo, See Tan & Hui Wang, 2012, p: 247).

Limits on autonomy in the preschool classroom

The Government's educational policy documents do not use the term child-centered however, the concept of Self-Learning is assumed to be consistent with the Western concept of child-centeredness. Whilst these policy documents use the language of reform the dominant ideological framework is Islam. And the aim of educational policy is on directing children's behavior towards Islamic beliefs and practices rather than encouraging active participation. Learning is understood in terms of the learning sets of rules. Children who learn and follow the rules are rewarded and those who fail to follow the rules are punished. There is an emphasis on children carrying out classroom activities quietly and unquestioningly and always in compliance with the wishes of the teacher. Using the idea of the Prophet Mohamed as the Best Model also seems to come into conflict with the notion of Developmentally Appropriate Practice (DAP). But there is little evidence that recent research on child psychology or child behavior has informed this approach at the Governmental level.

In *Regulation of the inner workings of the kindergarten* (1976, 2013) it is stipulated that the preschool must provide an place where:

The child must feel free to work and develop his abilities and to express himself without fear this will facilitate the development of the child's natural abilities. The early years teacher must provide a suitable environment which helps the teacher to discover the child's natural abilities and talents (MOE, 1976, 2013).

Whilst educational policy documents emphasize that teachers should give the children choice and increase their autonomy, these ideas are not translated into classroom practice because the dominant pedagogy is the Best Model of the Prophet Mohammed. Many preschool teachers, especially those who have been educated outside of Saudi Arabia find it very difficult to comply with the Ministry of Education regulations. Their own training and knowledge of child-centered teaching and learning puts them at odds with a system that allows little or no autonomy for teachers or children. They are effectively caught between two conflicting paradigms but do not have the freedom and authority to change what they do in the classroom.

The educational policies stress the value of 'creativity' but this concept is very much misunderstood. The *Teacher Guide Book* instructs:

The teacher must deal with all of the units individually and train herself to be skillful and creative in these units and make these activities and units suitable for the children's tendencies and needs (MOE, 2013, p: 13).

Through training she is able to meet the interests of the children. This does not indicate that the teacher can adapt the unit to suit the child but rather that she must match the child to the unit which has already been designed by the government to meet pre-set objectives (MOE, 2013, p: 13).

As one respondent remarked, “How can she understand and be ‘creative’ in the curriculum? This phrase is used by every head teacher and supervisor but in reality the teacher cannot be creative” (School1, Teacher 2, [S1,T2]). Gender is another area in which there strict limits imposed on children’s autonomy. During the preschool classroom corner activities the teacher is advised to, ‘monitor the children closely to observe whether they are carrying out their gender roles correctly and to check whether they are following the correct modes of behavior’ (MOE, 2013-14, pp: 134-5). It is extremely important that the children are allowed to play only those roles that are considered ‘suitable’ for men and women’ and that they do not mimic the roles of ‘the King, or a princes or the government’ as this would be considered highly disrespectful. ‘Swapping gender roles is forbidden’ (*Teacher Guide Book*, MOE, 2013-14, pp: 134-5).

The Wahabi interpretation of Islam as enforced by the King, the clerics and the Government was given as the reason for religion being another barrier to autonomy. Wahabism imposes many prohibitions on what can be represented. Figurative representations of humans and animals are not allowed in Saudi Arabia. As one respondent observed: “The religion hinders the child’s ability to create and think and use their imaginations” (School 2, Teacher 3, [S1,T3]). In addition, the Government uses religion to place limits on freedom of speech. As one respondent noted “There is a lack of interaction socially between each other because we have some topic it is forbidden to talk about” (School 3, Teacher 4, [S3,T4]). The hierarchical and patriarchal nature of society was identified as another barrier to autonomy. In particular, the lack of dialogue between teachers and the Government. According to this respondent: “We try to solve this problem but we can’t because of the society structure and power they have, which makes everybody scared to ask any questions or make argument with them” (School 1, Teacher 5, [S1,T5]). The concept of right and wrong was a very powerful influence shaping people’s behavior. And this is idea is reinforced by the reliance on traditional teaching methods such as prompting in which the teacher imparts information and the child repeats what he or she has heard. Many teachers were critical of this method noting that it “pushes the child to repeat information ...without thinking what it means ...or how it applies in their wider environment” (School 3,Teacher 1[S3,T1]).

Conclusion

This article has argued that the philosophy and objectives of Western child-centered education appear to be in tension with the Saudi concept of self-learning. The Government’s educational policy documents use the concept of Self-Learning which, according to the Government, is consistent with the Western concept of child-centeredness. Whilst these policy documents use the language of reform the dominant ideological framework is Islam. And the aim of educational policy is on directing children’s behavior towards Islamic beliefs and practices rather than encouraging active participation. Autonomous learning is based on social freedoms

and participatory rights but the teachers voices reveal that such freedoms are severely curtailed in the Saudi Self-Learning Curriculum for Kindergarten. The comments made by the teachers and the comments quoted from the educational policy documents illustrate the gap that exists between Government rhetoric and classroom practices. This discrepancy shows that when filtered through an Islamic paradigm, the idea of child-centered teaching and learning is literally lost in translation.

Both teachers and children are ‘invisible’ in policy in that they have no say in the decisions affecting them. They are not given autonomy in the classroom. The focus should be on creating structures that give both children and teachers some degree of choice in the decisions that affect them on a daily basis in the preschool classroom in Saudi Arabia.



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How Does the Government Construct the Pedagogical Relationship between Teachers and Children in Saudi Preschool Education?

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Abstract

A Pedagogy is understood as being embedded in the relationship between teaching and learning. How the teaching-learning relationship is understood, recognized and developed is important, especially in the case of cross-cultural educational reforms (Nyland & Alfayez 2012). Reforms to the Saudi Early Years curriculum are based on the American High/Scope Model and the idea of Developmentally Appropriate Practice: an attempt to move away from traditional (transmissive) methods of teaching towards a more child-centered approach. The Saudi Ministry of Education states 'The aim of the self-learning approach is to allow the child to experiment and discover and do activities supported by teachers' (MOE Educational Policy Document 446/21/1S24/10/2013). This definition seems to reflect empirical work on DAP which reveals that a balance between child-initiated and adult-initiated learning activities 'is most effective in terms of cognitive, social and dispositional outcomes' (Siraj-Blatchford & Sylva 2002, p: 154; Siraj-Blatchford 2009).

In Saudi policy documents and the Teacher Guide Books the relationship between the teacher and the child is based on 'direction and guidance' (Saudi Teachers Guide Book, 2014, pp: 61-2). Guidance is an educational skill of the teacher that is based on the religious and moral principles of Islam and the main pedagogical practice is to use the principle of the Prophet Mohammed as the Best Model. In Saudi Arabia the self-learning curriculum is thought to be child-centered but in reality Saudi pedagogy is very different to Western pedagogy, as a result the meaning of child-centered teaching and learning is literally lost in translation.

Keywords: Government policy, Culture, Pedagogy, Child-Centered, Religion, teacher's role

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This title of this poster was developed from my empirical research project which is an investigation into how the concept of child-centered education is constructed in public preschools in Saudi Arabia. My research into the concept of child-centered education is divided into three main themes: Culture, Pedagogy and Religion. A recent report funded by the Department for International Development (DfID) 2013 stated that ‘the classroom pedagogy used by teachers is consistently seen as ‘the most crucial variable for improving learner outcomes and is critical in any reform to improve quality’ (UNESCO 2005, p: 152). As a result, the way that classroom pedagogy is understood, recognized and developed acquires heightened significance in the case of cross-cultural educational reforms (Nyland & Alfayez, 2012). This paper will argue that whilst the Saudi Self-Learning Curriculum for Kindergarten appears to reflect the ideology of western reforms, these ideas, beliefs and values are not necessarily shared. As a result, Saudi pedagogy is very different from Western pedagogy.

The definition of pedagogy

The term pedagogy relates to the ‘how’ of educating. It is defined as: ...that set of instructional techniques and strategies which enable learning to take place and provide opportunities for the acquisition of knowledge, skills, attitudes and dispositions within a particular social and material context. It refers to the interactive process between teacher and learner and to the learning environment (Siraj-Blatchford, Sylva, Muttock, Gilden, Bell, 2002, p: 28).

Pedagogy also concerns the issue of “how” of adult and child interact, whilst recognizing that how children learn and develop at this stage is not just affected by ‘*what is intended to be taught*, but it is also of particular importance *how it is facilitated*’ (Siraj-Blatchford, Sylva, Muttock, Gilden & Bell, 2002, p: 27). According to Rumbold (DES, 1990) in the UK it is widely accepted that play is of central importance in Early Years learning. Bennett, Wood & Rogers (1997) note that this broad consensus does not indicate any uniform model of pedagogy. In Scandinavia, some educators regard teaching as antithetical to early years pedagogy. Another question concerns whether pedagogy should be based on a set of rules and principles or whether it should be regarded as an art or craft (Stephen, 2010). In the context of this research pedagogy is understood in terms of the definition put forward by Alexander in which pedagogy:

Encompasses the performance of teaching together with the theories, beliefs, policies and controversies that inform and shape it. Pedagogy connects the apparently self-contained act of teaching with culture, structure, and mechanisms of social control (Alexander, 2001, p: 214).

According to this definition pedagogy contains not only all the teaching elements but also other factors including ideas about the nature of children, the purpose of education and knowledge and understanding about how they learn.

Policy context

In the last twenty years many developing countries have embarked on major curriculum and pedagogical reforms to meet the demands of the Education for All (EFA) goals. These reforms are intended to take account of the fact that ‘Children are born ready to learn’ and that ‘good quality interventions ‘have lasting effects on learning and motivation’. (Early Childhood Care and Education In OIC Member Countries [SESRIC], 2013, p:1). It is now widely acknowledged that good quality early years care and education can have lasting benefits for societies as a whole. United Nations Educational, Scientific and Cultural Organization [UNESCO] has stated that one major problem in developing countries is the need for governments to shift from teaching practices based on traditional (transmissive) methods of instruction towards more child-centered approaches (UNESCO, 2010). The child-centered curriculum that is currently in place in preschools across Saudi Arabia dates back to 2006 when the Saudi Government issued a policy directive to all public preschools in the Kingdom under the title *The General Structures of the Self-Learning Curriculum in Early Years Education in Saudi Arabia*. This policy:

...sets out the obligation of all government preschools in all regions and cities in Saudi Arabia (2001) to implement the self-learning curriculum on the orders of the Minister of Education and clerics (600/2R(2/12/2006. This document must provide supervisors in education and head teachers and teachers, with the general structures of self-learning in Early Years as indicated by the Minister of Education and clerics (Ministry of Education: Riyadh, 2006, 600/2R/2/12/2006).

This document initiated the reforms to the Saudi Early Years curriculum which resulted in the Self-Learning Curriculum for Kindergarten based on the American High/Scope Model and the idea of Developmentally Appropriate Practice. It should be noted that no official policy documents use the term child-centered instead the Government uses the phrase self-learning. Also this document emphasizes the central role of the clerics in defining educational aims, values and practices. According to the Saudi Ministry of Education ‘The aim of the self-learning approach is to allow the child to experiment and discover and do activities supported by teachers’ (Ministry of Education (MOE), Educational Policy Document 446/21/1S24/10/2006). The stated aim of these reforms seems to be in line with later empirical work on DAP which reveals that a balance between child-initiated and adult-initiated learning activities ‘is most effective in terms of cognitive, social and dispositional outcomes’ (Siraj-Blatchford, 2009, p: 79). In principle the Government’s definition of self-learning appears to conform to Western based concepts of child-centered philosophy and practice. The fundamental idea is that the child will be naturally predisposed to learn if he/she is driven by their own inner motivations (needs and interests). However, the Government’s policy document also goes on to state:

The teacher can observe each child and take his needs and wishes into consideration but the activities are pre-determined in the curriculum. The activities are pre-determined based on what the government and clerics have decided the child’s needs and interests should be (Ministry of Education, 600/2R (2/12/2006).

This quotation implies that whilst the language of reform is being used, in practice, the concept of choice has, in fact, been removed from the child. This might partially

explain why since 2010 a number of reports investigating the quality of ECCE provision in the Arab Gulf States have noted that the implementation of these reforms has not gone smoothly in Saudi Arabia (UNESCO 2010, United Nations Common Country Strategic Framework [UNCCSF] 2012, SESRIC 2013) where education has its roots in the traditional Koranic schools (SESRIC 2013). It appears that this heritage is reflected in the curricula deficiencies identified by the SESRIC report which include an over-emphasis on the 'child's ability to read and write' (SESIRIC, 2013, p: 13). The traditional Koranic schools placed huge emphasis on children learning Arabic by memorizing and repeating verses from the Qu'ran. However, the continued dependence on this traditional method of teaching has created deficiencies in other areas of development such as 'emotional, social, physical, creative and cognitive skills' (SESRIC 2013, p: 13). More recently, evidence from neuroscience research shows that the brains of very young children are not sufficiently developed to respond to this essentially transmissive teaching method (UNESCO 2010). The UNESCO 2010 report also acknowledged the need for the curricula to be 'culturally relevant' based on its 'cultural and religious values' and delivered in 'mother tongue' (SESRIC 2013, p: 17). Hence the report draws attention to the need for reforms which work in harmony with existing cultural beliefs and values wherever possible.

Literature Review

Child-centered pedagogies date back to 18th and 19th centuries and they emerged from the forward thinking ideas and techniques of European philosophers such as Jean-Jacques Rousseau, Friedrich Froebel (1895) and Johann Heinrich Pestolozzi (1780). One of the core philosophical beliefs was that the innate nature and needs of the child should be at the heart of any system of education. The fundamental idea was that the child should be the central focus in the classroom and that each child learns by 'play and creative activity' (Froebel, 1909, p: xv). This idea is at the heart of progressive (child-centered) education and it was developed further by Western educators such as John Dewey (1958), Maria Montessori and the Reggio Emilia atelier schools in Italy which provide education from birth to six years.

In response to the need for reforms to be 'culturally relevant' over the last decade and a half there has been a global trend towards creating curricula that are 'based on societal goals' whilst simultaneously 'embracing a philosophy that focuses on the individual child as a subject' (Pramling, Sheridan, Williams, 2004, p: 26). The need to focus on each child as a unique individual is in line with human rights principles and with 'socio-cultural theories that see children as attached to specific contexts and cultures' (Pramling, Sheridan, Williams, 2004, p: 26). The key aim of these curricula (which include Experiential Education, The High/Scope Curriculum, The Reggio Emilia Approach, *Te Whariki* and The Swedish Curriculum amongst others) is to support the child in the development of the necessary skills and capacities whilst at the same time 'respecting the child's natural interests and choices' (Sylva, Melhuish, Sammons, & Siraj-Blatchford, 1999). Therefore those in charge of developing a curriculum for young children must position themselves 'at a crossroads between societal goals and the choices of each child' (Pramling, Sheridan, Williams, 2004, p: 26). This balancing act necessarily raises the question of freedom and participation in the classroom: what freedoms exist for the teacher and the child? As my research has revealed, this issue has presented problems in the Saudi classroom.

The High/Scope curriculum is based on three fundamental principles:

- 1- Active participation of children in choosing, organizing, and evaluating learning activities, which are undertaken with careful teacher observation and guidance in a learning environment replete with a rich variety of materials located in various classroom learning centers.
- 2- Regular daily planning by the teaching staff in accord with a developmentally based curriculum model and careful child observations

3-Developmentally sequenced goals and materials for children based on the High/Scope “key experiences” (High/Scope Educational Research Foundation, 1989) (Morrison, 2009, p:129)

The Montessori and Reggio Emilia approaches are ‘European based in philosophy and context’, whereas ‘High/Scope puts into practice the learning-by doing American philosophy Morrison, 2009, p: 155). It builds on Dewey’s ideas of active learning and teaching in the context of children’s interests’(Morrison, 2009, p: 155). The curriculum is organized around a ‘plan-do- review’ sequence, in which children learn from the active experience with pupils, materials event and ideas instead of learning directly from teachers (Morrison, 2009, 153). At the centre of the High/Scope Curriculum is the belief is that ‘*active participatory learning* through play is fundamental to the full development of human potential’ (French, 2012, p: 129).

Methodology

Pedagogy is a contested term but this researcher was guided by Alexander’s definition of pedagogy in which teaching ‘is an act while pedagogy is act and discourse’ (Alexander 2001, p: 540).

This research was conducted using three preschools in Makkah, Saudi Arabia as case studies. The research paradigm was qualitative interpretive. The data collection methods were semi-structured interviews and documentary analysis. The interview participants included fifteen preschool teachers, five Ministry of Education supervisors, the Minister of Education, three administrators and four head teachers. The documents used for analysis included Government Policy Documents, Executive Plans, Government Reports, Teacher’s Guide Books and Lesson Plans. All of these cultural artefacts were analyzed using Nvivo. The interview data was interpreted using narrative analysis and the documents were interpreted using critical discourse analysis.

The Western Paradigm and the Islamic Paradigm

The language of reform permeates Government Policy Documents, Executive Plans, Government Reports, Teacher’s Guide Books and Lesson Plans but it does not necessarily reflect the reality in the classroom. In developing countries the curriculum is ‘encoded’ in the official handbooks and the teacher guides’ which are often the only source material available (DfID 2013, p: 12) because there is no shared

intellectual and philosophical background or shared history and tradition. The Saudi Government has tried to introduce a more flexible and creative approach into its 'Self-Learning Curriculum for Kindergarten' which is defined as follows:

The self-learning approach is focused on different activities and the child learns through engaging with the wider environment including (people, materials or resources and activities) and receiving support from the teacher to achieve their aim (MOE Educational Policy Document 1 600/2R (2/12/2006).

This definition seem to be in line with the fundamental principles of the High/Scope Curriculum which emphasizes the *active participation* of the child as the foundation for learning. One of the key factors to consider when implementing a Western curriculum in a different context is the extent to which it is socially and culturally appropriate. The Saudi constitution is based on the Muslim's holy book of the Qu'ran and Sunnah (speech and teachings of the Prophet of Islam: Mohammed) therefore it is not surprising that a strong bond exists between Muslims and Islam nor is it surprising to find that Islam permeates all areas of life including the education system. Religion is the area in which there is a considerable degree of adaptation in terms of the original curriculum design. Given the importance of religion it is understandable that it is deemed to be in the best interests of the child for him/her to become familiar with the religious beliefs, values and practices of the society. *The Main Executive Plan of the Agency* (2013-14) reveals that the Government defines its role in relation to the preschool as follows: 'The Government will prepare children for understanding the Qu'ran and familiarize them with their religion' (Ministry of Education, 2013-14). To this end the Government is committed to providing nurseries that are 'compatible with Islamic beliefs and cultural values' (MOE, 2013-14). Hence the overall aim of preschool education which is copied into the *Teacher Guidebook* (2013-14) is:

...derived from the general educational policy for the country stemming from the Islamic principle, the values of Islamic society, heritage, culture, civilization, tribal traditions and the distinct social, economic conditions and circumstances (MOE, 2013, p: 17).

These aims are socio-culturally and religiously specific and they are supported by the Government in close consultation with the clerics. This is the philosophical framework of beliefs and values which underpins the Self-Learning Curriculum for Kindergarten. In the *Teacher Guide Book* (2013-14) the Government directs that these aims 'must be carefully put together in the curriculum based on Islamic method' (MOE, 2013, p: 17). The *General Structures of the Self-Learning Curriculum* specifies that:

The knowledge the child receives in early year's school cannot be separated from the child's home life or from Islam. If there is a separation the child will not be able to achieve (MOE, 2013-14).

The above quotation makes it clear that the Government does not want a separation between the state, family life and religion and it serves to illustrate the way in which religion is intertwined with all aspects of society. Unlike Western-style democracies, in Saudi Arabia there is no separation between public (matters of Government) and

private (family life and choice of religion). In order for education to be considered appropriate what is taught in Saudi schools must reflect the values and beliefs of the wider social and cultural context. Therefore to implement a Western style curriculum with no degree of adaptability would, in the Saudi Government's view, present considerable barriers to the child's ability to learn. The *Teacher Guide Book* advises that the first aim of preschool education is for the child to 'develop a religious instinct based on monotheism as the natural direction' and the child must 'recognize the concept of God and the Prophet Mohammed based on Islamic beliefs and heritage' (*Teacher Guide Book*, MOE, 2013-14, p: 19). The *Teacher Guide Book* 2013-14 specifies in its brief plan of the early years program that the main role of the teacher is to 'instill the Islamic values and to excite the child about Islamic topics and to remind them of the Islamic rules' (MOE, 2013-14, p: 170-171).

Pedagogical practices in Saudi Arabia

In place of the pragmatic 'learning by doing' approach in the 'High/Scope curriculum, the Saudi preschool uses the pedagogy of the Prophet Mohammed as the Best Model which, as this paper will explain, effectively turns a child-centered curriculum into teacher-centered learning. In High/Scope, the curriculum is organized around a 'plan-do-review' sequence, in which children learn from the active experience with pupils, materials event and ideas instead of learning directly from teachers (Morrison, 2009, 153). In terms of pedagogical practices, the Self-Learning Curriculum uses the term 'scaffolding' (defined as a process in which the teacher guides and supports the child) but in the official *Teacher Guide Book* the teacher's role is 'direction and guidance' which, in practice, results in the child simply watching the teacher and copying what she does (*Teacher Guide Book*, 2013-14, p: 71). This is the opposite of what is intended in the 'plan-do-review' sequence as defined in the High/Scope curriculum. In the Saudi classroom, the role of the teacher is to:

encourage the child to think about his behavior and to apply the correct behavior in his real life so that it becomes part of his personality and controls his behavior (*Teacher Guide Book*, 2013-14, 61).

As a result, there is a tension here between the societal aims of Early Years Education in Saudi Arabia and the democratic principle of 'respecting the child's natural interests and choices' (Sylva, Melhuish., Sammons, & Siraj-Blatchford, 1999). The fundamental aim of Early Years Education is to provide the child with 'the necessary skills and capacities' (Islamic beliefs and practices) so that he can become a good Muslim (Sylva Sylva, Melhuish., Sammons, & Siraj-Blatchford, 1999). This aim necessarily comes into tension with a curriculum that is based on the idea of the child as an active participant in the production of knowledge because all knowledge comes from the Qu'ran.

The idea of scaffolding is based on a democratic principle in the sense that it is a relationship of equals which is based on a balance between what the child wants to do and the teacher's role as a facilitator. Hence, in a High/Scope setting the idea is that both the teacher and the child are involved in the production of knowledge. This type of equal relationship requires professional knowledge and expertise about age-appropriate activities, the teacher's professional knowledge and socio-cultural knowledge.

Developmentally Appropriate Practice

In the policy documents it is emphasized that the Saudi preschool teacher must relate all aspects of the curriculum to the Islamic heritage and religion whilst at the same time she must be aware of the importance of Developmentally Appropriate Practice. The Saudi Government stipulate that:

The teacher must understand the principles of child development and be knowledgeable about the program for working with children such as games, stories and Islamic songs (Teacher Guide Book, MOE, 2013-14, p: 20).

The Government's requirement appears consistent with the definition of DAP put forward by the National Association for the Education of Young Children (NAEYC) (2012) which suggests that DAP is the outcome of teacher's decision-making based on three key considerations: knowledge about children's learning and development, the teacher's own knowledge about what is suitable for each child and the school and cultural context in which children are based. The central idea is that children should be taught at a level that is appropriate for their stage of development and socio-culturally relevant. Crucially, in a child-centered approach, the focus is on the whole child in terms of his/her social, emotional, personal and physical skills development. However, an approach which requires teachers to be flexible in their responses to the needs of individual children, in turn, requires that the teachers themselves have autonomy in their decision-making practices. The need for flexibility requires that both children and teachers are free to practice lots of activities and learn from them. This requires observation, discussion, reflection and evaluation which forms the basis of future learning and practical teaching (Johansson and Sandberg, 2011). However, the policy documents revealed that both teachers and children are invisible in the Government's design of the Self-Learning Curriculum.

It should be emphasized that DAP is not a formalized approach but one in which play-based activities are central to children's learning. As Palaiologou (2013) points out 'play is an activity that children undertake for pleasure and is one of their primary needs in their development' (2013, p: 76). In addition, the Effective Provision of Pre-school Education Project (EPPE, 1997-2004) identified 'sustained shared thinking' within adult-child interactions as a necessary prerequisite for excellent early years practice (Palaiologou, 2013, p: 78). This approach highlights the use of 'modeling, demonstrating and questioning while engaging in fun and active experiences' (Palaiologou, 2013, 79). Again, the most crucial factor here is 'a flexible approach to play-based learning, based on the level of development, needs and interests of the child' (Palaiologou, 2013, 79). Certain aspects of this approach are used in the preschool classroom in Saudi Arabia, for example, the idea of modeling and the idea of demonstrating but these concepts acquire a different meaning because they are subject to certain constraints. The word 'experience' occurs frequently in the policy documents but the idea of children learning through their own direct experience as active participants has been replaced by the idea of the child learning through watching the teacher doing 'experiments' and then role modeling her actions based on the idea that the teacher is the Best Model of the Prophet Mohammed. This approach means that even activities which are intended as play are subject to a high level of restraint because the Best Model of the Prophet Mohammed does not incorporate play as a learning strategy. Guidance and direction have replaced any notion of free play.

Pedagogy and freedom of choice in a Saudi context

In line with the developmental aims of the Self-Learning Curriculum the Saudi Government directs that the teacher must 'attend to the child and help him to grow and develop mentally, physically, emotionally and socially and to ensure his physical health' (MOE, 1976, 2013). This policy document also stipulates that the preschool must provide an place where:

The child must feel free to work and develop his abilities and to express himself without fear this will facilitate the development of the child's natural abilities. The early years teacher must provide a suitable environment which helps the teacher to discover the child's natural abilities and talents (MOE, 1976, 2013).

However, the extent to which these freedoms can be realized depends not only on how learning in the preschool classroom is facilitated but also on whether the society places a high value on democratic freedoms. The above statement about the child being allowed a degree of freedom because it is viewed as essential to his/her development is apparently contradicted in *Regulation of the inner role of the kindergarten* (1976, 2013) where the teacher's role is defined in terms of guidance and correction because according to the Government 'this stage is so dangerous' (MOE, 1976, 2013). As a result, the Government can be seen as justified when it stipulates that 'the teacher has significant responsibility for directing and guiding the child in accordance with Islamic beliefs and practices' (MOE, 1976, 2013). This statement illustrates how the focus is shifted away from the child and onto the teacher.

The knowledge hierarchy in Saudi Arabia

The *Teacher Guide Book* (2014-15) is produced by the Government and clerics and it is considered the complete and comprehensive resource for Early Years Teachers. The *Executive Plan of the Agency's Education Girls and Boys (2013-14)* states that the aim of this 'self-learning package' is 'for the teacher to become proficient in creative learning and to pass these skills on to the child' (MOE, 2013-14). The *Teacher's Guide Book* 'tells the teachers how to implement the curriculum in the classroom in the right way (to enable the child to reach the aims set out in the curriculum)' (MOE, 2013-14). The teachers follow 'a strict lesson plan that is set out in the guide book daily, weekly and yearly' (MOE, 2013-14).

The *Teacher Guide Book* contains explicit instructions to the teacher in relation to all of the units in the curriculum. The *Teacher Guide Book* directs that:

The teacher must deal with all of the units individually and train herself to be skillful and creative in these units and make these activities and units suitable for the children's tendencies and needs (MOE, 2013, p: 13).

Through training she is able to meet the interests of the children. This does not indicate that the teacher can adapt the unit to suit the child but rather that she must match the child to the unit which has already been designed by the government to meet pre-set objectives (MOE, 2013, p: 13).

The idea of right and wrong

Using the Prophet Mohammed as the Best Model produces a transmissive view of teaching in which pedagogy is based on a set of rules or principles and the act of teaching is reduced to delivering information. In an echo of the centuries old tradition of Koranic teaching, the children learn mainly through copying and repeating by responding to the teacher's prompts. As a result, many of the concepts which inform child-centered pedagogy such as 'rights', 'positive relationships' and 'freedom', 'experiential learning' and 'creativity' acquire a different meaning in Saudi preschool education (see Appendix 1). There is no public discourse of rights and freedoms in Saudi Arabia. In the interviews with preschool teachers, the concept of right was strongly associated with notions of 'right and wrong' forms of behavior. It is not surprising that for some teachers the idea of experimental and experiential learning is difficult to comprehend. A high social and moral value is placed on conformity and obedience and for this reason strategies for punishing the 'wrong' behavior are suggested. For example, the *Teacher Guide Book* advises that

the child feels insulted when the teacher says to him that he has the character of an animal, or "you are lazy" or "you are not clever" or "you are dull" or "you are not intelligent" (*Teacher Guide Book*, 2013-14, p: 73-4).

The 'right' behavior is reinforced when 'she rewards him with sweets and toys in order to encourage the child to copy her and follow her instructions in the correct way' (*Teacher Guide Book*, 2013-14, p: 75-6). The idea of pedagogy as an art or craft is absent because it requires a reciprocal relationship in which both the teacher and the child are equally involved in knowledge creation. The concept of positive relationships is cited but many of the activities in the curriculum specify that the children must work alone and in silence. Freedom of choice is also extremely limited in the activity corners of the Self-learning Curriculum which are supposed to encourage creativity. The *Teacher Guide Book* advises that:

Very strict rules apply in this corner which the teacher should put on the wall for the children to read. The construction corner is intended to develop the child's cognitive skills by teaching him how to identify different shapes and sizes guided by the teacher. The teacher organizes all the materials in this corner and chooses what is suitable for each child (*Teacher Guide Book* 2013-4, p: 131-132).

The educational context always reflects the wider society. Saudi Arabia is a very traditional, patriarchal society and the overarching paradigm within which ideas are formulated is the Islamic religion. Islam provides the dominant philosophical and ideological framework, which in turn, governs the limits of social freedoms and freedom of expression. Knowledge transfer systems within the preschool are highly transmissive and operate in accordance with the social hierarchy. For example, according to the Report about Early Years Education in the Preschool in Saudi Arabia (2013):

Supervisors, head teachers, administrators, teachers must follow every single instruction and guidance which is provided in the policy document. The Government asks them to complete their commissions

correctly (Report about Early Years Education in the Preschool in Saudi Arabia (MOE, 2013))

The main Ministry of Education in Riyadh is responsible for deciding the design and content of Early Years Education. This responsibility falls on Government male employees and the clerics, despite the fact that all Early Years teachers are women. Gender segregation is another reason why there are no open channels of communication between the main Ministry of Education and the female employees. As a result, both teachers and children are invisible in the educational policy documents in the sense that they are not active participants in the learning and teaching process and must adhere to a strict set of rules and regulations which govern every aspect of teaching and learning.

Conclusion and recommendations

This paper has argued that Saudi Early Years pedagogy is very different to Western Early Years pedagogy. My research has revealed that in the series of '*transpositions and transformations*' (Daniels, Lauder, Porter, & Alexander 2009, p: 16) that take place between the stated aims and content of the policy documents, the stated aims of the curriculum and teacher's practices in the classroom, the meaning of child-centered pedagogy is quite literally lost in translation. Saudi pedagogy is teacher-centered but both teacher and children have a passive role. There is no concept of the teacher as a competent professional who has undergone four years of training and has the relevant qualifications and training to make decisions in the classroom and to contribute to decision-making processes about the curriculum design and content. Similarly there is no acknowledgement of the child as an active participant in the creation of knowledge. Therefore, many of the concepts which inform Western child-centered pedagogy such as 'rights and freedoms', 'positive relationships', 'experiential learning' and 'creativity' acquire a different meaning when they are viewed through the best Model of the Prophet Mohammed which is the dominant pedagogical practice in the preschool classroom in Saudi Arabia.

Despite these difficulties, the Islamic teachings on young children are not incompatible with the principles and beliefs of Western child-centered education and child development (Nyland & Alfayez, 2012, p: 397). The Hadith (sayings from the Prophet Mohammed) advocate that young children should 'be respected, listened to, understood, treated with kindness, offered overt acts of affection and the importance of playing is emphasized' (Nyland & Alfayez, 2012, p: 397). The Government and clerics must focus on meeting social goals but more attention should be given to meeting 'child-related needs' through a more balanced and less hierarchical pedagogical relationship between teacher and child. Both the children and the teachers need the freedom to play a more participatory role in the classroom.

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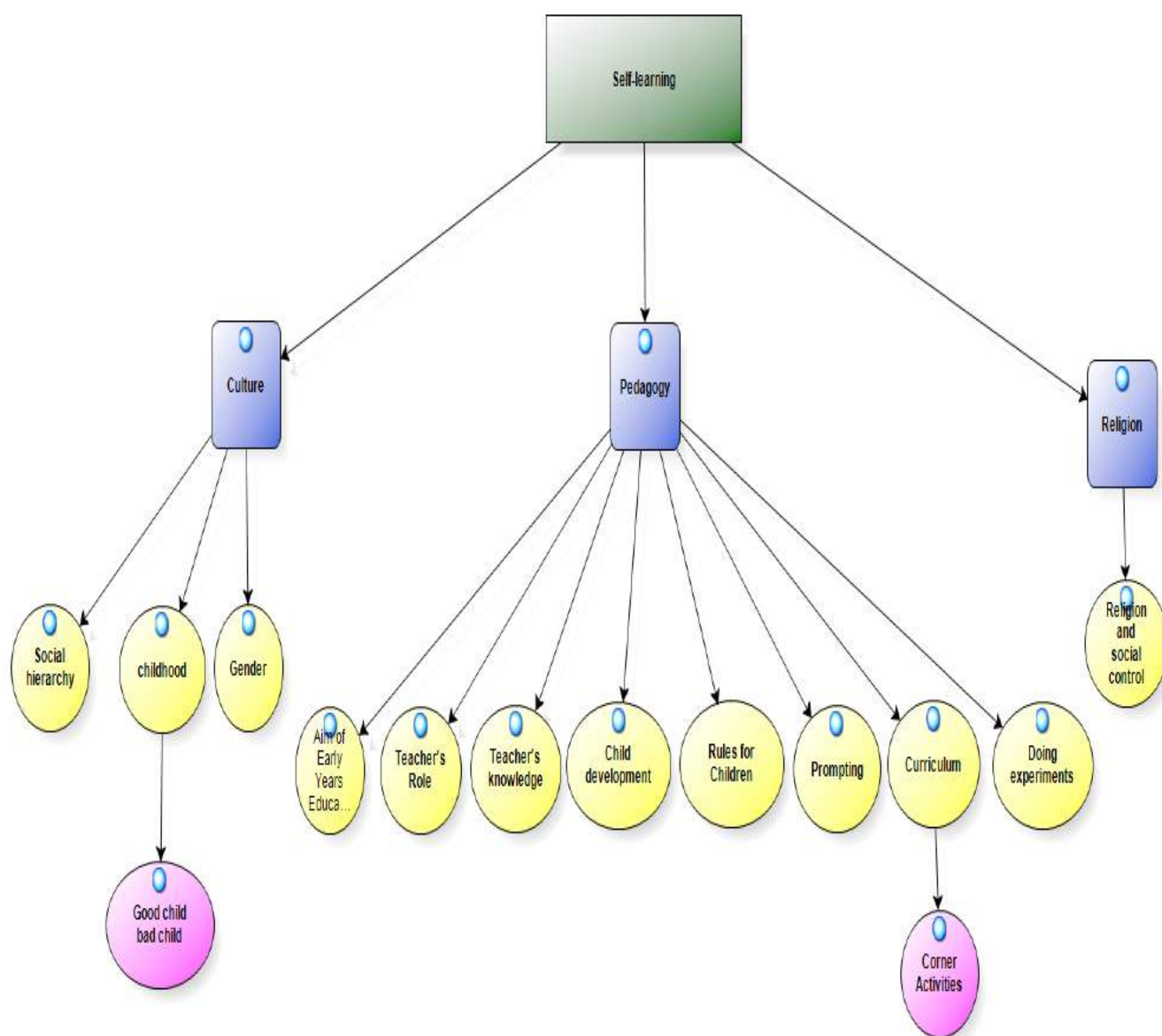
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Appendix 1





Racism in Education: First Nations Education in Canada

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The European Conference on Education 2016
Official Conference Proceedings

Abstract

Canada has quietly developed two quite different education systems. The first one, the provincial/territorial school systems, is well known. These jurisdictions have developed a three-tiered administrative educational structure: provincial/territorial ministries/departments of education; school divisions/boards; and schools. These thirteen jurisdictions have developed education laws, policies, and regulations. They have qualified educational professionals ensuring that the children in their schools have a good education. Adequate education funding is provided to schools and school boards. These schools also participate in international assessments, i.e., Organization for Economic Cooperation and Development's (OECD) Programme of International Student Assessment [(PISA)]. The other system is not as well known.

This is the federal government of Canada's system of First Nations education. These schools and students do not have an education law. They operate under 'a single school model'. Their funding is inadequate. These schools and students are hidden from the world community as they are excluded from participation in international assessments, i.e., PISA. The federal government expects First Nations schools to provide provincial levels of programs and services yet refuses to provide provincial levels of funding. This funding inequity is similar to the 'separate but equal' stance regarding Black and White schools in the American south. First Nations schools in Canada are very separate and not equal. The federal government of Canada's education policies and actions are racist.

Note:

The federal department of Indigenous and Northern Affairs, Canada (INAC) has changed its name several times in recent years. It has been known as Indian and Northern Affairs, Canada (INAC) and Aboriginal Affairs and Northern Development, Canada (AANDC). I have used the title found on and in the federal document at the time the document was published.

Keywords: Indigenous education; Indigenous and Northern Affairs Canada; education in Canada

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Introduction

\$7,200.00 versus \$10,500.00 – if anyone doubts that institutional or systemic racism exists in Canada, please refer to these figures. These amounts are what the federal government of Canada would pay for the education of a First Nations student attending the school on Manitoba's Waywayseecappo First Nation.

The first amount, \$7,200.00 was the per student amount that the Waywayseecappo First Nation received from the federal government for their children to attend the First Nations school on their First Nation. This school was operated by the Waywayseecappo First Nation and funded by the federal government.

Sniderman (2012) described the continual frustration of the Waywayseecappo First Nation Chief and Council in their attempts to provide a good education for their children at their local school. They had approached the federal government's department of Indigenous and Northern Affairs Canada (INAC) for additional education funding for their school. The requested additional funding was refused.

First Nations schools receive their education funding on a formula called Band-Operated Funding Formula (BOFF). The Assembly of First Nations (AFN) has reported that BOFF does not "support the educational components of a 21st century school system. These include such basic services as: School libraries; Technology (computers, connectivity, data systems; Sports and recreation; Vocation training; First Nations languages; and, School board-like services" (AFN, undated, p. 1).

Similar findings were echoed by the First Nations Education Council (FNEC) in Quebec. In 2009, they reported despite plans to modify BOFF two years after its development in 1988 that "the formula still had not been modified to take account of the developments in education" (FNEC, 2009, p. 1). It was noted that BOFF does not "allocate amounts for the costs associated to new technologies, sports and recreation, operating libraries and the supplementary costs of vocational training in Quebec at the secondary level" (FNEC, 2009, p. 1). FNEC (2009) also highlighted that BOFF does not follow other provincial education policies such as "the socioeconomic disadvantage index of the communities" (p. 1)

More recently in 2011, the Standing Senate Committee on Aboriginal Peoples (2011) report on First Nation education found problems with INAC's funding formula. The report found that "Basic services such as school libraries, student assessments, athletic programs and facilities, technology, curriculum development and language programs, were simply not included in the funding formula" (p. 32). The report also noted that since 1996, INAC's funding formula had "a 2% cap on annual increases" (p. 31).

A result of the shortfalls in BOFF is that First Nations schools such as Waywayseecappo First Nation's face many obstacles. At Waywayseecappo, the school was described as having a wing of classrooms closed due to the lack of funding to hire additional teachers, this closure resulted in higher pupil-teacher ratios in the remaining classrooms, teachers were underpaid resulting in a high teacher turnover as many teachers left to teach in nearby higher paying provincial schools, an absence of on-going specialist/consultant support for teachers and students, and an absence of professional development activities for teachers and administrators.

After Grade 8, the students at Waywayseecappo School travelled down the highway to a provincial school in Rossburn for Grades 9-12. The teachers at the Rossburn school noted that the incoming students were behind academically.

Finally, the Chief and Council had had enough. The \$7,200.00 per student they received from BOFF was simply not enough. They grew weary of seeing their school and students fall further behind.

Their frustration at not being able to provide an adequate education for their children, as well as their future hopes and dreams for these children led them to do something that on the surface appears to run counter to the main principles of the Assembly of First Nations' (AFN) Indian Control of Indian Education.

This document (AFN, 1973) advocated for 'local control' or Indian control of schools on First Nations across Canada. First Nations people were tired of being denied the opportunity to be involved in making education decisions for their children. Other people were involved, as "decisions on the education of Indian children have been made by anyone and everyone, except Indian parents. This must stop." (p. 27)

The Waywayseecappo First Nation Chief and Council decided against First Nations control of their First Nations school. Essentially, their hope of a better education with the resulting brighter future for their children trumped the principle of Indian/First Nations control of their school.

What did the Waywayseecappo First Nation do? The First Nation made an agreement with the nearby provincial school division to take over the operation of the school on the First Nation. The First Nations students did not move to the provincial school in Rossburn. Nor did the school move off the First Nation. The students remained at the same school as before.

You would think that the provincial school division would encounter similar funding challenges as the Waywayseecappo First Nation encountered. Same students, same school, and same funding source (i.e., INAC) would remain the same. However, this is not the case.

Sniderman (2012) described as magical or 'poof' what happened next as the First Nations school became a provincial school. Suddenly, the \$7,200.00 became \$10,500.00.

The result of the increased funding was immediate. The closed wing of classrooms was opened as new teachers were hired, teachers received raised, specialist/consultant support became available, and professional development opportunities became available for teachers and administrators.

Recently, in April 2016, Sniderman (2016) went back to the community to examine the consequences of the increased funding on the school, teachers, and students. The changes were remarkable. For instance, in 2010 no Grade 1, 2, or 3 student was reading at a Grade 1, 2, or 3 levels. Only one student in Grade 4 (3%) was at Grade level. In 2016, the percentage of students at Grade level was Grade 1 (44%), Grade 2 (33%), Grade 3 (54%), and Grade 4 (26%).

Teacher turnover has been reduced. The number of teachers has increased. Teachers received wage increases of \$15,000 - \$20,000. Classroom sizes have been reduced to below 20. Behavioural incident reports have been reduced by 65%. It was noted that a provincial teacher had transferred to the school on the First Nation. Such transfers had never happened before.

Joining the provincial school division has allowed Waywayseecappo School to become part of a larger system – Park West School Division. The school could now access programs, services, and specialist from the school division, as well as the provincial department of education.

There were other benefits of a local nature to such an arrangement. Chief Murray Clearsky noted that previously “For so long our children stayed in our community and never really mingled with off-reserve kids,...” (Sniderman, 2016, p. 2). No longer, now the school participates and hosts sporting events with nearby provincial schools. Provincial students now use the Waywayseecappo’s woodworking and cosmetology classrooms. A Waywayseecappo First Nations student drumming group has performed at a provincial school.

The education funding inequities, i.e., provincial vs. federal funding encountered by Waywayseecappo First Nation are not isolated to Waywayseecappo or schools in Manitoba. Similar inequities may be found across Canada.

On June 1, 2010, Cindy Fisher, the former Director of Education of the Ojibways of the Pic River First Nation in northwestern Ontario spoke to the Standing Senate Committee on Aboriginal Peoples (Standing Senate Committee on Aboriginal Peoples, 2010a). Ms. Fisher compared the elementary per-student funding the First Nation received from the federal government (\$8,156.00) to that received by a nearby provincial school board (\$15,211.53). Provincial funding for secondary students was \$17,131.80.

In Saskatchewan, Kowalchuk (2013) compared the education funding received by the Northwest Education Council that provided services and programs to schools in nine First Nations communities with that received by provincial schools in the North Battleford area. It was estimated that provincial schools received \$9,000.00 per-student while the First Nations schools received \$7000.00. The tuition for First Nations students attending the provincial Living Sky School Division was \$11,894.00.

Murray Waboose, education manager, Matawa First Nations Management has described the federal government’s approach to First Nations education to buying a car. First Nations get the base-model. That’s it. No ‘extras’. Second level education services or ‘extras’ such as “speech language pathologists, psychologists, and special education services all cost more. We don’t get funding for these services” (Thom, 2010, p. 1).

Mr. Waboose also described how the federal government doesn’t differentiate between elementary and secondary education costs as he stated “There is not a distinction between elementary and high-school funding levels. It costs a lot more to operate a high school with specialized classes and classrooms” (Thom, 2010, p. 2). It

was estimated that provincial schools receive an additional 30% for high school students.

In Ontario, on January 22, 2015, Nipissing First Nation Chief Marianna Couchie (Nipissing University, 2015), spoke of the funding inequities on a panel on First Nations education at Nipissing University. She highlighted the unfairness of the federal government's funding at the school on her First Nation. The Chief questioned how the federal government could justify their actions as "The government will give us \$4,000.00 per student at our high school. Yet, they'll turn around and give us money to pay \$12 - \$17,000.00 per student to attend the provincial schools... There is something wrong with the funding."

In March 2016, Don Drummond, a former chief economist with a major Canadian bank estimated that "First Nations children living on reserve receive at least 30 per less funding for their education as children under provincial jurisdiction" (Porter, J., 2016, p. 1). Mr. Drummond was countering a federal government official's assertion that the provincial and federal education funding formulas could not be compared.

In summary, there can be no doubt that First Nations schools are at a distinct disadvantage when compared to provincial/territorial schools in their terms of their funding. First Nations schools receive their education funding based on outdated formula that doesn't take into account the actual costs, programs, and services of a modern education system. Provincial/territorial schools, on the other hand, are able to invoice or bill the federal government for the actual costs of providing these services to First Nations students..

Federal policy

Federal documents and reports are clear that First Nations schools are to follow the curricula, programs, and services offered by schools within their province. In other words, the provincial curricula act as the templates for First Nations schools to follow.

Aboriginal Affairs and Northern Affairs Canada (2012) indicated in their Executive Summary that "The primary objective of elementary/secondary education programming is to provide eligible students living on reserve with education programs comparable to those that are required in provincial schools by statute, regulations or policies of the province in which the reserve is located" (p. 1). In 2015, Indigenous and Northern Affairs Canada [INAC] (2015) in a description of their Elementary and Secondary Education Program in First Nations education noted that the program "aims to help eligible students living on-reserve reach similar educational outcomes to other Canadian students in the same province." (p 1)

Other federal departments have expressed similar statements regarding the types of education programs and services to be offered in First Nations schools. For example, The Office of the Auditor General (2014) in an examination of Aboriginal Affairs and Northern Development Canada policy found that "First Nations schools are required, at a minimum, to follow provincially recognized programs of study, hire provincially certified teachers, and follow education standards that allow students to transfer to an equivalent grade in another school within the province in which the reserve is located (p. 5).

In a report on ‘Current and Emerging Issues’ for the 41st Parliament (Library of Parliament, 2011), it was noted that the federal government is committed to providing First Nations with education programs and services that were “comparable to those required in provincial schools by the statutes, regulations or policies of the province in which the reserve is legislation governing First Nations education, ...” (p. 22)

The report also described the current state of education in First Nations. The report found that “The federal on-reserve First Nations education program does not offer many of the supports and structures provided by the provinces off-reserve.” (p. 22).

The lack of educational supports and structures for First Nations schools was extensive. They included “...education departments, elected school boards, education acts, and legal requirements for parental involvement - the federal government’s First Nations education system lacks many, if not most, of these features.” (p. 22)

A possible reason for the federal government’s reliance on provincial/territorial curricula, programs, and services for First Nations schools is the absence of a federal education law. Despite, having constitutional responsibility for the education of First Nations students living on reserves since 1867, the federal government of Canada has not enacted an education law for these students.

In 2006, the Hon. Jim Prentice, a former Minister of INAC, spoke of the lack of a First Nations education law. He believed that First Nations children were alone in Canada in regards to the lack of protection that an education law would provide as he stated

“The only children deprived of this security are First Nations children on reserves” (First Nations Education Council, 2009, p. 29).

The Standing Senates Committee on Aboriginal Peoples (2011) report does not mince words in their description of the actions of INAC. The report found that while INAC “requires First Nations to educate their children at levels comparable to provincial and territorial jurisdiction, and yet provides them no meaningful supports by which to do so” (p. 56). The Committee found that First Nations were “Lacking critical educational supports” (p. 56) with the result that “First Nations are the only segment of Canadian society who, today, do not benefit from a modern system of education” (p. 56)

The lack of an education law or system for First Nations has several consequences for First Nations students, parents, and communities. First, is the reliance on federal policies and regulations to operate the education system. Policies and regulations do not have the force of law behind them. Secondly, the federal government has not invested in the required education infrastructure (e.g., programs, personnel, and operating procedures). Thirdly, the federal government has been forced to use provincial/territorial programs and services as the templates for First Nations and federal schools to follow.

These consequences may appear at first glance to be superficial. Education laws, policies, procedures, regulations, infrastructure, and systems are broad terms. Their impact may be difficult to measure or observe, especially in the case of First Nations education.

However, the lack of an education law has real consequences for First Nations students. Primarily, it's the lack of a system. As the Hon. Jim Prentice stated in 2006 - "There is, in fact no education system for the First Nations ... there are no national norms, no determined courses, no teaching certification required" (First Nations Education Council, 2006, p. 29). As mentioned earlier, First Nations schools were often without libraries, science labs, technology, student assessments, curriculum develop, language programs, recreational and playground equipment and facilities.

Funding inequity

In 2010, the Senate Standing Committee on Aboriginal Peoples (2010b) began a series of Proceedings across Canada on First Nations education. The Committee was "concerned about the educational attainment of First Nations learners in primary and secondary education" (p. 1). The Committee's stated goal was to "examine possible strategies for primary and secondary education so that it can better support and improve the educational outcomes of First Nations learners" (p. 1)

The Committee held Proceedings across Canada. Invited speakers included representatives from First Nations, academics, researchers, provincial governments, provincial schools boards, as well as representative from the federal government.

On April 13, 2010, Ms. Christine Cram, Assistant Deputy Minister, Education and Social Development Programs and Partnerships, INAC, spoke to the Committee. Ms. Cram spoke of the federal government's commitment to and hopes for First Nations students. She believed that "the Government of Canada is committed to ensuring that Aboriginal students have comparable educational outcomes and that they share fully in Canada's economic prosperity." (Standing Senate Committee on Aboriginal Peoples, 2010c, p. 4)

Ms. Cram described INAC's role as being "basically a funder. We provide funding to First Nations and other organizations that deliver the programs and provide the services" (p. 9). First Nations schools received education funding on "a single-house model". The result of this type of funding was that First Nations schools were without "a system of education." (p. 9)

This federal or First Nations 'non-system of education' of 'a single school model' was compared to provincial systems of education. Ms. Cram believed "most provinces have a ministry of education, school boards and schools. These ministries of education can be quite large, and have expertise." (p. 9).

Ms. Cram then viewed INAC's Ottawa headquarters' role in First Nations education as being somewhat limited due to their lack of education expertise. She indicated that INAC staff did "did not claim to have huge expertise in post-secondary or kindergarten-to-Grade-12 education" (p. 9) and that INAC "could not have the level of expertise provided by the provinces." (p. 9)

For First Nations students living on reserve but attending a provincial school the funding arrangements are different. Provincial school boards/divisions are able to invoice INAC for First Nations students for their costs as "INAC pays a tuition rate charged by the province." (p. 3)

Another INAC official, Ms. Claudette Russell, Director, Strategic Policy and Planning Directorate, INAC, also spoke to the Committee on First Nations education funding and responsibilities. She described these funding arrangements required First Nations to “use comparable provincial curriculums” (p. 14) and that they are “required to follow a provincial standard of education.” (p. 14)

In 2011, the Committee issued a report (Standing Senate Committee on Aboriginal Peoples, 2011). They reported that the federal government was responsible for approximately 120,000 First Nations students across Canada. These students attended one of three types of schools: 518 First Nations schools; provincial/territorial schools; and, 7 federal government schools. The Committee estimated that First Nations student enrollment to be 60% First Nations schools, 40% provincial/territorial, and, approximately 2% federal government schools.

Hidden information

Canada is a member of the Organization of Economic Cooperation and Development (OECD). Every three years the OECD conducts an assessment of 15 year-old students in countries around the world. This assessment is called the Programme for International Student Assessment (PISA). PISA assesses students in Mathematics, Science, and Reading.

Canada has performed quite well in the 2012 PISA results. Canadian results were described with statements such as “Results from PISA 2012 confirm the success of our education systems from a global perspective. Indeed, Canada remains in a small group of top-performing countries, ...” (Statistics Canada, 2013a, p. 48).

However, the Canadian PISA results do not include students who attend First Nations schools. Statistics Canada (2013b) in a description of PISA indicated that “The survey population was comprised of students who were 15 years of age and were attending any form of schooling in the ten provinces of Canada. Schools on Indian reserves were excluded” (p. 1). Similar statements may be found in earlier reports on PISA results. For example in 2007, “No data were collected in the three territories and on First Nations schools” (Statistics Canada, 2007, p. 12)

The result is that the only national education system in Canada, i.e., the federal or First Nations education system, is excluded from PISA. Such as exclusion should raise questions regarding the validity and reliability of the PISA results.

The exclusion of First Nations schools and their students from PISA also results in their essential non-existence in the world of education. Since education data is not collected on these schools, educators in the world community are not aware of the many shortcomings in Canada’s educational policies, e.g., libraries, science labs, technology, and playground/recreational equipment.

Discussion

Governments usually look to the past to highlight practices and policies that in hindsight are deemed to be repulsive or racist in nature. In Canada, we use the examples of the Chinese head tax, refusal to take in South Asian immigrants or

German Jewish refugees, the Canadian internment camps during WWII and the Indian Residential schools as examples of poorly conceived ideas and policies. Looking back, we often wonder - “What were they thinking!” “How could they justify such actions?” And finally, “Things like that couldn’t happen today.”

However, similar practices and policies continue today in Canadian education. The federal government of Canada has developed a system of education in Canada that is racist and substandard.

The federal education system for First Nations students has been carefully constructed. Federal bureaucrats and politicians would have carefully developed education policies, and regulations to establish the current unfair education system. There would have been many meetings, discussions, and reports to establish and justify the current system.

Rather than doing the right thing, i.e., construct a modern education system, these officials and politicians constructed and approved an education system that was built on the ‘cheap’. The result is not so much a ‘system’ of education with its three tiers (i.e., school, school division/board, and department of education) of programs, service, personnel, and operating procedures. Rather the system of education for First Nations students consisted of a school. A single school is not an educational system.

First Nations students attending a First Nations school on a First Nation are without of an education law. Federal schools are poorly equipped and funded. Teachers in these schools are often very transient as their salaries, benefits, and conditions are not comparable to their provincial/territorial counterparts.

The question remains. How could this situation happen in Canada?

Simple, it’s only Indians or First Nations students. They really don’t matter. The federal government has decided that the education of First Nations students is not a priority. It’s all about the funding. The federal government and its department of Indigenous and Northern Affairs (INAC) would prefer to take the inexpensive route (i.e., containment of costs) rather than the right thing (i.e., provide equitable education programs and services) for First Nations students.

The result is a very separate school system or a non-system, i.e., single school model, for First Nations students attending a First Nations school on a First Nation when compared to the three-tiered system of education (e.g., provincial department of education, school division, and school) of provincial and territorial governments. The federal government of Canada funds First Nations schools quite differently than provincial/territorial schools with First Nation students. First Nations schools receive their funds by a formula (BOFF) which doesn’t include many necessary education programs. Provincial/territorial schools are able to invoice the federal government for their costs.

The differences in funding is striking. While expecting First Nations schools to follow provincial curricula and provide comparable programs and services, the federal government refuses to provide them with provincial levels of funding.

Summary

Canada has developed a two-tiered system of education. One for those attending provincial and territorial schools and those developed for First Nations student living on reserves. Each of the provincial/territorial education systems has developed education laws, policies, regulations, programs and services that Canadians take for granted. The federal government, the level of government that is constitutionally responsible for the education of First Nations students on First Nations/reserves has not.

In 1952, the U.S. Supreme Court in *Brown vs. Board of Education* noted the importance of education for success in life and that children should not be denied the opportunity for an education. If the state provided such an opportunity, that it “is a right which must be made available to all on equal terms.” (p. 3 - 4).

The court struck down the idea of ‘separate but equal’ in the schooling of African American children. Up to this time, African American children attended inferior schools. These schools were separate and were supposed to be equal to those for White children. However, this was not the case. The guise that these schools were equal to those provided to White children was shattered by the court’s ruling.

While espousing terms such as ‘comparable or providing provincial-levels of ...’ for First Nations schools to follow, yet refusing to provide these schools with provide provincial levels of education funding, the federal government is just as racist as politicians and governments in the American south.

Requiring First Nations to use provincial/territorial education programs and services as templates but refusing to provide provincial/territorial levels of education funding and supports to First Nations schools is similar to the phrase ‘separate but equal’. The phrase gives lip service to equality. However, there can be no doubt which schools were better funded and supported.

What Canada needs now is a Supreme Court of Canada ruling on the federal government of Canada’s unequal treatment of First Nations children attending First Nations-managed schools and those attending provincial/territorial schools. The ruling must question how the federal government can expect First Nations schools to follow provincial education curricula, programs, and services without the necessary provincial levels of funding.

The Supreme Court of Canada must find that such federal government actions are similar to the actions of the governments of the American south in the 50s and 60s. The result is the same. Namely, the federal government provides adequate funding to one type of schools (i.e., provincial/territorial). First Nations schools are denied similar amounts. These schools are also without a system of education.

The result is that First Nations students are being denied a proper or modern education. Schools are without libraries, computers, recreation and playground equipment, and science labs. First Nations schools are not funded at provincial school levels. First Nations schools cannot offer comparable provincial curricula without these essential education programs and services.

How such actions are allowed to continue in a country such as Canada is difficult to fathom. First Nations schools will remain 'separate and comparable' until the federal government is required to provide them with adequate funding and supports.

Recommendations

Hopefully, Canada will not lose another generation of First Nations students. It is time for the federal government of Canada to live up to its constitutional obligations for the education of First Nations children. It is recommended that:

1. A First Nations education law must be enacted. Such legislation must be developed in real consultation with First Nations people
2. The Supreme Court of Canada should rule that the federal government of Canada's actions for First Nations schools to provide 'comparable provincial/territorial education programs and services' yet refusing to provide provincial/territorial levels of funding is similar to the 'separate but equal' actions of southern American states in the 1950's and 1960's.
3. The federal government must provide equitable funding to First Nations schools to allow them to provide at a minimum, the provincial/territorial programs and services.
4. The federal government must fund First Nations schools on the same basis as they do with provincial/territorial schools. First Nations schools must be able to invoice the federal government for the actual costs of educating First Nations students.
5. First Nations and federal schools must participate in the OECD's Programme of International Student Assessment (PISA). Such participation would provide Canadians and the world community with a true picture of education in Canada. It may also ensure that the federal government continues to provide equitable funding.

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Embedding and Assessing Compassion in the University Curriculum

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Abstract

Scholarship in clinical psychology (Gilbert, P., Neff; 2003; Kirkpatrick et al, 2007) anthropology (Goetz et al, 2010) and neuroscience (Immordino Yang et al, 2009; Stanford University's CCARE) agree the definition of compassion to be: the noticing of distress of others and a commitment to reduce that. As they advance research on how the science of a secular compassion can be applied into world and local social systems for building more co-operative and integrated societies, higher education struggles to translate this research and scholarship into practical pedagogy. Models of 'excellence' based on individualistic competitiveness in higher education persist. Ironically, this model appears to fuel particular psychosocial stressors on students that not only undermine students' social experiences in group work. They also impede their on-task, thinking processes. This paper reports outcomes of a study of how these stressors, occurring in group discussion practice in seminars/tutorials, are articulated by students and tutors. Focus groups and interviews amongst (n=34) students and interviews with (n=9) tutors were conducted in two departments of a British university: the Humanities and Business. Template analysis was used to identify themes from the data. On an ethnically diverse business module of (n=38) students, a comparative statistical analysis of all individual, assessed, critical thinking performances was conducted after students were supported and assessed in their ability to notice distress or disadvantaging of others and address it during seminars. It showed no attainment gap for critical thinking between the BME/white local students. This study informs theory, practice and policy in Higher Education.

Keywords: compassion, seminars, discussions, micro-ethnography, critical thinking

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This paper draws on an action research study conducted in seminars and tutorials across a range of subjects in a UK university. The study embedded required attention, by students and tutors, to the secular concept of compassion in their seminars, and it then observed the results through a series of data collection methods. It is agreed within anthropology (Goetz et al, 2010), group psychotherapy (Bates, 2005; P. Gilbert, 2009) and neuroscience (Immordino Yang et al., 2009), that compassion can be defined as the noticing of distress in others, and a commitment to reduce it. This is two components, or psychologies.

As a world institution, Higher Education (HE) has a key remit to serve the public good (Chickering, 2010), and so it must articulate what *collective thinking for a world in conflict* means in how it educates its graduate for global citizenry. Chickering (2010) points out a growing malaise that the nurturing by Higher Education of individualistic competitiveness and private enterprise in the education of students as they pay hard cash to participate in what he refers to in his conclusion as “cold blooded intellectual exercises,” is driving the institution away from its duty of serving the public good. Increasing levels of competitive stress are cited as a key cause of rising levels of depression and anxiety amongst students (P. Gilbert et al, 2004). The UK’s National Union of Students (2009), surveyed of 938 BME students (local black students, local ethnic minority students, and international students) for their accounts of their academic experiences in FE and HE. The results identified that 23% found their experiences “cliquey”, 17% “isolating” and 8% “hostile”. Respondents were often speaking of “alienation and exclusion” (p4). Many of these experiences “spawned from inside the classroom”, not least because these students reported “feeling left out of discussions and debates.” (p4). In light of these student stressors¹, the NUS urges universities and colleges to “better integrate their student bodies...by increasing discussion and interactive work within the classroom” (p61).

This is a valuable recommendation in relation to the current BME attainment gap in the UK, because as Paul Gilbert (2005; 2013) and Cozolino (2013) both suggest, if individuals do not have a sense of social safeness in groups, their cognitive capacities are drained away into personal social defence mechanisms instead. This is an evolutionarily universal factor. It is not confined to one ethnic group of people or another. Moreover, resulting impediments to communicative ease in task focussed groups - to share diverse perspectives, questions, challenges - to ideas being presented in discussion – will also have an effect on the quality of the critical thinking processes in that group. Stressors to communicative ease to venture more, socially and intellectually, can be particularly acute in seminar and tutorial environments where students are tasked with timed exchanges while also being observed for personal performance competitiveness by peers and tutors.

I argue that we need to look even more closely at these stressors that the NUS cites; that is, at identifying them from the teeming psychosocial processes that occur in the

¹ Creel, (2001) rightly points out that even amongst biologists, stress can have a number of meanings. So he reasonably suggests that it is more precise to consider stressors and stress responses, rather than ‘stress.’

seminar room.² This close observation of what stresses people is the first component of compassion.

From several surveys of students totalling around 200 participants, students at the UK's University of Hertfordshire, identified their main stressors inside the seminar (or tutorial room) and these were used to construct the following checklist in Fig 1 for use in compassion focussed pedagogy.

Fig 1. Student-identified stressors in the seminar room.

1. Talking a lot so that others do not get many chances to speak.
2. Talking in silences when the shyest students are getting ready to speak.
3. Fixing eye contact with the tutor only, or just one student and forgetting to look at all the other people in the group.
4. Using difficult language; not explaining difficult words or expressions so that other people in the group cannot understand
5. Not listening carefully to other peoples' ideas
6. Not helping other people when they are getting into difficulty while they are speaking. Instead taking control and their chance to speak away from them. Talking over them.
7. Not inviting others to speak; not thanking others for their contribution.
8. Not speaking at all; becoming 'too shy' and so giving nothing to the group.
9. Not even reading a little bit in order to bring something to the discussion.
10. Letting other people talk and talk without interrupting them.
11. Letting them use difficult words or expressions. Allowing them to speak too fast for everyone to understand them.
12. Not asking for more explanations when understanding is becoming too difficult.
13. Other:

Notably, these students were mainly local, white Humanities students, and this makes an interesting comparison with the NUS findings amongst BME students. This check list was then distributed to students in their first compassion-focussed seminars on a range of modules for them to tick which of those they had encountered in previous seminars, or indeed to identify what they felt they did themselves. Allowing students to then discuss in small groups what, if anything, was on their checklists was thought

² The kind of seminar/tutorial room where small group discussions are run is an ideal setting for the close ethnographic study of psychosocial processes in student 'collaborative' group work.

a useful first step towards students validating each other's experiences (Leahy, 2005). The purpose was to raise to the surface otherwise hidden narratives (Scott, 1990) on seminar experiences and this was done through encouraging students' to openly identify and share with others any experience, or not, of these stressors, and also how and when others might also be experiencing these in the seminar room.

This is not an unrealistic or unnecessary requirement of students, to feel immediate emotional responses to the distress of others. On the contrary, this first component of compassion can be understood to be a deliberative process. In their study on empathy in the brain, Krishnan et al (2016:1) has found that mentalising is key, not emotion. "The patterns of brain activity that arose when the volunteers observed someone else in pain ... activated regions involved in taking another person's perspective. This process, which is known as mentalising, involves thinking about the other person's thoughts, intentions and preferences. Thus within the brain, the experience of observing someone else in pain is distinct from that of experiencing physical pain in oneself." Their findings align with those of Immordino-Yang et al, (2009) who researched compassionate brain responses to others' distress.

The point of the pedagogy described above then is not to induce emotional responses necessarily, but deliberative ones, such as by intentionally raising alertness to the distress, and/or disadvantaging of others which can cause such distress. This is because it is not easy for a student to address another's distress in group work, if s/he does not or cannot notice it; nor if they have noticed it but do not or cannot acknowledge it. This situation may be linked to Chickering's observations on HE's valuing in HE of individualistic competitiveness.

Further investigation amongst 34 students in focus groups and in one-to-one loosely structured interviews was carried out. Five sampling methods were used (Maximum Variation, Theoretical, Disconfirming/confirming, Emergent, Convenience).

The participants in the School (Department) of Humanities were all white local students (n=14). The participants in the Business School were mixed - white local, black local, ethnic minority local and international (n = 20) (Gilbert T, 2016). Where required compassionate attention to others in student seminars was absent, that is, in non compassion-focussed seminars, it was found that stressors for white students appeared to be very similar in some aspects to those of the BME students identified in the NUS report above. One of these areas of similarity related to experiencing, or witnessing, 'exclusion' - a key stressor on BME students (NUS, 2009) In one to one interviews, tutors' (n=9) accounts of what they noticed of class room dynamics were also sought to provide data on what *they* discerned to be stressors for students in task focussed, small group discussion seminar work. The following typical accounts of stressors – given by tutors, white local, black local, ethnic minority local and international students – indicated a little more precisely what seminar participants might usefully notice, as the first component of compassion, so that they might then act on reducing the distress such stressors could cause.

T4: So many students – and I've never sort of realised this before - are sort of really frightened about saying something, or they can't say something or they think it's better not to say something.³

³ T4, stage two, interview transcript, p3, lines 105-108

This white, local UK student of Eastern European origin said:

*S19 sometimes when I meet people for the first time I feel I get really shy ... so if I was in a seminar and I didn't know anyone then like I feel a bit weirded out...I'll be like 'I don't need to talk to anyone.'*⁴

A white Humanities female student noticed that in non compassion-focussed seminars:

*S4: ... it's just two or three people talking and that's either because they're taking over, or because people are too shy...*⁵

It appears shy students did try to speak though, as this white female was suggesting:

*S3... some people try to talk over you. So you try to say something, and they'll cut in, so like you're finally getting something out, and no one hears; they only hear the other people who talk all the time....They don't actually know the answer, they just talk and talk and talk.*⁶

And in another department, a white local male student commented that despite tutors' efforts to create inclusive discussions:

*S26: ... it's just a case of everyone trying to scoop up as many grades as they can and normally people feel the only way to do that is by talking a lot and sort of hogging the spotlight.*⁷

A seminar tutor who was much committed to inclusivity in the classroom had also similarly observed this:

*T3 : Four or five students who don't mind talking out loud ... just dominate...they get the chance to demonstrate their knowledge... but they don't actually get much in the way of discussion with other students.*⁸

⁴ S17, S18, **S19**, stage one, focus group transcript, page 2, lines 80-85

⁵ S4 UG female, stage three, joint interview transcript, p3, lines 59-60

⁶ S3, UG female, stage two, one to one interview transcript, p9, lines 252-255

⁷ S26 Local white male, stage three, focus group transcript, p3 lines 77-78

⁸ T3 male seminar tutor, stage one, one to one interview transcript, p2, lines 21-28

This ethnic minority student suggested one reason why this can happen:

S23: ... *it's more closed in - you're not sharing your work. You're doing your own work. It's all you know. That's the problem with seminars.*⁹

Encouraging shy students to speak was thought in itself to be an unacceptable stressor by this international male student:

S16: *No, no, no. The other students will think, 'He's the same as me, so who do [sic] he think he is?'*¹⁰

A strategy for the second component of compassion

Something that the multi-disciplinary literature suggests is important for group cohesion and quality of critical thinking is inclusive eye contact (Vertegaal et al, 2002; 2003). Students were therefore encouraged to use this; that is, they were asked especially when they spoke, to look at everyone in the group, not fix eye contact with one person only no matter how safe that might feel.

Though students did recover from a prevalent tendency when speaking to look at one person only, typical data on initial feelings of discomfort at inclusive eye contact were these:

T3: *The eye contact ... a very good strategy... [is] the most valuable. And yet in the third year it's still the hardest thing for them to do.*¹¹

S20, an international student (Thai) female also struggled although, interestingly her Thai female friend (S21) did not:

S20: *I can find it weird because I'm answer the questions to someone who ask me and does anybody else want to know? [sic] (S20 and S21, both Thai females, laugh.)*¹²

This white male student said:

S9: *I tend to peer down when trying to look at students when contributing in the discussion because I feel nervous about something, and if I say something that's inarticulate or doesn't communicate it will make me feel stupid to the rest of the students.*¹³

In effect, S9, like other students when first introduced to the compassion-focussed seminar pedagogy, was cutting himself off from signals of interest, enquiry or support

⁹ S23 Local ethnic minority male, mid module focus group 1 transcript, p5, lines 118-122

¹⁰ S16 International/Malaysian male, stage one, joint interview with S15, transcript p7, lines 65-66

¹¹ T3 one-to-one interview transcript, p3 Lines 87-88

¹² S20 Local ethnic minority male, mid module focus group 1 transcript, p4 Lines 78-82

¹³ S9, male, focus group transcript, p1, lines 9-10

from other students. These were signals that students were encouraged in their compassion focussed seminars to offer to anyone who was speaking. But S9's data supported an observation from seminal group psychotherapist, Yalom (1985, p342): that people who monopolise or take over discussions as S9 tended to, could be doing so from anxiety, not confidence. (although Yalom did not investigate eye contact in relation to this).

Overall, the extent of disconnection between students and the urgency with which it needed to be addressed, as for example, through students' adoption of inclusive eye contact amongst other strategies, is shown by a several accounts similar to this one this from an ethnic minority female:

S24: I mean S26 has been doing my course for a whole year. I'd never noticed him [or] even S25. ... I'd just sit there.... I would miss some of my tutorials [seminars] because I didn't wanna be there... I didn't know anyone there and I felt like no one would speak to me... i¹⁴

And from another ethnic minority female on a different compassion-focussed module:

S28: When I go into seminars I find any other Muslim people there.... Most of the others, I'm probably not gonna talk to them to be honest. ¹⁵

When this student attended her first compassion-focussed seminar where students mixed their group membership every week in their discussion her stressor was again, the possibility of being excluded:

S28: I was thinking, 'Oh my God. What if no-one talks to me?'

The difficulty with these data is that no student complained of any tutor being particularly negligent of inclusivity. And yet, in terms of the difficult student group dynamics explored above, a tutor noted after many years in paying attention to inclusivity in his class room that:

T3: The dynamics get set very quickly ...After a couple of weeks it's quite hard to change that dynamic.¹⁶

Thus, students on the compassion focussed seminars run on modules in the Humanities and Business Schools respectively, are assessed in their final small group discussion. This has given them the chance to bring their independent reading on the previous lectures' topic to the seminar table each week, to share that reading with others. The marking criteria is therefore as follows and has been endorsed by seven out of seven external examiners so far in the research to date.

¹⁴ S24 Local ethnic minority female, post assessment focus group, p8, lines 243-249

¹⁵ S28 Local ethnic minority female, mid module focus group transcript, p5, lines 133-135

¹⁶ T3 male, stage one, one-to-one interview transcript, page 15, lines 426-427

Fig 2 Small group, research-based discussion: Marking criteria***Small Group, Research-based Discussion*****Student:** **Candidate No:** **Date:**

.....

Tutor: **Module****Code:**

Content (70%)		
The research undertaken by the candidate for the examination topic is demonstrated to be extensive; it is appropriate in content, level and relevance. (30%)	A B C D E F	Little or no evidence is offered of sufficient and/or appropriate research.
Critical perspectives - as in questions posed, arguments offered, analytical and or evaluative insights into the student's own research and that contributed by others - are integrated relevantly and helpfully into the group discussion. The student helps keep the group focussed on task. (40%)	A B C D E F	Few or no critical perspectives – as in questions posed, arguments offered, analytical or evaluative insights into the student's own research and that contributed by others – are demonstrated during the discussion. The student may contribute little by remaining silent, or else may input in ways that lead the group off task.
Group Management Skills (30%)		
Body Language (10%) Eye contact and other body language is appropriately inclusive.	A B C D E F	Body language is signalling little interest or engagement with what is being said by others; or, may focus repeatedly on some students to the exclusion of others.
Language (10%) is graded (it is international English and it is appropriately paced). It is also mindful in other aspects when: <ul style="list-style-type: none"> Disagreeing and/or critiquing Questioning Enacting inclusivity skills (see below) 	A B C D E F	Student may: <ul style="list-style-type: none"> speak too fast; or too quietly use excluding, localised English use inappropriately individualistic or disrespectful language when challenging or questioning others, or when enacting some group management strategies.
Group management strategies (10%) <ul style="list-style-type: none"> Eliciting, encouraging, acknowledging Accommodating reasonable hesitations/silences while less confident speakers are engaging the group's attention Checking understanding of the group when speaking Intervening proactively and compassionately in the excluding behaviours of others, e.g. monopolising 	A B C D E F	Student may: <ul style="list-style-type: none"> tend to monopolise discussion or speak over others Student may make little or no attempt to: <ul style="list-style-type: none"> check the group's understanding (of his/her own research) e.g. when presenting an unfamiliar term/concept get clarification when it is needed during presentations listen to and respond relevantly to others proactively support the efforts of others to contribute effectively to group task achievement.

Comments**First assessor**..... **Second assessor** **Grade:**

In a module of 38 students including white local, black local, ethnic minority local and international students, Mann Whitney and also Fisher tests were run on each student's performance in critical thinking, first in an essay and then in the assessed compassion focussed seminar discussion. Both assignments were set up on the same module and were double marked by the same two subject tutors (not the researcher). It was found that statistically for critical thinking – a key marker of academic achievement – there was no evidence of an attainment gap between BME and local

white students. BME provided a range of data explaining why this was in their views (Gilbert, T. forthcoming).

Conclusion

There are under researched difficulties with the little understood psychosocial processes that unfold in group work amongst students. A major difficulty is that while some kinds of stress may be beneficial, the student stressors explored here in timed, task focussed discussion work are less so according to the literature on thinking processes and acute stress. The evidence explored above strongly suggests that HE may need for some time now to have been rethinking what kinds of competition it promotes in the education of 21st century graduates.

Seminars are key to supporting students in how to work in groups outside the seminar room. They are highly appropriate to a better understanding of how and why compassion has the potential to positively mediate how students work with each other, in terms of social and learning experiences.



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***Faculty Competency Systems: An Empirical Case Study in
Business School Education***

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Abstract

In this paper we identified the faculty competencies in business schools and proposed the faculty competency framework and model based on the theory of (Wrzesniewski and Dutton, 2001) and (Foyol, 2000). Another objective of this study was to examine the role of faculty competencies in business schools and extend the theory of (Wrzesniewski and Dutton, 2001) to business school faculty competencies.

We identified the factors that influence the faculty competencies in Indian Business Schools. We offered useful implications for educational policies, market researchers, and various other stakeholders in business school education.

Keywords: faculty competency, business schools, business school education, faculty, faculty research, India

1 Introduction

The academic rigor, culture, environment in any business school motivates innovative faculty members to be better researchers. Good research promotes introduction of new curriculum and new programs. To enable the business school faculty (BSF) perform consistently and effectively over the years the academic environment needs to be free from threats like faculty promotions, academic culture, too much administrative pressure, the accreditations hassle, strict competitions, appraisal policies, etc. However the faculty research outputs and efforts had been under criticism as of late with some business practitioners even arguing that such research is irrelevant (Bennis and Toole, 2005).

It is believed that the business schools are driven by its traditional role of teaching textbooks based on syllabus that is outdated (Shurman and Louis, 2010). The educational system must fulfill the nations' need to create lifelong learners geared to "add-value" in our knowledge-based economy (Bailie, 2011). In fact, worldwide, the business schools are struggling hard to maintain their faculty brand.

It is believed by the researchers today that research based business education is necessity condition for business practices. The roles of faculty increased from teaching to do research; from researchers to case writers; from consultants to mentors. Furthermore the faculty members actively participate in various administrative positions in business schools from time to time This raises an important argument of creating quality of competent faculty for any business school to maintain its brand value. The important factors like personality, ability, knowledge and skills play an active role in determining the competencies of the faculty. They are required to generate skills to sustain in the world of collaborative alliances between business schools and industry (Ranjan and Tripathi, 2010).

Our research makes three important contributions. First, we explored competence based management system for faculty in business schools. Second, we established the empirical framework and factors influencing faculty members. Third, we offered theoretical implications stake holders related to academic and cooperates. We believe our findings will be useful to educationist, researchers and faculty for utilizing the faculty for business school development and industry research.

2 Literature Review

The faculty members take enormous challenges, in terms of contents and web based technologies, to understand and implement research teaching into integrated educational practices (Mason, 2003; Hramiak, 2005; Bailie, 2011). They pursue scholarly academic research sometimes even in the absence of explicit financial returns, existing empirical evidence. This suggest that research and economic value creation for students are at least correlated (Friga et al., 2003; Mitra and Golder, 2008; Rindova et al., 2005). Although the correlation may seem to be spurious but in reality of any BSF research activity vis a vis student value creation does show an impact on the ranking and image of the business school. The teaching paradigm for faculty to help students in finding place and purpose becomes utmost important (Chambers and Tony, 2002). There is a need for creating the bridge for the future by preparing faculty to face new challenges (Austin and Ann, 2002). (Chambers and Tony, 2002) analyzed the teaching paradigm for the development of faculty to help students in finding place and purpose. (Austin and Ann, 2002)

identified the need for creating the bridge to the future by preparing new faculty to face changing expectation in shifting. (Braskamp and Larry, 2000) studied a holistic approach to assess faculty. (Dragenidis,2006) implemented An ontology based application that can be used for the competence management. There were many related studies (Jayanthi Ranjan and Pooja Tripathi, 2007), (Jayanthi Ranjan and Pooja Tripathi, 2008), (Pooja Tripathi and Jayanthi Ranjan 2013), (Jayanthi Ranjan and Pooja Tripathi, 2011), (Jayanthi Ranjan and Pooja Tripathi, 2010) with respect to competency management studies in India with educational perspective.

3. Research Design and strategy

The research framework includes (1) obtaining competencies of faculty (2) understanding faculty roles and making a theoretical foundation (3) obtaining factors (6) validation and discussion.

The exploratory type of research has been conducted to understand the significance of faculty competency management system and its underlying factors. The approach carried during the first phase of research is shown through the various steps which resulted in formulation of factors (refer figure 1).

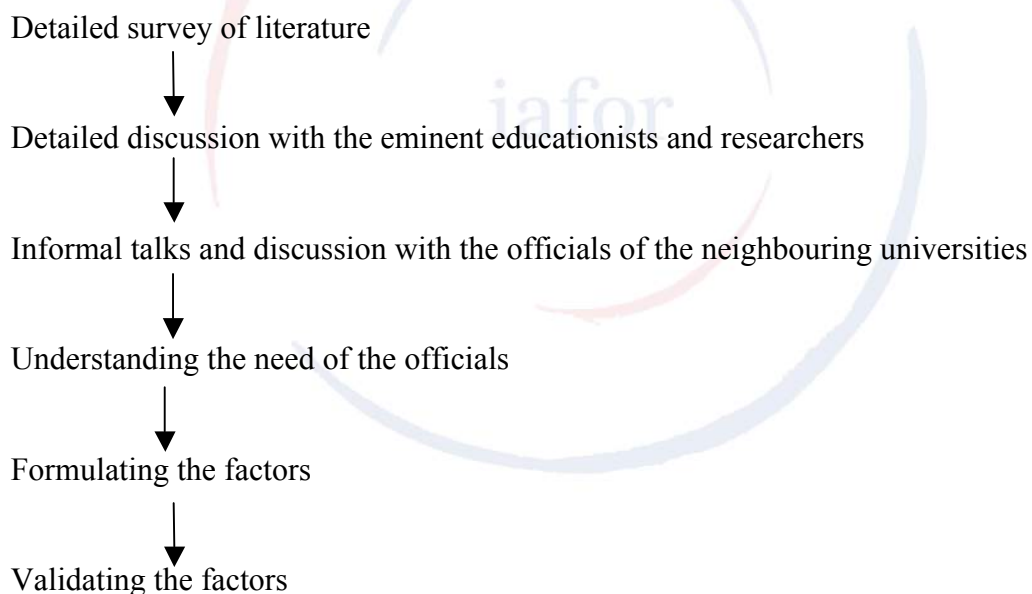


Figure 1: Steps carried during research

In order to identify prototypical faculty dimensions, we obtained a list of 16 variables that can influence a BSF. These elements were the basis for identifying Competency based Management (CBM) process and quality in higher education system. We integrated the feedback of many academicians, and various educational consultants, and various competence management consultants from different educational institutions and organizations to provide effective framework for the CBM, refer figure 2.

There are studies on the qualitative research method on business schools' content analysis techniques on higher education (O'Brien et al., 2010; Tian et al., 2005). First, we wanted to find factors that influence faculty members to do research. We proposed the faculty competency framework and model based on the theory of (Wrzesniewski Amy and Dutton Jane, 2001) on job crafting. Another objective of this study was to examine the role of

faculty competencies in business schools and extend the theory of (Wrzesniewski Amy and Dutton Jane, 2001) to business school faculty competencies (BSFC). A number of theories have been proposed and developed in the past with regards to competencies. Our work is based on the theory of Wrzesniewski and Dutton, 2001 and (Fayol, 2000). We defined Business school faculty competency (BSFC) on the lines of (Wrzesniewski and Dutton, 2001) who defined job crafting, as the physical and cognitive changes individuals make in the task or relational boundaries of their work. Thus we studied in this work how, when, and why BSF are likely to craft their jobs and roles, and how this will have impact on their identities and work meanings. For this purpose we assumed the principles of (Fayol, 2000) and designed 16 roles for faculty.

A five-point likert scale questionnaire was prepared for BSF. The faculty members were asked to rate these 16 elements on a five point scale ranging from 'Least Important' to 'Most Important' and were used to study participants' assessments of individual attributes and values. Each questionnaire was provided individually to the faculty members through personal meetings and focus group interviews. A brief introduction about the research study was mentioned in the questionnaire which specified that the interest in their perceptions of what they think the competent faculty should have. The survey consisted of two parts: the first section gathered some simple demographic data like age, education, gender, teaching experience and other work responsibilities and so on, followed by the second section which consisted of a list of competency attributes to be evaluated by the participants. This section entailed attributes of the job itself as well as the environment and the physical location of the work place.

The data have been gathered from sample of 252 faculty members, consisting of Lecturers, Senior Lecturers, Assistant Professors, Associate Professors, Professors and Deans of business schools in Northern India.

In order to determine the minimum number of factors that would account for the maximum variance in the data collected, we used multivariate techniques – factor analysis. Factor analysis is a general name denoting a class of procedures used for data-reduction and summarizing. It is employed in our study for the purpose of analyzing the data. The Principal Component Method is considered appropriate and the data is analyzed by using SPSS, version – 17. For this reason the results of the factor analysis using Principal Component Method are found out. Results of three factors being extracted from the data collected. Only factors with Eigenvalue(s) greater than 1 were retained and others were ignored. By comparing the Varimax Rotated Factor Matrix with Un-rotated Factor Matrix (entitled as component matrix), rotation has provided simplicity and has enhanced interpretability. From the rotated factor matrix the factors have been extracted and listed.

4. Theoretical foundation

Motivation to craft a competency is more likely to spark crafting of competencies as faculty perceive that opportunities for competencies exist. Perceived opportunity to craft a competency refers to the sense of freedom or discretion faculty have in what they do in their competency and how they do it. Like other opportunity perceptions, opportunities to craft competency are psychologically positive, since

they imply a form of control, a sense of possible gain, and some sense of ability or means to act as described for employees and jobs by (Jackson & Dutton, 1988; Lazarus & Folkman, 1984). Thus, motivated faculty are likely to assess opportunities for all competency crafting at work before crafting their competencies.

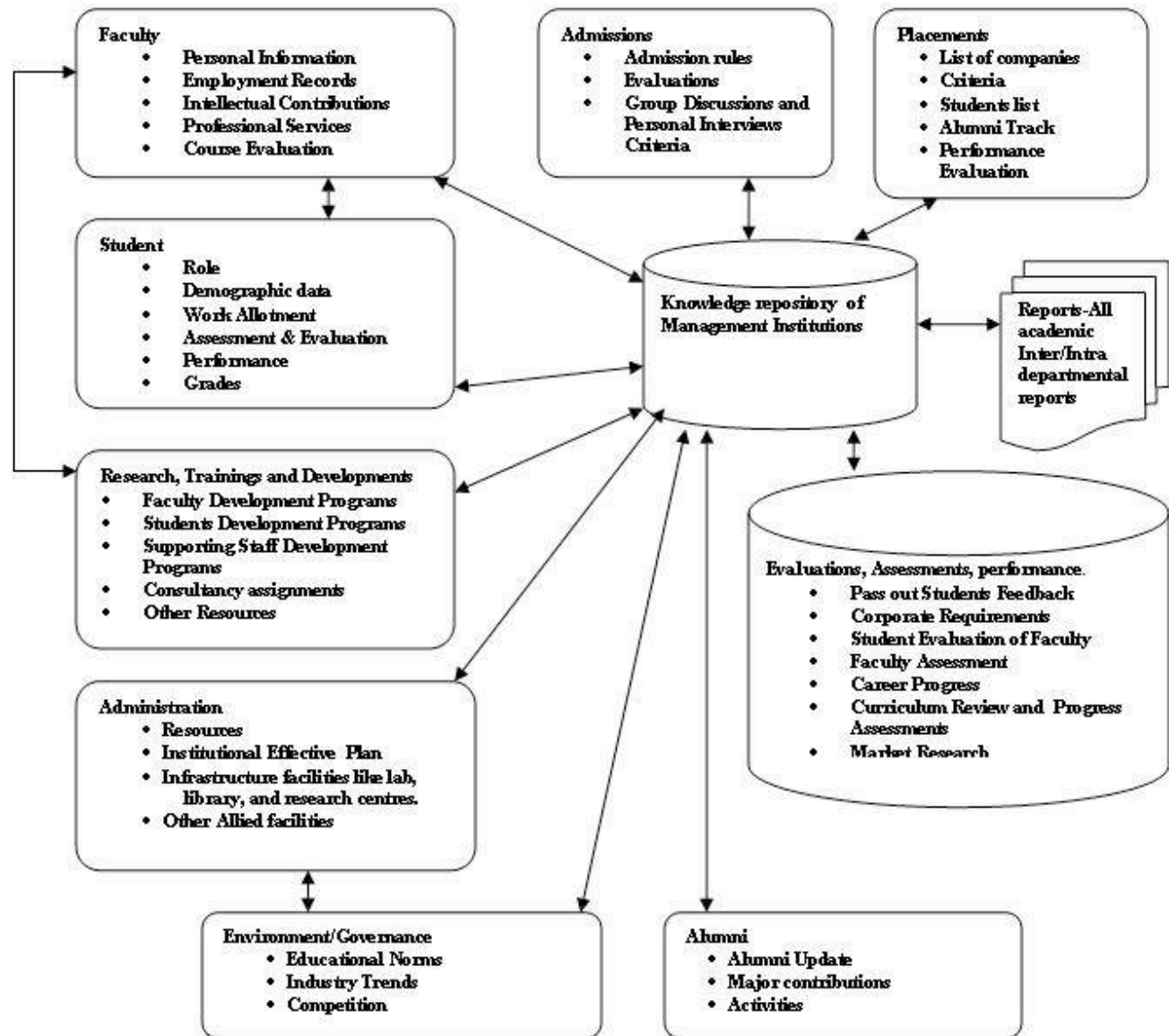


Figure 2: Competency based management framework adopted from (Ranjan Jayanthi and Tripathi Pooja, 2009).

Our CBM model that we defined in fig 2 sets forth the basic contribution to the type of competency roles that one business school faculty need to have, both of which are tied to the actual design of their work: (1) the level and form of task interdependence and (2) the level of discretion or freedom to competency craft implied by monitoring systems in the competency.

In any business schools, faculty work with more or less task interdependence built into their work. This faculty competency is similar to the task defined by that states the extent to which the items or elements upon which work is performed so that changes in the state of one element affect the state of the others. Faculty engaged in

competencies with higher degrees of interdependence are yoked more strongly to the timing and competencies of others, restricting the degree of possible task alterations, how the faculty perform using their competencies, and with whom they interact along the way. Thus, those with more task interdependence work under more constraints and have less freedom to alter task and relational boundaries as a result.

For example, a faculty who is bound to have institutional administration as competency cannot bring drastic changes and is constrained to work under limitations. Whereas a faculty whose competency is teaching, instructing or researching is free to experiment different methods of innovation.

In effect, the more task interdependence an faculty has, the more degrees of freedom he or she has to competency craft. Team work in business school is very crucial. In contrast, a faculty with higher competency that require little task interdependence with coworkers (e.g., collaborative teachers, joint consultants, joint authors) has more latitude to alter the task and relational boundaries of the competency. Thus, we expect more interdependence with their colleagues creates more freedom for crafting, enhancing the perceived opportunity to competency craft.

Also, closeness of monitoring or supervision by business school promoters may affect whether faculty perceive opportunities to their competencies. In teaching competency in which faculty closely control and limit everything as per time and schedules, this type of competency crafting is likely to be both high in visibility and less welcomed. When faculty have many competencies like ability to be a good teacher, very good researcher, brings consulting opportunities, communicates and well behave with their peers and colleagues and students such "super faculty" may perceive other competencies to be least important.

We argue that when faculty' competency are explicitly defined and controlled, faculty may see more opportunity for crafting activities. This contradicts the job crafting model defined by changing any one of the roles the BSF can alter the design of the job and the social environment in which he or she works. By BSFC we mean how individuals define themselves at school similar to "work identity" defined by (Wrzesniewski and Dutton, 2001). As indicated by (Ashforth and Mael, 1989) while such identities cannot be changed at will, faculty claim high and low about them and why competency matters them in business school work place. Work identification, like business school identification, assumes correspondence between how individuals define themselves and how they define their work (Pratt, 1998).

While faculty interact, what role do they play and which role is more effective is important. For example if a faculty is changed from one role to another, say from alumni chairperson to research chairperson then the meaning of the job and the identity and role change as well. We believe changing roles have huge effect on the faculty competencies but we have not measured it the effectiveness of each change in each role in this paper. We identified the necessary roles for a faculty which drives the value of their competency.

The defined competencies for BSF if utilized effectively would lead to enhanced meaning in the work and BSF in fact would feel responsible. These competencies should be the prime parameter for faculty appraisals and promotions. We assert

autonomy in the competency leads to perceived opportunities for BSF and encourages faculty to alter the task and relational boundaries of their competencies. This argument suggests that there are contradictory forces at play in the modern workplace that might affect competency crafting patterns. In Table 1 we present 16 roles of BSF competencies.

Managerial implications

Our model competency identification for BSF offers significant contribution on how business school think about and study their BSF. With our model of CBM, we contribute to theories of BSF design by offering a new perspective on how competencies are constituted. We have specified the motivations, job, and individual features that create situations making CBM for BSF possible. The process we propose opens up different pathways for understanding how people channel their competencies and effectively shows that BSF can be competent designers of their work. This means BSF are more argentic than typically depicted in theories of job design. Rather than paint BSF as passive recipients of job tasks or of social information about job tasks, our CBM model indicates that BSF need to define their CBM roles for their jobs and use the feedback from these definitions to further motivate their CBM.

BSF competency and the roles are neither inherently good nor bad for business schools. The degree to which BSF competency contribute to school branding , performance and it depends on the kinds of changes BSF make and on their roles We had in this paper suggested that BSF competency and their roles are one route by which BSF alter the meaning of work and forge new identities.

If these meanings and identity constructions motivated behaviors that aligned individual work patterns of BSF, then BSF 's CBM could be a net positive for any business school. However, if BSF competency altered connections to others or task boundaries in ways that were at odds with school objectives, then BSF competency might harm rather than enhance school effectiveness. BSF competency effects on schools that are also dependent on the systems in which individuals work.

There are important managerial implications of BSF competency crafting. These implications are both empowering and disempowering for BSF wishing to affect BSF competency.

To produce global leader, the mission of BSF is to provide students with the right mental and technical skills that are needed for their lifetime careers in business administration. Here BSF plays a very important role. In India, every business school generates information about students, courses, faculty and staff that includes managerial systems, organizational personnel, lecture details, quality research and so on. This useful information, which serves as a strategic input, is very useful in improving the quality of the teaching of the faculty member and thus the quality educational process. BSF competency should be envisaged to be a special breed. A qualified BSF understands business situations and can correctly incorporate them into the learning process.

Without an effective way to brand the business school information collected information about BSF often go under-utilized. Parts of a collection can remain

untapped for years, and the larger it grows, the more difficult its management becomes. Unfortunately, improving this usually comes at a cost – at a time when budget cuts have forced most of the faculty either quit or develop in-house research without exploring industry requirements. Each time the senior management and leadership change, it would have an adverse impact on faculty performance and roles. Lifelong learning as per (Aspin & Chapman 2001) is concerned with promoting skills and competences necessary for developing general capabilities and specific performance in work situations. This suits rightly for faculty skills and competences as lifelong learning are vital for faculty performance in their tackling of precise job responsibilities and how well they can adapt their general and particular knowledge and competences to new tasks (Aspin & Chapman 2001).

In India, around 3500 business schools generate information about students, courses, faculty and staff that includes managerial systems, organizational personnel, lecture details, quality research and so on. The BSF's CBM unfortunately are not focused. The authors emphasize that the developed framework would only serve as a reference or self-checking mechanism and would not bring a 'miraculous change or transformation' in business schools. By setting up faculty competency parameters and awarding and rewarding faculty would not lead to faculty research outcomes. It needs clear documentation, consistent performance, should be aligned with mission and vision of the institute.

5. Competence Management for BSF

The competency of BSF can be accessed through knowledge behavior, administrative skills, institutional development activities and research contributions. We defined the roles of BSF in table 1 based on these roles we evaluate the faculty competencies. One may fulfill the knowledge criteria by satisfying the relevant subject knowledge and getting a great feedback received from students; but the faculty may lack in other competencies such as research, consultancy, institutional development activities etc. Table 1 defines the roles and responsibilities of the faculty members developed by the authors.

Table 1: Faculty Roles and their description

S. No.	Faculty Roles	Brief description of Faculty roles
1	Administrator /leader	understanding the various administrative tasks that are associated with the implementation of education, training and development activities. Need to provide the role of director, dean, chairperson, leadership, guidance for projects, alliances, partnerships, act as a chairperson to any academic domain. For example, chairperson of international relations, alumni committee, students affair council, research etc
2	Consultant	Faculty role as a consultant pulls more opportunity for industry institution interaction. It promotes more research opportunities. Faculty role as a consultant brings more value to the classroom. All faculty need to display academic excellence in classes. He/she has to undertake consultancy assignments and work towards bringing/engaging students using standard industry practices to IT companies, area specific companies.
3	Problem Solver	Seeing organizations as dynamic, political, economic and social systems which have multiple goals, using this larger perspective as a framework for understanding and influencing events and change. Faculty effectively organizing workshops, seminars and conclaves and educating issues.
4	Teacher	A faculty constantly needs to update himself/herself by attending various advanced educational programs like post doctoral, training programs, keeping abreast of new information and hence sharing the same with students. With primary objective of knowledge dissemination and knowledge sharing.

5	Executor	All business school faculty need to display leadership skills in the sense while taking class, organizing events, in bringing training programs to institutions, in discussions and debates , one has to display enormous amount of leadership skills. All administrators may not be leaders. But all leaders have to display administrative skills. All administrators can be leaders if they hold a particular positions and need to maintain a high degree of professional leadership qualities.
6	Mentor	The role of business school faculty will not be complete he he/she does not mentor students in nurturing and shaping in good direction.
7	Editor/ Reviewer	For any business school faculty becoming a editorial member, editor or associated as reviewers to any good refereed journals in the world is a proud moment, it not only yields heavy networking contacts, it promoted up to date knowledge of processes, both industry and institutional developments in the world. Faculty roles in editing, reviewing journals adds value to the development of action based research , this exposes to world's different views of papers on the various issues of management.
8	Researcher	selecting, developing and using methodologies, statistical and data collection techniques for a formal inquiry. This promoted action based research outcome for both industry and institute
9	Team player	knowing what factors inhibits team effectiveness and what can be done to promote teamwork. In business schools all processes usually are done with teams from different teams. One has to be a good team player to imbibe the vision and mission of each team's objective.
10	Executor	Each tasks provided by a business school to faculty are mostly tasks oriented, the faculty has to perfectly execute. Here the faculty need to display strong common sense and more timely inputs. He / She has to be a good executor
11	Planner	The faculty need to plan almost every operation he or she associated with. She has to plan the course, teaching methods, training programs etc. Here all the planning methods that a faculty prepares need to be innovative, industry based action research oriented, more creative and she needs to deliver the same after planning. Else planning does not have any meaning if it does not delivered or executed.
12	Evaluator	The faculty need to be a true evaluator of all processes like research outcomes, project outcomes, internship methods, alumni relational outcomes, placement processes, corporate linkages, student project evaluations, etc.
13	Examiner	The faculty role as examiner is very crucial in the sense he/she needs to invigilate in exams, assess the performance, examiner the quality of student performance wise as well as behavior wise. She/he has to examiner several proposals (for example related to alliances and partnerships, training and development)
14	Facilitator	planning and coordinating logistics in an efficient and cost effective manner. His facilitations as tutor, evaluator and as such all the roles mentioned, he /she must do that immaturely.
15	Instructor	The business school faculty's primary role is an instructor. Teaching and research originate from this. When the faculty starts teaching research ideas develop. The instruction methods that he/she uses
16	Communicator	The faculty need to bridge the gap between teaching and learning for this he needs to be an effective communicator. For complex educational problems, the faculty has to inspire

Each role of BSF is composed of various behavioral indicators which correspond to five proficiency levels. While B-schools are proliferating towards brand building, there is a growing demand for developing an effective global BSF. The framework proposed, as we believe will be useful for faculty in managing their various roles as described; B-schools should nurture in shaping the holistic behaviour and personality of faculty by investing in research opportunities, management development programmes, training and other pervasive, but less tangible activities, such as the spread and advocacy of new values and ideas. New tools and techniques are

continually being introduced to improve the efficiency, productivity and profitability of any B-school. The key is the ability to integrate BSF data efficiently, and produce world class research and teaching standards that assist the B-schools in achieving its goals and ranks. This is important and essential for showing various government domains, accrediting bodies and other stakeholders who require periodic reports on the overall progress of their schools.

6 Result Analysis and Findings

6.1. Demographic profile of the BSF

The results of the demographic profile of the BSF are presented in table 1. The respondents (252) represented an array of age groups and had maximum age between 31-35 years. Around 60.9 per cent of the respondents were female. The majority of the respondents was having a teaching experience of less than 5 years, followed by 6-10 years. Most of the respondents have done PhD as their highest education (table 1).

Table 1: Demographic characteristic of the respondents

Gender	%	Age group (years)	%	Teaching Experience	%
Male	39.1	25-30	21.9	Less than 5 years	45.6
Female	60.9	31-35	34.3	6-10 years	29
		36-40	26.4	11-15 years	22.2
		41-45	5.7	16-20 years	3.2
		46-50	4.9	More than 21 years	0
		51-55	1.1		
		55-60	0.8		

The content analysis technique was used to conduct focused group interview with the BSF members. The content analysis and the Fayol's Principles (2000) helped to develop a list of 16 attributes of competency for the educational domain. In order to find the most important factors that influence the faculty competency management system of the BSF member's, we have used factor analysis test. Cronbach alpha indicated that the scale was reliable ($\alpha = .945$). Factor analysis is a statistical method used to describe variability among observed variables in terms of fewer unobserved variables called factors. The information gained about the interdependencies can be used later to reduce the set of variables in a dataset. The respondents result for factor analysis (table 3) was extracted by the Principal component method. The total of 100% of variations has been explained by the model. After looking at the rotated component method we reduce the number of variables and group them into three prominent factors. We name the three factors as below:

Factor 1 - Industry Institute Interactions

Factor 2 - Academic and Research forum

Factor 3 - Teaching and Problem solver

Table 3: Factor analysis

Total Variance Explained			
Initial Eigen values			
Total	% of Variance	Cumulative %	
7.875	49.220	49.220	
3.262	20.385	69.606	
1.808	11.297	80.903	
Rotated Component Matrix			
	1	2	3
Active Listener	-.014	.696 ⁹⁸	.077

Adminstrator	.697	.399	.299
Planner_Executor	.148	.104	-.736
Trainer_Counselor	.702	.527	-.208
Examiner_Evaluator	.866	.016	.005
Editor_Reviewer	.283	.742	-.485
ITKNnowledge	.827	.433	.098
Negoti_Facilita	.793	.337	-.266
TeamPlayer_Builder	.753	-.002	.422
Consultant	.577	.685	.314
Leader_Thinker	.302	.875	.128
MotivatorMentor	.345	.853	.088
Communicator	-.428	.252	-.812
ProbSolv	.110	.389	.852
Researcher	.646	.570	.422
Educator_trainer	.143	.402	.866

7. Study Limitations and Future Research

The study was conducted only for 252 respondents. BSFC a huge area and hence the number of respondents is fewer; further research lies in measuring the roles and cross verifying the satisfaction levels. Another research lies in testing the output of BSF if change of roles are done on rotational basis. We believe with increase in the number of respondents approximately to 1000 or more, can help to generate more reliable and clearer picture of faculty competencies and hence knowledge-based economy. We feel that if such systems are employed in the assessment process of faculty in business schools, it will bring remarkable changes in the overall development and the growth in BSF. The model can be used for predicting the competencies required in future use but has not been verified in the current study. Wherever the data was insufficient we have tried to provide logical interpretations.

8. Conclusion and Findings

We summarized prior findings, knowledge flow in business schools and competence based faculty assessment. We described the research methodology and the analysis carried for the study. We explained the theoretical implicates then, reported the findings. We offered important practical and methodological for various stakeholders using competency management system.

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The Contribution of Multicultural and International Education to the Creation of Sustainable Learning Environments Which Support the South African Struggle

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Abstract

This paper conceptualises how an expanded notion of multicultural education could support the achievement of a socially just, diverse and cohesive South African society. Rising ethnic tensions and renewed manifestations of xenophobia are a constant reminder that South Africa has to intensify its efforts to achieve a society which is united in its diversity. In the context of basic education, laudable efforts have been made to overcome challenges posed by cultural diversity in the classroom through multicultural education. In higher education, both in South Africa and globally, the notion of internationalisation of higher education has recognised the contribution of cultural and national diversity to the achievement of educational and specifically, intercultural outcomes. This paper demonstrates that elements of internationalisation may be infused in basic education to achieve multicultural and intercultural learning outcomes in the classroom. It, first, unpacks the principles of social justice, multicultural education and internationalisation. Thereafter, it develops a theoretical framework which allows for an expansion of the notion of multicultural education, which will be reconceptualised to encompass the deliberate creation of diversity in the classroom. Suitable teaching interventions which capitalise on diversity to create sustainable learning environments will be proposed, and opportunities for further research will be demonstrated.

Keywords: internationalisation, multicultural education, diversity, social justice, mobility

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Introduction

Basic education bears a responsibility to prevent social tension in our society and to prepare learners for a brighter future. It is critical for the researchers to write a paper that speaks about multicultural education and internationalisation of education at a time where many would argue that the South African basic education system is in acute crisis. The researchers are convinced that the conceptualisation of novel ways to achieve multicultural and intercultural learning outcomes is of the utmost importance. The expanded notion of multicultural education proposed in this paper will provide a theoretical basis for the development of multicultural and intercultural competencies in learners. We will demonstrate that this can contribute to the advancement of social mobility, and the creation of a coherent and socially just society.

There are three elements to the paper. First, we shall unpack the meaning of and the essential components of social justice, multicultural education and internationalisation. Second, we shall develop a theoretical framework which allows for an expansion of the notion of multicultural education, which will be re-conceptualised to encompass the deliberate creation of diversity in the classroom. Third, we shall briefly consider teaching interventions which would utilise the proposed theoretical approach and lend themselves specifically to realisation of multicultural outcomes in a basic education context. We will conclude by demonstrating the necessity for and further opportunities of further topical research

Basic Concepts

Social justice in the context of South African basic education

Social justice takes a central place amongst the ideals for which the South African society strives. The preamble of the Constitution explains that one of its aims is to 'heal the divisions of the past and establish a society based on democratic values, social justice and fundamental human rights'. Yacoob (2012) remarks in the South African Constitutional Court's landmark *Grootboom* judgement that 'the people of South Africa are committed to the attainment of social justice and the improvement of the quality of life for everyone.'

Social cohesion and social justice have been scrutinised in a recent study by the South African Department of Arts and Culture which was commissioned by the social cluster of cabinet (The Presidency 2014). It observes that 'as a normative term, *social justice* refers to the extension of principles, enshrined in our Constitution, of human dignity, equity, and freedom to participate in all of the political, socio-economic and cultural spheres of society (The Presidency, 2014). The report reiterates the need to even out inequities in the education system and illustrates the inequalities inherent to the South African education sector. Inequalities in the quality and provision of education do not only exist in South Africa, but permeate the education sector, globally (United Nations 2006). The authors are convinced that the inequalities between privileged and underprivileged schools in South Africa constitute a threat to social justice and social cohesion and that the alleviation of this regrettable situation should enjoy the highest priority.

Rather than being a manifestation of social injustices, the education system should support the realisation of social justice. Consequently, the authors consider it

necessary not only to structure interventions which assist in attaining a higher degree of social justice within the basic education system, but also those which transform basic education to become a sword in the fight for realisation of social justice in the country. Should the South African basic education sector fail in this important task, it would fail to make its contribution to the South African peoples' endeavour for social justice.

The Meaning of Multicultural Education

Numerous definitions of multicultural education have been proposed or espoused by scholars, researchers and organisations over the years. Authors and researchers of multicultural education define it differently. The following paragraphs summarise the understanding of multicultural education according to different authors and researchers.

Grant (1977) defines multicultural education as a humanistic concept based on the strength of diversity, human rights, social justice, and alternative lifestyles for all people. He went further to indicate that multicultural education is necessary for quality education for three reasons:

- All efforts to make full range of cultures available to students;
- It views a culturally pluralistic society as appositive force; and
- It welcomes differences as vehicles of better understanding of global society.

Parekh (1986) defines multicultural education as free from inherited biases, with freedom to explore other perspectives and cultures. There is belief that the goal of making children sensitive to plurality of ways of life motivated multicultural education. Multicultural education represents different modes of analysing experiences and ideas and different ways of looking at world history.

Hoopes, Hoopes and Pusch (1979) define multicultural education as a structured process designed to foster understanding, acceptance, and constructive relations among people of many different cultures. Ideally, multicultural education encourages people to see different cultures as a source of learning and to respect diversity in the local, national and international environments. It stresses cultural, ethnic and racial, in addition to linguistic differences. It is often broadened to include socio-economic differences. Multicultural education refers *first* to building an awareness of one's own cultural heritage, and understanding that no one culture is intrinsically superior to another; *secondly*, to acquiring those skills in analysis and communication that help one function effectively in multicultural environments. Multicultural education is also an effort to demonstrate the significance of similarities and differences among groups and individuals within groups.

Pai (1991) defines multicultural education as a life skill and a means by which each individual could learn to live in a progressively effective way by increasing students' repertoire and reconciling divergent patterns so that new and unique approaches to life might emerge. Multicultural education is pragmatic because it teaches students to act in an increasingly diverse society by educating them about other sub-structures and promoting cross-cultural competencies.

Nieto (1992) defines multicultural education as a process of comprehensive school reform and basic education for all students. Multicultural education challenges and rejects racism and other forms of discrimination in schools and society. Multicultural education accepts and affirms the pluralism which students, their communities and teachers represent. Multiculturalism furthers the democratic principles of social justice. In addition, Nieto catalogues seven basic characteristics that further define multicultural education: Anti-racist; basic; critical pedagogy; pervasive; education for social justice; process; and important for all students. When all these characteristics are applied, multicultural education represents a way of re-thinking school reform because it responds to many of the problematic factors leading to school under-achievement and failure.

Nobles (1993) defines multicultural education as an inter-disciplinary education process, and it is not a single programme, whereas Banks (1993) believes that multicultural education is a type of education that is concerned with various groups that were victims of discrimination because of their unique cultural characteristics in American society. These characteristics could be ethnic, racial, linguistic, or gender-based. According to Banks, multicultural education includes studying such key concepts as prejudice, identity, conflicts, and alienation, as well as modifying school practices and policies to reflect an appreciation of ethnic diversity in the US. Banks further states that multicultural education is an idea, an educational reform movement, and a process whose major goal is to change the structure of educational institutions. The process incorporated the idea that all students, regardless of their ethnic, racial, or cultural characteristics, should have an equal opportunity to learn in school. Multicultural education is an on-going process that requires long-term investment of time and efforts as well as carefully planned and monitored actions.

Morey and Kitano (1997) define multicultural education in their own way. They say multicultural education is not anti-majority nor is it embedded solely in only one philosophical tradition. It is an effort to improve education for all students by providing a more inclusive and comprehensive view of reality.

Tiedt and Iris (1999) define multicultural education as an inclusive teaching/learning process that engages all students in developing a strong sense of self-esteem, discovering empathy of persons of diverse cultural backgrounds, and experiencing equitable opportunities to achieve their fullest potential.

Multicultural education is a democratic pluralism that should be used for creating administrative, instructional and curricular models, and it must recognize the existence of discrepancies between idealized and realized democratic values and should educate students towards a goal of social justice.

Bennet (1999) defines multicultural education in four dimensions:

- Centred on the movement toward achieving equality of educational opportunity and equity among all identifiable groups of children and youth, paying special attention to ethnic minorities and the economically disadvantaged;

- The development of knowledge and understanding about cultural differences and the history and contributions of contemporary and historical ethnic groups and nations;
- The process that allows one to develop competencies in multiple ways of perceiving, evaluating, believing and, and doing; and
- The commitment to fight racism, sexism, prejudice, and discrimination. This dimension includes the development of appropriate understanding, attitudes, and social action skills.

Bennet (1999) also defines multicultural education as an approach to teaching and learning based upon democratic values that foster cultural pluralism and added that in its most comprehensive form, multicultural education is a commitment to achieving educational equality, developing curricula that build understanding about ethnic group, and combating oppressive practices.

Gay (2001) found that many multiculturalists agree with Banks, and they argue that multicultural education is a concept, a framework, a way of thinking, a philosophical viewpoint, a value-orientation, and a set of criteria for making decisions that better serve the educational needs of culturally diverse student populations.

The National Association for Multicultural Education (2003) defines multicultural education as a philosophical concept built on the ideals of freedom, justice, equality, equity, and human dignity as acknowledged in various documents, such as the U.S. Declaration of Independence, constitutions of South Africa and the United States, and the Universal Declaration of Human Rights adopted by the United Nations. It affirms our need to prepare students for their responsibilities in an interdependent world. It recognizes the role schools can play in developing the attitudes and values necessary for a democratic society. It values cultural differences and affirms the pluralism that students, their communities, and teachers reflect. It challenges all forms of discrimination in schools and society through the promotion of democratic principles of social justice.

Multicultural education is a process that permeates all aspects of school practices, policies and organization as a means to ensure the highest levels of academic achievement for all students. It helps students develop a positive self-concept by providing knowledge about the histories, cultures, and contributions of diverse groups. It prepares all students to work actively toward structural equality in organizations and institutions by providing the knowledge, dispositions, and skills for the redistribution of power and income among diverse groups. Thus, school curriculum must directly address issues of racism, sexism, classism, linguicism, albinism, ageism, heterosexism, religious intolerance, and xenophobia (The National Association for Multicultural Education 2003).

Multicultural education advocates the belief that students and their life histories and experiences should be placed at the centre of the teaching and learning process and that pedagogy should occur in a context that is familiar to students and should address multiple ways of thinking. In addition, teachers and students must critically analyse oppression and power relations in their communities, societies and the world.

To accomplish these goals, multicultural education demands a school staff that is culturally competent and to the greatest extent possible, racially, culturally, and linguistically diverse. Staff must be multi-culturally literate and capable of including and embracing families and communities to create an environment that is supportive of multiple perspectives, experiences, and democracy. Multi-cultural education requires comprehensive school reform as multicultural education must pervade all aspects of the school community and organization (The National Association for Multicultural Education 2003).

The National Association for Multicultural Education (2003) states that equality and equity are not the same thing, multicultural education attempts to offer all students an equitable educational opportunity, while at the same time, encouraging students to critique society in the interest of social justice.

Gause (2011) defines multicultural education as an educational framework addressing cultural diversity and equity in schools by incorporating different cultural group membership emphasizing the interactions of race/ethnicity, gender, social class, and ability in students' lives.

In our understanding, multicultural education is the way in which tolerance and appreciation of diversity, as a positive force, is imparted to learners who hail from different backgrounds.

Internationalisation

In the higher education context, internationalisation is commonly understood in terms of the definition developed by Jane Knight as 'the process of integrating an international, intercultural or global dimension into the purpose, functions or delivery of post-secondary education' (Knight 2012). Albeit the context of basic education is fundamentally different, this definition has been frequently quoted in the academic discourse relating to internationalisation in schools (Yemeni 2013). While the relevant processes of integrating international, intercultural and global elements may differ in basic education in that, for example, the opportunities for mobility are far more limited, the fundamental insight of the definition is equally valid in this context. Internationalisation encompasses not only international, but also intercultural skills development. It is an on-going process which bears an evolutionary character. While this generally accepted definition is suitable to encompass the entire realm of education, one should consider omitting the reference to 'post-secondary education'. In an increasingly globalised world, the process of internationalisation should not be limited the last segment of education, which is not even reached by all participants in the education system. International and intercultural skills are essential assets for any rounded individual wanting to succeed in the modern world, and internationalisation has a rightful place not only in higher, but also in basic education. In the context of South African basic education, it will be important to focus on the intercultural component and to structure interventions which are suitable to develop the competencies which will support the individuals' integration in an extremely diverse and culturally heterogeneous society.

Goals of Multicultural Education

Multicultural education has its own goals as stated by many authors and researchers. Lynch (1986) opines that the task of multicultural education in a democratic society is

to assist the individual by means of emancipating curricular and educational pedagogies which appeal to and extend rational judgment, to reach out to and achieve a higher stage of ethnic and cultural existence than is the case initially. The rationale for such an achievement is so that there may be sufficient cultural and social overlap for society to function and for discourse across areas of crisis and conflict to take place. In addition to what Lynch elaborates, Banks (1999) argues that individuals who know the world only from their own cultural and ethnic perspectives are denied important parts of the human experience and are culturally and ethnically encapsulated. These individuals are unable to know their own cultures fully because of their ethnic blinders.

Banks (1999) and Gollnick and Chinn (2002) state the following as key goals of multicultural education:

- To help individuals gain greater self-understanding by viewing themselves from the perspectives of other cultures. Multicultural education assumes that with acquaintances and understanding, respect may follow;
- To provide students with cultural and ethnic alternatives;
- To provide all students with skills, attitudes and knowledge needed to function within their ethnic culture, the mainstream culture and within and across other ethnic cultures;
- To reduce the pain and discrimination that members of some ethnic and racial groups experience because of their unique racial, physical, and cultural characteristics;
- To help students to master essential reading, writing, and computation skills; and
- To help students affirm cultural differences while realizing that individuals across cultures have many similarities.

Banks (2006) as quoted by Wills and De Nicolo (2007) further stated three broad goals of multicultural education:

- To uncover the epistemological assumptions of mainstream academic knowledge and to make them public;
- To reveal how the lives, cultures, and positionality of researchers influence their work; and
- To construct paradigms that will enhance the academic and social achievement of students from diverse cultural, ethnic, low-income, and language minority groups.

In addition, Davidman and Davidman (1997) state the following goals of multicultural education:

- Educational equity;
- Empowerment of students and their parents and caretakers;
- The development of a society that values cultural pluralism;
- Inter-cultural/inter-ethnic/inter-group understanding in the classroom, school, and community;
- Freedom for individuals and groups;

- An expanded knowledge of various cultural and ethnic groups; and
- The development of students, parents, and practitioners (teachers, nurses, journalists, counsellors, principals, custodians, documentary producers, bus drivers, curriculum coordinators, etc.) whose thoughts and actions are guided by an informed and inquisitive multicultural perspective.

Banks (2006) added goals of multicultural education and states them as follows:

- To help individuals gain greater self-understanding by viewing themselves from the perspectives of their cultures;
- To provide students with cultural, ethnic, and language alternatives;
- To provide all students with skills, attitudes and knowledge needed to function within their community cultures, within the mainstream culture, and within and across other ethnic cultures; and
- To reduce the pain and discrimination that members of some ethnic and racial groups experience because of their unique racial, physical, and cultural characteristics.

This paper considers it to be the core purpose of multicultural education to facilitate students' development of cultural humility, appreciation of fellow learners' cultures and guiding them to embrace their unity in diversity. It enhances multicultural and intercultural competencies, contributes to achieving social cohesion in the learners' communities and counteracts prejudice, including bias on the basis of race, culture, nationality, socioeconomic status.

The goals of internationalisation

In the context of higher education, the core rationales quoted for internationalisation include the following: a) acquisition of international and intercultural skills by students to prepare them for global citizenship, competing in the international knowledge society and success in the international network society; b) the advancement of transformation through fostering diverse institutional cultures; c) the enhancement of the process of knowledge production through interaction with the international scientific community and d) institution-building. Recently, the International Association of Universities was amongst those reminding the academic community that solidarity and equity of access and success have an important place amongst the purposes and goals of internationalisation (IAU 2012). The first two objectives, together with the two additional aspects emphasised by the IAU, are highly relevant to the South African basic education environment.

Acquisition of international and international skills is an essential part of the preparation for later careers or tertiary education. All workplaces, including those in less skilled work environments, are becoming increasingly globalised. For example, fitters often have to work as part of international teams or travel to international sites for their employers.

Learners need to be sufficiently prepared for higher education, where students are often already exposed to international opportunities in their first semester and have to stand their ground in the midst of an increasingly growing and frequently academically strong international student contingent. Tomorrow's generation of academic leaders has to be capable of producing relevant knowledge of universal

validity to fulfil vital needs of the interconnected knowledge society and to find answers to the pertinent global challenges including social justice, food security and climate change. The researchers agree with Deardorff's understanding of intercultural competency as the competency to reflect 'effective and appropriate behaviour and communication in intercultural situations'. Specifically, they serve the following purposes:

First, they promote intercultural understanding in the classroom, which, in turn, results in the creation of a stable learning environment. Often, South African classrooms are composed of children who do not only differ in their skin colour, but more distinctively, in their home culture, their mother tongue and their social background. Only if they learn to appreciate their cultural diversity, view it not as a reason to socially exclude "weaker" groups but as an asset which enriches their experience of the world, can successful acquisition of skills and knowledge take place in a multicultural environment.

Second, intercultural competencies create the basis for social mobility. The stark reality of present-day South Africa is that the social class from which a scholar hails can limit her or his opportunity to realise the person's inherent intellectual potential. Amongst the most limiting factors experienced by young people growing up in South Africa may be the layer of identity created by belonging to a social class. While this appears not yet to be the predominant layer of identity, it clearly limits a person's ability to advance in life, especially in that it has the potential to create insecurity when interacting in a different class context, as is often required when aspiring to compete for advanced vocational or educational opportunities. The researchers argue that it includes the competency to securely act in a social context different to the one from which a person hails and contributes to social mobility in that it allows students hailing from poor backgrounds to overcome the limitation of their social origin.

The intercultural aspect of internationalisation is probably the core of internationalisation of basic education. It is a core contributor to the attainment of international competencies, and at the same time, an essential element to the creation of sustainable learning environments in multicultural societies.

Theoretical Framework for Multicultural Education Infused by International Interventions

From the above analysis, it is evident that multicultural education has a strong conceptual overlap with internationalisation of education. Both concepts include a focus on the acquisition of intercultural competencies. Both aim to promote core values relevant such as equity and social justice, albeit admittedly, counter-forces are present in the realm of internationalisation.

However, the conventional understanding of multicultural education focuses on utilising existing classroom diversity as the basis for the achievement of intercultural outcomes. Sometimes, teacher diversity and plurality are added, but little attention is devoted to consciously enhancing student diversity to achieve the desired outcomes of multicultural education. Furthermore, the present approach to multicultural education does not yet embrace the notion of preparing learners for global citizenship as well as the ability to compete in a globalised employment market, which in the researchers'

view should be recognised as important additional outcomes of multicultural education.

The researchers argue that select elements of the process of internationalisation should be infused to the traditional understanding of multicultural education. Intentional interventions should enhance classroom diversity, and international dimensions should be infused into curriculum design and teaching practice. Engagement with international partners may provide additional leverage for improving quality of teaching and learning in basic education and achieving intercultural learning outcomes.

Possible Multicultural education / Internationalisation interventions

In higher education, the traditional canon of internationalisation interventions focused on inter-university partnerships, mobility through student and staff exchanges and, later on, the presence of international students and staff. Rightly, one will argue that those interventions are generally not suitable to the basic education environment, bar for some elite schools. However, the focus of internationalisation has shifted in recent years, and the interventions which, nowadays, are perceived as core to the process include those which are perfectly suitable for the basic education environment, and have limited resource implications, as discussed below:

Internationalisation of the Curriculum

At the core of the possible interventions in basic education are curricular interventions. Internationalisation of the curriculum has been defined as “A curriculum with an international orientation in content and/or form, aimed at preparing students for performing (professionally/socially) in an institutional and multicultural context and designed for domestic and/or foreign students”

In the basic education context, internationalising the curriculum could take various forms. First, a focus should be on generating awareness for cultural diversity and instilling a culture in learners to appreciate culture. Relevant content on local cultures, religions and traditions can generate a sense of appreciation for different cultures, and prevent notions of cultural superiority. Equally important is a focus on learners’ own culture. Ethnic and cultural groups such as Sotho, Indian, Zulu, Xhosa, Afrikaans and Coloured share settlement and school catchment areas, and teaching for cultural diversity can pull on the different contexts of the learners in the classroom.

Second, in disciplinary teaching, it is important to include international and intercultural perspectives. For example, in history, the focus should not only be on South African history, but should also include a focus on, say, Chinese, Indian and European developments. In the same vein, it would be important to sensitise learners that depending on one’s perspective, the same issue can be viewed in different ways. Source materials from various national contexts can be used. It would also be appropriate to include indigenous South African perspectives, such as a focus on indigenous knowledge systems where relevant.

Third, exposure to modern foreign languages in basic education can lay a sound formation for later development of the relevant skills. It would be important to overcome a Eurocentric language training focus and include significant modern

languages such as Chinese or Swahili which are relevant to the trade relations of South Africa in the programme.

Short-term mobility and activities cross-cutting sections of South African society

South Africa is privileged in that it boasts an almost unique cultural diversity in its society. Joint activities, such as sporting activities, and short-term exchanges between schools in different contexts can assist in developing intercultural skills. This can be underlined with school partnerships; in fact, partnerships between schools with socially different catchment areas could be valuable.

Virtual mobility

Modern technology such as videoconferencing or Skype-conferencing can facilitate the development of novel pedagogic concepts such as 'global classroom' approaches. Technology has made it possible to conduct classes with participants hailing from different continents. South African schools could look at, for example, conducting discussion groups with schools in other parts of the world.

International development projects

Leverage can be drawn on international stakeholders who take a particular interest in South Africa. For example, various South African universities partner with the University of Warwick in the United Kingdom to deliver 'Warwick in Africa' in South African high schools across the country. Young Mathematics and English teachers and senior students from the University of Warwick volunteer to provide tuition in disadvantaged schools using novel teaching methods. At least in one of the participating universities, the University of Venda, the programme has been expanded to include South African student team teachers, which generates a more sustainable engagement with the international teaching practises. Furthermore, 'Master Classes' are provided by experienced educators from the United Kingdom for teachers in the participating high schools, and selected teachers visit the United Kingdom. The involvement of the rural-based University of Venda follows an initiative of the DHET, and an initiative of the said university has resulted in the involvement of local students. The case demonstrates the importance of including strong local stakeholder, e.g. universities, to act as a catalyst for the development initiatives.

Conclusion

The researchers argue that multicultural education is laudable, but that select elements of the process of internationalisation should be infused to the traditional understanding of multicultural education at the basic education level. This has potential to make a meaningful contribution to the struggle for social justice and realisation of the human right to education in South Africa.

Recommendations

Multicultural education and internationalisation have the potential to promote social justice, racial and class integration and social mobility. South African schools, particularly those including disadvantaged catchment areas, have to compensate for the students' lack of external exposure. This intensifies the urgency to foster international and, specifically, intercultural skills. It is imperative for the employability of matriculants, their success in tertiary education and their empowerment for intellectual and global citizenship that by the time they leave schools, they have acquired basic intercultural competencies. The process of infusing

international and intercultural elements into education assists and fosters an appreciation of diversity of thought and a deeper understanding of the complexity of matters. Moreover, intercultural competencies in learners can make a core contribution to creating a learning environment which, as Dr. Nkoane has put it, 'aims at enabling all learners to explore and exploit their potential to the fullest'. This, in turn, is a core element to realising the constitutionally guaranteed human right to education and making the constitutionally entrenched notion of social justice a reality.



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Students with Foreign Origins in Italian IVET - Initial Vocational Education and Training: Pathways for Integration

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Abstract

The paper presents the results of the research: “Students with foreign origins, vocational training, employability and active citizenship” (2013) developed through a quantitative survey with the self-administration of a questionnaire to an audience represented by 1840 pupils with foreign origins and 1835 native pupils, aged 14-19, in 124 Centers for Initial VET in Italy. The presence of students with a foreign origin in the Italian educational system is an emergent issue, both in the fields of sociology and educational studies. Although we have data and analysis on the presence and integration of foreign students in the school system, there is still much to explore and deepen in the domain of the Initial Vocational Education and Training-IVET, even considering that the presence of students with foreign origins in our educational system is equal to 30.3% nationally (in general education and IVET), with a large geographical variance, from 5% for the South and Islands, to 38% in the North West (33% in the North-East, 24% in the Center). This research therefore has the objective of analysing the phenomenon of the presence of students with foreign origins in the initial vocational training, with reference to the following issues: expectations and characteristics of students with foreign background; presence of support services; presence of activities promoting the transition to working life and to the full exercise of citizenship; use and command of Italian as Second Language. Moving from the research evidence, some policy recommendations are presented

Keywords: Young people of foreign origin; Italian Initial Vocational Education and Training

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Introduction

The main critical issue for our country is the extreme heterogeneity of the drop out rates in the different regions: 37.1% of 18-24 years-old drop-out in upper secondary school are resident in the South (in 2010-2011).

The ISFOL¹ research on the outcomes of IVET in 2014 (“Occupati dalla formazione. Seconda indagine sugli esiti occupazionali dei qualificati nei percorsi di IeFP – Employment and Vocational Training: second survey on occupational outcomes of qualified young people” in IVET, ISFOL 2014) reveals that it’s especially in the transition from the first to the second year of upper secondary school that the drop out rates grow, with a high proportion of students from the first year of Vocational Schools and, to a lesser extent, from Technical Institutes, which do not pass to the second year. In the ISFOL 2014 survey it is demonstrated that many of the young people who leave the Vocational or Technical schools are then “rescued” within the Vocational Training agencies, which provide curricula aiming at delivering qualifications in the IVET system (from 2010-11 the IVET offer delivered in the VET agencies concur to compulsory education). The IVET curricula delivered in the training agencies are particularly appealing for this peculiar audience, the drop out component, attracted by didactic styles connected with a “learning by doing” approach, and in need of support and accompanying strategies, as witnessed by those who have attended a IVET education path in the training agency (ISFOL 2014) in terms of satisfaction and success.

Moreover, 3 years after qualification, 50 % of the qualified students in IVET delivered by the training agencies have already found their first job, thus performing better than students qualified in education path delivered at school: in this latter case the rate diminishes at 38%.

Data show that students with foreign backgrounds are one of the categories most at risk of early school leaving in Italy. Many students with a foreign background enroll in three-year courses of Initial Vocational Education and Training: 38.5% of students with foreign background, choose IVET at school and 39% choose IVET in training agencies, only 23.5% enroll in the *licei* (higher education focusing on humanities), while 44% of the Italian young cohorts of the same age choose the *licei* offer, 33% IVET in School and only 19% IVET in training agencies. ISFOL estimated that young people with foreign background enrolled in IVET are 15% of the whole population of students, with the highest presence in the North-East.

The methodology

The research was carried out by ISFOL in 2013-2015 (*Gli allievi di origine straniera nell'IeFP – Students with foreign background in Initial VET*, ISFOL 2014) on students with foreign background in IVET: nearly 4000 students, native and with foreign background were involved in the survey. 124 vocational training institutions in Lombardy, Veneto, Emilia Romagna, Tuscany, Latium and Sicily were reached. 3675 questionnaires have been used for the analysis, of which 1840 were filled in by students with a foreign background. Of this latter sub-sample, 149 pupils had a

¹ ISFOL is a public institute of research on VET and Labour Market, supervised by the Italian Ministry of Labour.

foreign parent and one parent born in Italy (8.1%); 488 were students born in Italy, from foreign parents – G2 (26.5%); 212 were pupils arrived in Italy when they were less than 6 years – G1.75 (11.5%); 541 were students arrived in Italy when they were between 6 and 12 years - G1.5 (29.4%); 434 were students arrived in Italy when they were between 13 and 17 years G1.25. Only 16 (0.9%) questionnaires were compiled by pupils arrived in Italy at the age of 18 or more – G1, (for the definition of G2; 1.5; G1.75; G2, see Rumbaut, 1997) this quota being statistically not significant it has not been considered in the detailed analysis. (see Tab. 1).

Tab 1.– Students with a foreign background interviewed, according to the migratory generation

	Sample size	%
Students with a foreign parent and one parent born in Italy	149	8.1
Italian foreign students born in Italy G2.0	488	26.5
Students arrived in Italy when they were less than 6 years G1.75	212	11.5
Students arrived in Italy when they were between 6 and 12 years G1.5	541	29.4
Students arrived in Italy when they were between 13 and 17 years G1.25	434	23.6
Students arrived in Italy at the age of 18 or more – G1*	16	0.9
Total	1840	100.0

*This quota being statistically not significant it has not been considered in the detailed analysis

Source: data elaborated by Isfol, 2015

The core topics were: family situation and the migratory pathway; studies and training; satisfaction with the choice of VET and integration within the training centres; prospects and expectations regarding employment; linguistic and social integration outside the training context. The questionnaires were administered by ISFOL during the months of April-June 2013. The survey was financed by the Italian Ministry of Labour.

Choosing the VET pathway: a forced choice or a matter of vocation?

56.3% of the students with a foreign background attended compulsory school in Italy (this is the case especially for young people from extra-EU European countries), 24.1% started compulsory school abroad and ended in Italy (the bulk of whom come from North Africa), 10.8% attended primary and middle school abroad and obtained their middle school diploma in their country of origin (mainly students from sub-Saharan Africa). None of the pupils, with foreign background, had Italian citizenship. It seems that enrolling in a vocational programme is a more frequent choice for students with a foreign background, since more than half of them (56%) enrolled immediately in a vocational training institution after obtaining the middle school diploma compared with 43.9% of children of natives. The latter mostly accessed VET after failing enrolling in another schooling programme. In addition, students with a

foreign background are more likely to report good or very good marks at the middle school diploma: 13.5% of them report such marks compared with 10.4% of children of natives.

Only 20.8% of students with a foreign background report having participated in orientation initiatives, not so different from the 23.7% of Italians. It is remarkable that 19.7% of pupils with foreign background (with a significant participation of the female universe: 20.3% versus 15.9% of boys) and 17.7% of Italians have used Internet to seek information on VET provision in their territories. 42.2 % of Italian and 40.3% of pupils with foreign origins say they decided alone without asking to anybody.

Italian as second language (L2)

The table below shows that the percentage of students attending Italian courses as second language tends to increase with the age at arrival (from 21.9% to 56.2%). However, 21.9% of young people arrived in Italy between 13 and 17 years old report not having attended any Italian course.

Tab. 2 – To learn Italian, did you attend Italian as second language courses? (%)

	Migratory generation				
	Students with a foreign parent and one parent born in Italy	Italian foreign students born in Italy G2.0	Students arrived in Italy when they were less than 6 years G1.75	Students arrived in Italy when they were between 6 and 12 years G1.5	Students arrived in Italy when they were between 13 and 17 years G1.25
yes, organized by the school that I attended before the CFP	7.7	21.2	10.8	33.9	49.0
yes, organized by the CFP that I attend now	0.0	3.6	1.8	2.0	10.4
yes, organized by associations or other bodies	0.0	6.1	1.8	4.7	11.2
no, I have not attended any courses	61.5	56.2	79.5	54.9	21.9
no answer	30.8	12.9	6.0	4.5	7.5

Source: Data elaborated by Isfol, 2015

The questionnaire contained a question about the knowledge of Italian (speaking, reading and writing competence), a self-assessed measure which can give the representation of the perceived easiness in the everyday use of Italian. In the comparison between pupils with foreign background and Italians, as far as speaking and reading is concerned, there is no great difference: in both cases more than 90% of Italian and students with foreign origins declare to be good or very good: it is so evident that the 1.25 Generation (arrived when they were between 13 and 17 years old) has reached the native children and those born in Italy from foreign parents or arrived at early stages. More distance is recorded for writing: 8.2% of the students with a foreign background says they are poor or very poor compared with 3.1% of the Italian sample. If we consider into details these data, it is remarkable that 15.8% of the 1.25 Generation (6.9% of G1.5; 3.9% of G1.75; 5.6% of G2.0) affirms to be poor or very poor: a question should be posed whether this generation will be able to recover this important gap after the age of 18, without focused initiatives to avoid their permanent exclusion from an active and full citizenship.

Good practices identified through the survey

The experience of the traineeships (for training purposes, from 100 to 300 hours in the second or third year) is reported as a positive experience by most students who see it as a way to favour knowledge of the professional environment and attitudes and to provide subsequent job opportunities. No case of discrimination is reported by students with a foreign background.

Intercultural didactic as a lever to tackle drop out, has been promoted by the Ministry of Education since 1990, when the migration fluxes to Italy started to become emergent. Still many actions must be accomplished before this becomes a really national relevant strategy, though in the Initial VET system some good practices can be identified: for instance, in Milan, the Vocational Training Institution, “Clerici” offers courses to teachers in intercultural issues which are funded through the Joint Inter-professional Fund for continuing education as well as through the Structural Funds from transnational projects. Over the last decade, the province of Bologna (the authority responsible for the provision of initial vocational training courses, according to the Italian Constitution) has promoted the provision of courses for teachers in the field of intercultural pedagogy and teaching methods, even with the aim of struggling early school leaving, through the organisation of meetings, seminars and training courses.

Conclusions and recommendations

The aim of the research here presented is to analyse the presence of students with foreign origins in initial training courses. The survey involved 1840 young second-generation immigrants and 1835 Italian students, aged from 14 to 19 years old, engaged in initial training courses in order to complete compulsory education.

The study focused on the migration background and on the training choice (migratory history, access to guidance, influence of the environment on: the choice of training); the present experience in the training course, (satisfaction, environment, relationships with peers and with the accompanying figures); their expectations (with respect to work, training and education perspectives).

The survey shows that the initial vocational training carried out in the training agencies is playing a crucial role for the integration and inclusion of students with foreign origins.

From the considerations and the evidences presented above, some future directions can be indicated in terms of policy recommendations:

1. More research should be developed on intercultural pedagogy and intercultural curricula in the VET system, particularly for this evolutive age and more training for trainers in this field, should be provided;
2. The offer of Italian as second language should be developed (to complete the offer of the compulsory school) especially for those with more than 16 years old (21% never attended a course of Italian as second Language);
3. More guidance and counselling services should be offered (even for Italians): only 1 out of 5 of the pupils have taken part in formal guidance initiatives;
4. A quarter of the sample (Italian and students with foreign background) wants to keep on studying, so it is necessary to develop the offer of the fourth and fifth year on the national territory, now present only in 8 regions out of 21 (regional administrations are responsible for the educational offer in Italy).

The logo for 'iafor' 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 composed of two concentric, slightly irregular arcs. The outer arc is a light blue color, and the inner arc is a light red color, creating a subtle frame around the text.

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A Service-Oriented Perspective in Higher-Education Curriculum Evaluation

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Abstract

The work done on evaluating higher education curriculum covers a wide area, but this study will focus on the service perspective in which higher education organizations evaluate the important holistic factors in higher education curriculum evaluation. The aim of this paper is to highlight the gap between the traditional knowledge, skills and abilities (theoretical and academic), work done on evaluating higher education curriculum and the service oriented experiences proven to add value in other industries. The idea is to build a case for a service oriented framework for evaluating higher-education curriculum, and see how curriculum evaluation in higher education from a service orientation perspective could possibly change the nature of academic work in higher-education.

The need to understand and assess curriculum evaluation decisions has never been greater. Public and private academic institutions and organizations expect an environment where curriculum decision making processes for education and training are based on well-defined and accounted for practices which delivers justification and value to the decisions. At the same time, academic faculty are operating in a constantly changing and new, competitive market where demand for higher education curriculum changes and proactive evaluation processes and systems can no longer be taken for granted. With traditional evaluation system being utilized in higher education, the challenge imposed by the environment on these academic institutions is to be flexible and responsive. They must have in place systems and management processes that ensure that the needs and expectations of their stakeholders are met and that promote value generation.

This aim of this paper is to evaluate and review literature sources relating to the concept of education as a service and the frameworks that can be used to offer a framework for quality evaluation.

Keywords: Service management, curriculum evaluation, value generation in education

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Background

To improve something in a quantifiable manner, be it a service or a product, there must be a means for measuring it. Higher-education, just like in the service sector, has struggled with the challenge of measuring quality of service. Units in higher-education can be required to have zero defects, just like in manufacturing and then be measured using methods like process control or statistical methods. At departmental level, the quality of education can be measured and evaluated through testing as is done using formal exams. Professional examination bodies do test students on their grasp of subject knowledge; however, given these tests are geared towards the student and not the institution as a whole, the quality of education at the institution cannot therefore be evaluated. Tests and examinations undertaken within the institution also test students, and are incapable for being used in evaluating departments since skills are subjective and are therefore difficult to measure. However, though skills can be said to be subjective, it depends on what is being considered. When the focus is on behaviors and observable attributes as opposed to knowledge and understanding, the issue of skills being subjective may not arise. This is because an instructor may employ diagnostic probes to ascertain the background knowledge; they can also ask questions in the classroom context to verify the students' understanding. However, they have to interpret the learners' behavior to check on what they currently know and understand. Knowledge and understanding cannot always be directly observed. Moreover, tests are constrained by curriculum, which creates circularity to using test results to evaluate the quality of the course, since they are framed within the course as designed and delivered. In addition, test scores are fallible indicators of the quality of education and higher-education institutions' effectiveness, because they are primarily administered to test the students and not meaningful learning which remains the goal of schooling. According to Blewitt and Cullingford, (2013); and Tsinidou, Gerogiannis, and Fitsilis, (2010) test scores are not a good yardstick to test meaningful learning, even though they are seen as the chief indicator used by many communities to evaluate the success of staff of higher-education institutions. Tests cannot reliably, fairly and validly be used to measure the quality of an instructor or meaningful learning largely because knowledge of inaccurate consequences after poor performance of students will deter good and experienced educators from working in the highest need intuitions. Effective higher-education institutions need to go beyond test scores and move towards curriculum-based assessment. Such an approach will make it easier when it comes to understanding students' journey (Foley et al, 2010). This literature review emphasizes that assessing the curriculum is critical in ensuring that higher-education institutions function at an adequate level. Indeed, curriculum is a fundamental issue in the effectiveness and well-being of higher-education. However, there are many challenges currently facing curriculum evaluation in higher-education. These challenges include the lack of defined and legal programs to guide curriculum evaluation as well as the failure to use professionals from both inside and outside the universities to help in developing the correct performance of evaluation.

This literature review deals with Information Technology Infrastructure Library (ITIL) framework in curriculum evaluation in higher-education as a viable and credible approach to address the aforementioned challenges. It seeks to evaluate the practical and principled issues associated with the ITIL framework. Moreover, it assesses the prospects of ITIL, a service oriented approach, to curriculum evaluation in higher-education. Therefore, the focus is to ascertain if the principles that have

been developed and tested around service oriented architecture can provide tools needed to address the current challenges facing curriculum evaluation. Many times the emphasis is placed only on one particular aspect; a practice does not help much in terms of modifying education (Spiel, Schober and Reimann, 2006). And ITIL is a tool that is both viable and effective in solving the issues currently facing curriculum evaluation in higher-education. As mentioned above, ITIL is a service oriented approach, and in the context of ITIL body of knowledge, service is defined as a means of delivering value to customers by enhancing and facilitating the outcomes of the customers. The higher-education system has a siloed and rigid system, and just like systems characterizing other industries, breaking it up into flexible and deliverable services under a unitary governance umbrella could just be what the higher education sector needs. A service oriented approach, and service design principles and uniformity provided by the ITIL framework can help to streamline the process of curriculum evaluation and enable better targeted more responsive and more flexible education programs.

A Snapshot of the Higher-education Sector Today

Changes in technology in the present generation have resulted in a radical shift in how education, especially higher-education, is perceived. The millennial generation, for instance, no longer view higher-education as a privileged service or a right; they view higher-education as a commodity which can be acquired through a variety of means using several systems of delivery (Tempelaar, Rienties and Giesbers, 2009). The perception of education as a product presents several challenges, the main one being that stakeholders lack a good discernment of the outcome-product-service being offered and those being offered by other institutions. Technology has developed in such a way that higher-education can be delivered online or on a mobile device anywhere and the learner will never have to step inside a classroom (Fennell and Miller, 2013).

The issue of communication of education is being driven by competition, where higher-education institutions are spending huge portions of their budgets on attracting new students through activities like marketing and advertising. The commoditization of education is best enumerated by Heber, et al. (2003) whose explanation of what entails a commodity has been adopted by many of today's researchers such as (Soomro and Hesson, 2012 and Blewitt and Cullingford, 2013). Heber's definition states that a commodity is "...something created, produced, grown or manufactured for exchange in the market." (pp. 45). However, since its advent, education was not meant to be a saleable item. In regards to the perception of education as a commodity or saleable product, Heber, et al. (2003), view education as a '...Fictitious commodity'.

Nevertheless, the concept of higher-education becoming a commodity is gaining momentum and courses are being advertised the way electronics and other market products are being promoted. The higher-education institutions are therefore increasing marketing and selling higher-educational courses like commodities. When these courses are being marketed, they come with the guarantee of instant recognition, prestige and that the students will complete them in a few years' time (four or less) and even within a year for Masters Courses. Because of tough economic times, many students rush for these courses, since many of them are offered through online

platforms which never require a student to step inside a classroom. Students want to take the best possible available course from a reputable institution which mean that several higher institutions are offering franchised courses in conjunction with other higher learning institutions of great reputation. Because they pay money for these courses, seldom are there failures, creating questions concerning the quality of the courses offered (Fennell and Miller, 2013).

Curriculum Evaluation in Higher-Education – A historical overview

The interest in the quality of education has significantly increased in recent times, with parents requiring accountability for the education their children were getting. The authorities and higher-education accreditation boards also require that tertiary institutions maintain certain standards to achieve accreditation and maintain their accreditation (New York University, n.d). To better understand the issue of evaluation of higher-education, it is important to appreciate that the American education system is recognized for its academic freedom and flexibility (Devlin and Samarawickrema, 2010).

It is important to also recognize that evaluation of higher-education plays a critical role in establishing the quality of education in the country and the career paths of the students. But evaluation against other courses or institutions is hindered because of the lack of a common curriculum for all disciplines that is implemented across the country and adhered to by all graduate and undergraduate institutions (Astin, 2013). For instance it is rare for there to be course content discrepancy given in a class by two professors teaching the same course, or topic, at different institutions. At times, the discrepancy even happens when it is the case of two professors, who are in the same department and teaching the same course. In addition, the mechanism for evaluating university instructors in the country (USA) has only served to aggravate the situation by amplifying the discrepancy. The common practice for evaluating America's university instructors has been based on students' evaluations (Tsinidou, et al., 2010). In other words, test results of their students are used to evaluate these instructors. Additionally, some higher-education institutions also use evaluations conducted by peers within the department. While the two types of evaluations have been useful, they can result in bias in the process of evaluation. This is because some instructors can decide to make their courses easy for the students to pass, or use other imprudent methods to ensure that their students perform well. If instructors make it effortless for students to pass, it will not challenge them intellectually. This will have an impact on the quality of students that the system is producing. Indeed, producing competent students has at times been compromised by the need for instructors to maintain their "teaching records" in their teaching evaluations. Inevitably, this can have a negative impact on an effective instructor's teaching evaluations, especially when they try to foster critical thinking and make the students to think outside the box.

Experts in the art of quality and total quality management believe that the greatest challenge educators may be facing is how to measure customers' satisfaction in an educational establishment (Heber, et al., 2003). It has not been done before, save for testing and grading which does not directly measure the quality of education. Students' evaluation of teaching is a reliable and stable way of measuring customer (student) satisfaction. Nevertheless, students' evaluation of teaching should only be a

piece of a much comprehensive and richer assessment of teaching, as opposed to the focal point. The lack of comprehensive quality improvement schemes, coupled with increased students expectations and state and federal demands for rising completion rates have driven the need for significant improvement in the quality assessment of higher-education. Given the current environment in which the higher-education sector operates, it has become substantially difficult to achieve total quality improvement, and it is clear that the higher-education sector must import quality improvement and/or measurement methods from elsewhere.

Market Forces Influencing the Quality of Education

Current challenges and needs of the economy and those of students require that there are changes made in higher-education. As Waterman (2014) points out, the pressures to educational providers to continue churning out graduates and the pressure on students to acquire higher-education has resulted in the concept of EaaS (Education as a Service). Many people remember buying software such as MS Office; purchasing enterprise software was a big ticket item that required further customization and implementation. And then after a given time period, the user was required to download upgrade packs from the software maker to bring their system up to date and get greater functionality from their software. The courses presently offered by tertiary institutions can be compared to enterprise software; they take years to finish and are bulky and students must pay for all components, regardless of what they exactly need. However, there has been a failure to shift towards an *a la carte* pricing model where student pay only for what they need, not everything. Customers prefer taking courses and units that relate to their ambitions and professional goals and this need will ultimately compel the universities to shift to the EaaS model from what has been described as expensive and bloated degree programs (Craig 2014).

This may not happen soon, but already signs exist that there is a strong desire for this mode of education and arguably it's just a matter of time before the EaaS is adopted by mainstream tertiary institutions (Soomro and Henson, 2012). Marginson (2004) points to social competition in higher-education as a key force affecting higher-education. His study also found out that inter-university competition is on a national and global scale. Globalization and markets are collectively changing the competition for status goods in higher-education (Marginson, 2004). Tertiary learning institutions will therefore, through such market forces, be required to have such people in mind and offer more flexible, market oriented courses that meet the needs and convenience of the learner while being affordable and generating significant revenue for the course provider.

A driving factor behind this line of thinking is the increasingly business model that tertiary education should take sparingly. Today, there is an increasing focus on patents, profits, using market competition and commercial investments (Altbach, et al., 2011). If this approach is allowed in fee-paying courses, they could have some adverse consequences. It should be noted that in conventional learning and teaching institutions, students should be seen as clients and have a sense of entitlement. Conventional learning and teaching institutions should not adopt the business model approach to education of breaking down of tenured positions, over-stressing the effectiveness and institutionalization and, what's more, the advertising of education as a thing to "student-customers" who just want a degree, not education. This objective

has drastically changed the sphere of higher-education. Students want education that helps to advance their career, set them up to earn more money and get benefits in light of the high cost of education.

Such issues have been at the forefront in promoting and enhancing the modern concept of education as a service. And while it may not be the most desirable and complete form of education, circumstances demand that the EaaS model is used. The rationale of adopting an EaaS model is because of the changing market and for it to become relevant to today's market, education needs to adapt to a changing market. Most higher-education institutions today provide education that is equivalent to enterprise software. Enterprise software is a big-ticket item that one has to customize and implement, and after every couple of years, it becomes necessary to upgrade to a new version. However, Software-as-a-Service (SaaS) companies moved to change all that. Today, it has become possible for businesses to simply "rent" software usage (on a monthly basis). Correspondingly, vendors have also unbundled their offerings to avail it in component parts, enabling customers to buy only what they need. Currently, higher-education institutions are offering training programs that are similar to big-ticket items – they are bulky (big) and will require students several years to complete. And students/customers are required to pay for the whole package irrespective of what they need. Just like with enterprise software companies, customer preferences are increasingly forcing higher-education institutions to shift from selling bloated and expensive degree programs to providing EaaS. ITIL framework can help higher-education institutions to prepare for EaaS because ITIL seeks to promote a service management culture in higher-education (Newman et al., 2010). ITIL should not be seen as a tool, but rather as a set of best practices pertaining IT service. Indeed, the overriding factor of ITIL is the reference to service and it has five core processes and functions which are service strategy, service transition, service design, service operation and continual service improvement. It has already been highlighted in this literature review that ITIL is a service oriented approach, being a means to deliver value to customers by enhancing and facilitating the outcomes of the customers.

The enormous expansion of affordable PCs, Internet broadband networks, and rich training media has made a worldwide transformation in education in which data and correspondence innovation (ICT) is being utilized to change instruction (Craig, 2014). Distributed computing is starting to assume a key part in this change. By making ICT more moderate in price to actualize and simpler to incorporate into classrooms around the world, training can be changed. Undergraduates over the globe can create the basic abilities they need to contend with and thrive in the today's data society. Instruction changes can rise above monetary and social obstructions, giving equivalent points of interest and chances to everybody who has entry to ICT.

As globalization continues unabated thanks to the explosion of information and communication technologies, education has not been left behind. Globalization has been driven from time immemorial by capitalism and the desire to create profits by taking or delivering commodities to or from far off lands (Altbach, 2013). Clearly, free enterprise (capitalism) has always been global, and all through the 20th century, organizations existed with workplaces in different nations. Globalization is different, with audiences appended to it. Amidst the competition, the role of government intervention should be highlighted. Competition is one of the key facets of capitalism. In capitalism there is free competition. In the context of higher-education institutions,

this means competition for status and resources, competition to attract students, competition in the market of international students, and other forms of competition including competition among higher-education institutions for ranking and prestige (King, Marginson and Naidoo, 2011). And much competition in higher-education is defined and regulated by the government. However, regulation of higher-education by the state is increasingly focusing on results, as opposed to processes; in addition, the regulation is on demand as opposed to supply. These new types of regulations have seen the adoption of concepts such as “governance” in the discussion on the administration and governance of higher-education. According to Dickhaus (2012), governance refers to arrangements, both formal and informal that allow higher-education institutions to make decisions and also take action, and is closely linked to education quality.

Globalization and the Quality of Higher-Education

Globalization has been instrumental in the reorganization and restructuring of policy and the world economy in a very complex context. Globalization also presents the issue of global awareness, enlarging our perception of time and space, which leads to a greater sense of community in the global environment. Spring (2014) describes globalization as a considerable loss of nation-state sovereignty, in other words, this definition points to globalization as an erosion of a state’s autonomy.

In the modern world, the place of globalization is immutable because of the growing interconnectedness and interdependence of the world today. There is increasing mobility in many forms, which, as already noted, is characterized by the flow of goods, capital, services, information and people. Globalization has been fueled by other factors, such as technology, which has significantly reduced the costs of international transactions, which is effectively spreading ideas and technology and increasing capita mobility. The major effects of globalization is that it impacts work organizations as well as how people do their jobs, with the world now becoming more flexible. This process orientation described in the interdependence and interconnection of the modern world is defined as internationalization, and higher-education is increasingly becoming internationalized. This higher-education internationalization has emerged as one of the ways in which a country responds to the forces and demands of globalization.

In addition, the idea of globalization of economics bolsters the opportunities for the mobility and flow of knowledge-workers as well as knowledge-seekers throughout the world in unprecedented volumes – more than any other time in history. This means that for a country that is unable to find certain professionals within its borders, it can source for talent overseas. Globalization means that it is now possible to look for prospective candidates for a certain job wherever they may be found. Professionals who cannot find job opportunities in their countries are now at a better position to look for job opportunities internationally. For higher-education students seeking the best education, they can now find placing in many universities anywhere in the world that offer the best education. However, globalization has resulted to the erosion of national policy and regulatory frameworks under which many higher-education institutions are embedded. To foster quality assurance, there is need for a more thorough international harmonization of higher education structures, policy frameworks, degree programs and even curricula.

Globalization forms the set of changes, such as the development of new and global forms of culture and technologies of communication that nations need to follow and accept for them to be in a good position to embrace global competition. In responding to the global competition, which is fueled by globalization, education is emerging as one of the key sectors. In addition, the restructuring of education policy, as well as the organization of educational achievement is now an imperative. Additionally, concerns about the effects of globalization on higher-education have risen. This has been particularly so on sensitive facets of education such as accreditation and quality, as well as the recognition of qualification, depending on the country of origin of a student being accepted in a foreign higher-education institution (Santiago, et al., 2006). One of the most visible attributes of globalization is the emergence of 'borderless' higher-education markets occasioned by the worldwide demand for higher-education.

Education is still a key pillar in the globalized economy. With globalization comes the inevitability of cross border trade; people will move across borders to seek higher-education. Further, educational institutions will set up satellite institutions across borders, either solely or in conjunction with other players to offer education (Morgan, 2010). Tertiary educational providers will also offer education and training, making use of the information super highway to offer content to anyone, anywhere, and even at any time in the world, so long as the person has an internet connection. Instructors will also move across borders to offer instruction, either on a short term or a long term basis (Popkewitz & Rizvi, 2009).

Because people believe that getting the right job skills and papers will offer them a better chance at professional, social and economic development, many people aspire to obtain higher-education. This has seen the demand for higher-education soar, with people in far flung places in the world seeking quality education from well-known institutions. A global trend in which states' investment in education (tertiary education especially) and support for learners in the face of rising tuition and educational costs will likely result in increased competition in the now universally traded commodity of tertiary education. Further, the higher-education sector as well as governments must be ready for an increased involvement in education by the private sector, the free enterprises whose driving force is profit. The last two decades has seen the developing world achieve impressive growth levels resulting in a larger middle class, people that want quality education, usually provided by prestigious institutions of education, mostly found in the Europe. As such, there is forecasted an increasing and sustained demand for higher-education across the world. This implies that higher-education will see greater investments by entrepreneurs and capitalists, and invariably, issues of quality are bound to arise (Morgan, 2010).

Trading in tertiary education is a billion-dollar industry, including enrollment of global students, foundation of college grounds abroad, franchised procurement and internet learning. The General Agreement on Trade in Services (GATS) is as of now being arranged under the sponsorship of the World Trade Organization (WTO). GATS is intended to expand trade liberalization universally, and incorporates "training and education" as a services segment. The interest for higher and adult instruction, particularly professionally related courses and non-customary conveyance modes, is expanding in many nations. This is because of the development of the

information economy, development to long-lasting learning, and evolving demographics (Spring, 2014).

Education and globalization have become interconnected in many ways. As noted earlier, higher-education is today an intrinsic factor of globalization. And the issue of quality of higher-education always emerges when one thinks about systems of ensuring quality assurance in the context of contemporary globalization.

Cross border education is a reality today and the direction of flow, as with all things innovative, is from the West and developed world towards the developing world. Cross-border tertiary / higher-education won't help creating nations unless it is open, moderate, accessible, applicable and of worthy quality. Likewise, key are the disagreeable issues of who grants the degree, who perceives the degree, and furthermore whether this is authorized or quality guaranteed. Numerous creating nations need quality confirmation components. Cross border education provision without taking into account the need for social justice and equity could, and has created a backlash that is manifested as punitive measures and restrictive practices. When talking of social justice, what is implied is that the quality of education provided to students in other countries, especially in the developing world, may be inferior and yet still cost a lot (Turner, 2012). However, major organizations such as UNESCO and OECD among others have a stated policy that relates to both quality and equity which are reflected in the global education policy making. These principles of quality and equity help higher-education institution to foster equity amongst member nations.

The WTO regulations require that countries are bound by the GATS and other free trade protocols, which imply that the traditional national regulators of education quality are slowly being neutered (Altbach, et al., 2011). This is happening quietly in an unseen manner such that soon the national regulatory frameworks may become irrelevant in light of the increasing globalization and commercialization of higher-education. The concept has become global in that countries like Malaysia have become unexpected contenders for leading global exporters of higher-education. Higher learning institutions in Europe should have been early adopters of ITIL as one possible approach for standardization in a world that is increasingly becoming globalized. ITIL has the potential to make the continent and the world more efficient operating under a common framework.

Towards a Service Oriented Evaluation Framework

Higher-education institutions have the responsibility of equipping their students with skills and knowledge that can help them to generate value and be productive in their respective careers. This is because of the fact that qualifications are what demonstrate what a candidate has learnt. The adaptation of ITIL practices and processes are critical in the delivery of this value (Duarte and Martins, 2013). The essence of ITIL is that its learning outcomes are designed to take a candidate from the content knowledge of ITIL to its content application, and provide skills that are critical in the workplace in a distinct and tangible way (Soomo and Hesson, 2012).

ITIL has evolved from being merely a company standard to an international standard, and there is growing need for training and attention to the role of higher-education

institutions in providing students with IT service management certification. Considering that many modern organizations have tied their goals to improvement of their services to ITIL, then it is a tested and tried framework, which higher-education institutions can use to harness the broadest perspective and scope of service management skills. The motivation of using ITIL as an evaluation framework for higher-education curriculum comes from the need to align education to an industry reference point, or model, and as a tried and tested framework (Soomro and Hesson, 2012). ITIL is indeed, an obvious choice for that reference point. Previously, different higher-education institutions would choose to be different and have a long history of academic independence. With ITIL comes the idea of standardization which has made higher-education intuitions to be more efficient and to operate under a common framework; thus the industry has benefited from using the same tools. Through ITIL, the ways of responding and dealing with difficulties has become the same across all higher learning institutions. ITIL is indeed, a standard process for service.

Conclusion

The ability to conduct high-quality assessment has become an absolute necessity in higher-education (Devlin, M. and Samarawickrema, 2010). However, effective assessment requires mastering the skills and professional knowledge involved. And there are many important concepts, method and principles that have been developed in the field of assessment of higher-education. The most prominent concepts, methods and principles have been discussed in this literature review. As Turner (2012), noted, what is being evaluated and assessed dictates the most ideal type of assessment and evaluation. For purposes of planning, the desired outcomes, processes and inputs are enumerated in terms of goals and objectives (King et al, 2012). As such, it was possible for this literature review to distinguish among goals and objective of various concepts, methods and principles to understand the one that provides the best value-results for most of higher-education's stakeholders and critics. As such, it is important to emphasize on the importance of outcome assessment and evaluation (Spiel, et al., 2012). The literature review focused on the service perspective of evaluating higher-education curriculum. The rationale of using a service perspective is because it is an approach that provides a uniform means for offering, discovering and using capabilities that produce desired effects which are consistent with the desired requirements and preconditions (Blessinger and Anchan, 2015). ITIL helps organizations become more efficient in their service planning delivery and oversight elimination. It provides a reliable framework for many organizations for best practices and specifications enabling them to establish a mature and advanced IT service setup (Soomro and Hesson, 2012). This framework is particularly viable and valuable in academia because it introduces models into the Information Technology departments that usually get confounded in architectures characterized by loose processes. In addition, ITIL legitimacy in globalization should be underlined as providing standardization which has pressured higher-education institutions to be more efficient and to operate under a common framework (Cater-Steel, et al., 2008). In addition, as discussed, ITIL has several other noteworthy attributes as a structure in higher-education. It introduces procedural reliability, which is lacking in the curriculums of many higher-education institutions today. This is because ITIL identifies and clearly structures service management processes, by creating a framework which skilled workers can use as a yardstick and build upon (Soomro and Hesson, 2012). It also

eliminates the challenges presented by today's exceedingly personalized process architecture.



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Exploring Non-Formal Educational Experiences from Adaptive to Transformative Responses

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Abstract

This paper examines the non-formal educational experiences from those of adaptive to transformative responses. Adaptive responses focus on achievement of immediate outcomes as a makeup of what is missing. Similarly, transformative responses address the medium to long term outcomes that focuses on making a difference in individuals and societies in general. Based on interpretive paradigm using qualitative approach, desktop review and interviews were held in 2015 with five ex-offenders in the country of Lesotho. The findings revealed that non-formal education appeared to be the suitable approach used for adults in a learning environment. It has also been found that in the context of Swaziland Correctional Centres, the inmates engage in the needs assessment and evaluation of their non-formal educational programmes, which increases the formers' motivation to embrace the change within and amongst them. While the needs assessment are not conducted for the inmates in the Lesotho context, some ex-offenders demonstrated that by tailoring programmes and utilizing their own personal knowledge, they were able to share skills through tailored educational programmes in spite of the prison bureaucracy and that they have consequently established an organization that serves as a link between the prison and the societies. However, the findings further revealed that non-formal education characteristics are more realised in theory than in practice for different contexts.

Keywords: Adaptive response, Transformative responses, Non-formal education

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Introduction

In the context of the Millennium Development Goals (MDGs) and Education for All (EFA), non-formal education and learning initiatives have increased significantly and further strengthened formal means of learning (Rogers, 2004; UNESCO, 2014). Education is a powerful tool for all forms of social change, economic development and for the eradication of different forms of injustices and inequalities, hence it is empowering and liberating. Education in general and non-formal education in particular caters for all age learners throughout the lifelong phenomenon whereby all individuals' growth and self-improvement are encouraged (Rogers, 2004). This research was done with the purpose of gaining a deeper understanding on how non-formal education address the needs and interests of the offenders. This was done by looking at how non-formal education is delivered based on its characteristics and whether its learners effectively participated in the educational programmes that were meant to change their lives. The research was undertaken in 2015 with ex-offenders in Lesotho with the purpose of gaining a deeper understanding of how non-formal education caters for the adaptive and transformative needs of its clientele. To address the main purpose of the research, ex-offenders were asked three questions of: what have you learnt while you were incarcerated in custody? How did the content address your needs? Were you incorporated in the programme or skills that you learned while in custody? The concept of non-formal education was discussed, followed by non-formal education provision within the correctional facilities as the main theoretical concepts that were used to interrogate the data. The methodology section will be discussed later followed by the findings and discussions before the final section on conclusion and recommendations.

Non-Formal Education

Literature has significantly shown (UNESCO, 2014; UIS, 2012; Rogers, 2004) the renewal of interest in non-formal education in an effort to meet and reach the targets of Education for All goal, which is placed at the centre stage of global education and development agendas and debates. Non-formal education manifested actively in traditional societies by using apprenticeships in different works when people learned a specific trade (Peace Corps, 2004). Additionally, on-the-job training is widely conducted through non-formal means of learning. Apart from this, traditional knowledge was passed from generation to generation through one to one teaching or group facilitation using various methods of non-formal education. Thus, non-formal education as opined by Sevdalis & Skoumios, (2014, p.14) is commonly known to be:

Any organised, systematic, educational activity carried on outside the framework of the formal system to provide selected types of learning to particular subgroups in the population, adults as well as children.

In this definition, the impression is that non-formal education is flexibly organised in order to suit its participants' environment wherever they may be. In the same way, Rogers (2004) states that non-formal education is provided on a continuum, at one point it is closer to formal education and at the other end it is closer to learner ownership. The author stipulates that non-formal education is further extending opportunities for job creation and development activities for its participants (Rogers, 2004). Thus non-formal education has been regarded as remedial education for people

who have missed out their opportunity to attend formal education; hence it is regarded as complementing the latter (UNESCO, 2014).

Although non-formal education has various characteristics that emphasize the flexibility and the learner-centred regarding the control, delivery mode and the content, it is conceptually argued as a form of education where learners have a say in what they want to learn. While this research will show that in practice, the concept is experienced differently in different contexts, meaning that it reacts differently to adaptive and transformative responses of its learners.

Non-formal education as reacting to adaptive outcomes

According to UNESCO (2014) non-formal education has taken shifts with multiple types that occur for particular learning requirements of its participants. UNESCO further indicates that the non-formal context specific tactics are suitable for reaching out to different populations for accomplishing the goals of EFA to learners who cannot access formal education. In this way non-formal education responds to adaptive outcomes as its provision is mainly to rectify the shortfalls felt by its clientele and assist them to adapt and adjust to their environment and conditions of life. Consequently non-formal education provides specific learning needs and interests that falls within the achievement of immediate personal outcomes (UNESCO, 2014). These include education and training, knowledge and skills acquisition, enhancing the quality of life, reducing poverty and improving the livelihood initiatives in regard to the socio-economic needs. In this manner, the initiatives focused on the making up of what is missing in terms of modifying the behaviour, adjusting to an environment and enhancing personal development to mention a few. These outcomes are mainly to assist the participants in adapting to different situations hence non-formal education is provided for adaptive responses (UNESCO, 2014). In the same manner non-formal education also reacts to transformative responses of its learners as in the following section.

Non-formal education as reacting to transformative outcomes

Alternatively, non-formal education further took another shift of addressing the immediate to long- term structural outcomes that entailed different peoples' dispositions. This include but not limited to: realising the socio-cultural context and creating awareness thereof, identity recognition, empowerment, increased socio-political participation, breaking the social and economic barriers and other inequalities (UNESCO, 2014). In the same way, UNESCO (2014, p. 6) when discussing about the evolving concept of non-formal education identified "experimental and innovative non-formal education, some of which involves greater independence from governments, to respond to emerging learning needs as societies evolve." Here the cited examples are education for peace and democracy, citizenship education and education for sustainable development. Moreover, non-formal education develop the human capabilities, improve social cohesion and create responsible citizens (UNESCO, 2014), meaning that it develops an individual above mere education and learning initiatives. It can be seen that the focus is mainly to make a difference in individuals and societies in general, thus achieving transformative outcomes. The subsequent section deals with correctional education, which in most countries is provided through non-formal education means.

Non-formal education provision within the correctional facilities

Recent studies by Biswalo (2011) in Swaziland, Setoi (2012) and Tsepa (2014) in Lesotho, Mkosi (2013) and Quan-Baffour & Zawada (2012) in South Africa show that there is a range of formal, non-formal and informal adult educational programmes undertaken by inmates. However the extent to which prison inmates participate in the planning and implementation of different educational programmes affecting their needs and interests, varies from country to country.

According to Biswalo (2011) in the context of Swaziland, the department of Adult Education at the University of Swaziland in consultation with the prison service, conducted needs assessment between 1997 and 2009. The conducting of needs assessment was done before developing the educational programmes to ensure that the felt needs of the inmates were included and addressed by the educational programmes offered, followed by monitoring exercises. Biswalo (2011) assert that needs-assessment was conducted with the inmates through individual interviews and group discussions. Thereafter, prioritization of needs took place based on the capability and the potential of the inmates to acquire and secure resources for conducting the programmes that can develop into viable businesses, after their release from prison. In the whole exercise, activities that required locally available and less expensive resources were given priority over others. Moreover, Biswalo states that the department of adult education provide relevant training that strengthens what the inmates have acquired within the correctional institutions as best practices. Biswalo further outlines that baseline assessment and placements are also conducted before developing the content to be taught. The inmates' contributions to their programmes enhances their ownership to the latter, which also address and meet their learning needs (Biswalo, 2011). This is different from what happens within the Lesotho's correctional facilities.

The Lesotho Correctional Service (LCS) provides a variety of programmes that are taught by LCS officers, volunteers and the inmates themselves. Normally, prison populations are less well educated than the general population in Lesotho and in other countries (Setoi, 2012, Biswalo, 2011). According to Setoi (2012), the Ministry of Justice and Correctional Services in Lesotho offers education and training to the inmates as mechanisms to rehabilitate and reintegrate them with their communities. These education programmes are provided as literacy and numeracy formal classes from Standard 1 up to Form E, which is equivalent to grade 1 to 12 in South Africa, basic and continuing education classes that are meant to assist the inmates to acquire qualifications for job opportunities for male inmates in Maseru and Mohale's Hoek Correctional Centres. The inmates are further provided with skills training such as carpentry and joinery, stone cutting, building, welding, leatherwork, electrical installation, plumbing, plastering and brick-making, upholstery and sewing. However, the methods used to deliver the above trainings are not stated, as well as whether the inmates are involved in planning for their educational programmes to address their needs. The next sections discusses methodology that was used to conduct the study.

Methodology

This was a small scale explorative study using qualitative approach. The interpretive paradigm was employed and the primary data was collected through individual interviews using a semi-structure interview guide in Maseru, Lesotho. The interpretive paradigm entails “understanding the social phenomenon from the participants’ perspectives that actually live and make sense of it in their natural setting” (Cohen, Manion & Morrison, 2009 p.315). Purposive sampling was used to select five key informants being the male ex-offenders who have experienced to be imprisoned in custody within the Lesotho’s correctional facilities. Ex-offenders were identified through snowball sampling where one person would recommend the other ex-offender known to them, who has the same relevant information. All the ex-offenders provided their stories and their viewpoints regarding the educational programmes that they embarked on during their incarceration. Although the findings cannot be generalised to the larger population, the offender’s role within the environment under which they carry out their sentences excludes the wider society while the shared experiences may be similar for the incarcerated community. Inductive qualitative data analysis was used where themes were developed from the data, categories, insights and understandings were further formulated. Different theoretical concepts of non-formal education and were mapped across the data as theoretical lens for discussing the inductively derived themes and for more abstraction.

Findings

Findings are presented according to the themes that emerged from the data provided in the responses from the ex-offenders. They are presented orderly as basic literacy education and life skills, transformed attitudes and identity recognition.

Basic literacy education and life skills

In response to the question of what they learned during the time they were incarcerated, ex-offender E bemoaned:

It was very painful for me to be there as an inmate (Shaking his head slowly sideways with his face down). However, I feel happy because I have that experience of being an inmate and it toughened me [made him to be tough]... (Clears his throat) I learned how to write and read my name and a few sentences. I can even count the numbers, which was not the case before I was incarcerated. The prison has taught me several skills that I was not aware of, such as landscaping, gardening, feeding pigs and cleaning my surroundings (Ex-offender E).

The respondent indicated that incarceration has made him to become a tough man. He further showed that he learned how to write and read. The findings reveal that some inmates acquired basic literacy and numeracy skills, which they learnt during incarceration, thus enabled them to rectify their gap of being illiterate. Additionally the inmates were assigned work that taught them life skills of how to keep their environment clean including taking care of animals that are kept within the correctional facilities. On the same note about what the offenders were learning while in custody, ex-offender A lamented:

I approached other inmates about the idea of formal school and I was responsible to see that the school was operating. Those who were enlightened and had formal education background taught the others who were illiterate (Ex-offender A).

Ex-offender A pointed out that some offenders would volunteer to teach others who were illiterate so that they can also acquire the basic skills of how to write and read their names. It is noted that the offenders supported each other since they shared common experiences of being in the same position of incarceration. Additionally, the non-formal characteristics of flexible environment can be seen as the offenders used to learn while incarcerated in the correctional facilities. This means that learning takes place everywhere in particular using non-formal education approaches. Of great concern was their ability of making the decisions regarding whether what they learn would address their needs and interests or not.

In regard to the life skills that were offered, ex-offender E indicated that the content that was learned did not address his needs because he spent the entire sentence of five years doing gardening, which was not his interest. He emphasised that he was interested in welding and electrical work. He mentioned that he had basic knowledge about welding since he learned while as an apprenticeship with another person from his community. However, he showed that he was comfortable with gardening and landscaping because he realised that there was shortage of equipment for doing that welding work. In his words:

Welding is dangerous because it affects a persons' eyes. All those who joined that team were having problems with their eyes. It is because there was no proper equipment used to protect people while they did that work. I decided that it was better for me to do gardening and landscaping because there was no harm in performing those tasks.

It can be observed that ex-offender E was able to settle for the work of landscaping and gardening as a way of avoiding to endanger his eyes with welding work that he liked. Moreover, the warders seem to be making the decisions for the offenders in terms of what skills to learn or not. This imposition of skills refutes the non-formal educational feature whereby curriculum or content has to address the learners needs and interests, therefore has to be learner-centred. The data also show that the offenders were never consulted in terms of what they would want to learn as skills for future use. Instead what seemed to matter was whether the sentence to serve as punishment was longer or shorter before the work was signed to the offenders. This has an implication on how the offenders may be transformed with the expectation of being socially reintegrated back into their societies.

Transformed attitudes

On the other hand, ex-offender B attested that he did wood work and he continued with that work after his release from prison. He reported to be a self-employed and enjoys his work. He said:

I did wood work while I was there [under custody] and I learned to do build-in shelves, wardrobes, tables and many other things. I now support my family through the income that I generate from my workshop. I am now a new person

who has reformed from criminal acts. I have three people who help me then I pay them monthly. In fact I was never rehabilitated by those officers, I counselled myself and told myself that I needed to change completely (Ex-offender B).

On the question of whether he chose for himself to do woodwork or not, he responded by showing that the work was imposed on him. He alleged:

(Smiling) Fortunately I took that work seriously and ensured that I learnt everything. At first I wanted to join those who did the bricks and building. The warders refused [when I wanted to join the building team] and they instructed me to join the wood work team. We did not choose for ourselves, they [warders] placed us according to the length of our sentences. The ones who were serving long sentences were not allowed to go out, therefore remained in the workshops. Prison life is tough ... (pause), it needs a person who can accept that instructions had to be followed. But at the same time [one had to] look out for the opportunities and make use of them; that is how I survived for the 12 years that I stayed there (Ex-offender B).

Ex-offender B had a positive story to tell regarding his transformed attitude through learning by doing the wood work, which also follows the purpose for non-formal education. It can be observed that ex-offender B used the acquired skills, start-up his own workshop where he was able to generate income. It is interesting to see that the respondent counselled himself, accepted the instructions that were given by adapting to prison life situation that potentially transformed his attitude and life for the better. His knowledge has further become a resource for income generation which is economic empowerment. It is because he provided employment for other people who were able to provide support to their families as well. Of particular concern was the notion of ex-offenders identity.

Identity recognition

Ex-offenders are seen to have significantly changed their behaviour in terms of how they think as individuals and how they can assist each other including the offenders who are about to complete their sentence. Learning from what they experienced while incarcerated, when they received no support from their significant ones, they supported each other as demonstrated in the following quote:

We had an informal support group of peers and we thought about starting an association for ourselves. We established this NGO to try and fill that gap for such activities ... we have tried to approach government to change the way they perceive the ex-prisoners but we have a long way to go. The issue of a link is an important thing that we do, also to link them [released-prisoners] with existing members of this NGO in different districts and their families. Other things do not need money to happen (Ex-offender D).

In the above quote, ex-offender D related a story that while incarcerated, they were able to set up a peer education programme with other offenders, where they even went further to decide about establishing an association, which would serve as a link between the offenders who were released and those under custody. Ex-offender D indicated that with the peer support, they managed to establish Crime Prevention

Rehabilitation and Reintegration of Ex-Prisoners Association (CRROA) in Maseru, Lesotho. The ex-offender further stated that the association has representatives in all the districts. In other words, ex-offenders have established association that made their identities to be recognised. In this way, the link serves between the incarcerated offenders and their families through the ex-offenders. He illustrated that upon his release, he found it very hard and difficult to go to his home alone without anyone accompanying him. In his words:

My family never visited me while I was in custody for eight years. That made me feel less confident when I was about to go there [home] alone, hence I needed someone to accompany me. By the time of my release, the only people that were closer to me were other offenders and the prison warders.

Additionally he said that his release brought everything to an end between him as an ex-offender and the prison. It can be argued that the ex-offenders experience of unfavourable family members' attitudes, packed with labels associated with prison and lawbreaking identity makes it difficult for them to feel and belong as part of their communities. Therefore the establishment of their ex-offenders' association may have been propelled by the fact that ex-offenders felt more comfortable to fit with each other rather than being with the larger population. It can be noted that the link promoted a sense of self and belongingness for the ex-offenders who support one another. These findings have implications for how the policy should cater for social reintegration and use a link as another mechanism that needs to be further strengthened for enabling the reformation of ex-offenders and their avoidance of re-offending.

Discussion

The findings demonstrate that illiteracy is a concern for offenders under custody, whereby some of them never went to school. It can be argued that to a large extent, their lack of education may have also influenced their engagement in committing of crimes hence the view support the literature (Biswalo, 2011; Setoi, 2012). Moreover the offenders' relationships amongst themselves seemed to have been built upon trust whereby the latter facilitated their learning from each other in a flexible relaxed environment. The flexibility of environment is one of the powerful characteristics of non-formal education that makes it easy for learning to take place everywhere hence it can be concluded that it is a suitable approach for use with adults in any learning space. Furthermore, it can be argued that non-formal education responded to the needs and interest of the offenders who rectified their shortfall of not knowing how to read and write including counting. Hence the data supports what UNESCO (2014) has shown in terms of non-formal education as facilitating for the adaptive outcomes of its clientele.

Additionally, it has been found that offenders learned various life skills such as gardening, landscaping, and wood work among others, however these were imposed on them. Here the findings revealed that the non-formal characteristics of learner-centred in regard to control and who determines what the learners want to learn is not happening as it should be. The situation with offenders under custody in Lesotho differs from the situation of the inmates incarcerated in other contexts like Swaziland, where the offenders are engaged in the needs assessment and evaluation process,

which enhances their motivation to learn and change their lives (Biswalo, 2011). Therefore, the findings demonstrate that non-formal education characteristics are often realised in theory but not in practice for other contexts.

Furthermore, the data demonstrated that some offenders managed to transform their attitude by accepting and conforming to the situation in custody. This was expressed by ex-offender B who developed a positive attitude and started his income generation workshop from the wood work skills that he acquired while incarcerated. The data confirmed that non-formal education that is provided within the correctional facilities indeed facilitates the employment opportunities and rehabilitation of offenders as stated by authors like Biswalo (2011), Quan-Baffour & Zawada (2012), Tsepa (2014) and Setoi (2012). Ex-offender B took the wood work skills seriously and coped thereby transforming his life for economic status. As a result non-formal education feature of its learners who acquire skills for immediate application (Rogers, 2004) was realised with ex-offender B, as he used the skills for positive livelihood benefits. Additionally, despite the prison bureaucracy and the toughness that the ex-offenders felt while under custody, they managed to set up an association for themselves. It was found that through modifying their educational programmes and through the peer support amongst them, they consequently established an association that identified them as ex-offenders. The association further serve as a link between the released offenders and their families and communities. Likewise, non-formal education has facilitated for their transformative outcomes where ex-offenders association is a long term response and serve as reintegration for the offenders since it promotes their sense of belonging.

Conclusion

In conclusion, there is evidence that key feature of non-formal education as articulated in the literature, that of a participatory process which involves the learners in the design and content of their own curriculum is not happening within the Lesotho correctional facilities. This was illustrated by the data where several life skills were imposed on offenders during their incarceration. However the findings demonstrated that through the offenders' trust and support for each other, some volunteered to facilitate the teaching of the basic literacy skills for those who lacked such skills. Furthermore, the life skills acquired during incarceration facilitated for their economic empowerment thus transformed their lives for positive livelihood benefits. This was reflected by ex-offender B's positive story of making use of the wood work skills acquired to change his economic status and improve life for the better. It was observed that non-formal education facilitated for the immediate application of the skills for some of the offenders, hence the reaction for adaptive outcomes. Additionally, their sharing of common experiences enabled for their sharing of one identity that was led by their incarceration, though at different times. They are therefore identified as one community that is excluded from the wider population that also facilitates the inclusion amongst the inmates' incarcerated community.

The findings of this study point to the social identity that ex-offenders share, which also reflects the strong cohesion and a sense of belonging to them. The formation of an ex-offenders association is a collective group identity, which is a strength that can be used to motivate offenders to engage in other economic empowerment activities. Similarly, non-formal education responded to the transformative outcomes where an association for ex-offenders was established, which promoted their identity while also

serving as a long term link for other released offenders and their communities. The following recommendations were therefore made.

- It is recommended that in addition to the literacy and numeracy programmes that are provided to the offenders, non-formal education curriculum be developed in a way that will address offenders' situations by taking into account their social capital strength of loyalty, support and caring, but also the curriculum should entail their wider social skills and ways to build their public image.
- It is recommended that offenders be given the social learning skills for immediate application in order to facilitate for livelihood opportunities upon their release from custody.
- It is recommended that that a strategy be implemented to enable effective consultation with offenders to avoid the skills imposition. Alternatively the best practice of needs assessment and evaluation that is happening with Swaziland inmates, be copied and implemented with Lesotho's inmates for their educational programmes.
- There should be a holistic approach to learning, rather than a narrow focus on literacy and numeracy, such as income-generating skills that can be aligned to locally available resources for the start-up of their businesses. Offenders learning should target the immediate application (Rogers, 2004) of their skills once they are released from prison.

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A Survey of the University Students' Perspectives about Using Digital Technologies in Education: Zimbabwean Case

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Abstract

This study investigated the perspectives of university students about the use of digital technologies as tools for teaching and learning since digital technologies are an essential asset for academic institutions and they can support strategic objectives for institutions. Limited use of digital technologies could lead to a second order digital divide considering that the Governments and universities have increased the investment and the embracement of digital technologies respectively.

There is need to obtain a deeper understanding and insight into the university students' perspectives since there is scanty literature discussing the issue regarding the Zimbabwean context. Quantitative data on students' perspectives was collected using 100 questionnaires administered to students at a single university of technology in Zimbabwe. The findings concur with existing literature that students highly value the integration of technology into their learning process. However, the students indicated disappointment and frustration due to the disconnection between current teaching methods and the digital technologies.

Keywords: Digital technologies, perspectives, students, teaching and learning, university

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Introduction

Digital technologies include computer, information and communication technology (ICT), learning management systems (LMS) and digital media such as wikis, blogs, social media and podcasts. They refer to a broad collection of technologies which accumulate and broadcast information in digital form and can be hardware-based device (such as computers, mobile phones and other mobile devices, video and audio players, games consoles, etc.); or software-based (e.g. web applications, blogs, wikis, Social-Networking Sites, computer games, chat sites, etc.). Groff (2013) identifies video and image sharing, simulations, games and gamification, handheld and tablet computing, digital cameras, scanners, virtual environments, augmented reality and wearable technologies as emerging digital technologies available for use in higher education. Table 1 is a summary of the common digital technologies suitable for teaching and learning.

Table 1 Examples of digital technologies

Common digital technologies in education	
Digital Technology Example	Definition
Learning management systems (LMS)	Computer programs that aid e-learning through the formation of course content (Lonn & Teasley, 2009).
A blog, or weblog	Online diary where entries are normally written/displayed in reverse sequential order and in addition to text messages, postings can include photos, links, video and audio
Wikis	A web site design and authoring tool that permits a group of people collaboratively to add or edit web site content
Podcast	A series of digital-media (audio or video) files which are circulated over the Internet using syndication feeds for playback on mobile devices (MP3 players or iPods) and computers.
Gamification	Gamification” as the use of game design elements in non-game contexts.
Augmented Reality (AR)	Augmented reality (AR) is a variation of Virtual Reality which completely immerses a user inside a synthetic environment such that the user cannot see the real world around him. AR allows the user to see the real world, with virtual objects overlaid upon or composited with the real world.

Literature has evidence of a variety of benefits derived from teaching and learning using digital technologies. Digital technologies open up new opportunities for a more student oriented approach to learning, engage and empower students, increase peer learning and creative expression, develop literacy and communication skills. Such technologies play a vital role in facilitating learning, though keeping abreast with

latest technologies brings upon costs to institutions. Decisions about technologies need to be made with clarity of the potential benefits to students and their learning.

From an education perspective, digital Technologies can provide university management, educators and students with opportunities for creating an environment that enables different types of social interaction, ready access to information and can overcome some challenges related to the time and place constraints associated with teaching and learning that are normally presented overtime. Students can also take advantage of digital technologies to demonstrate their creativity in knowledge creation. The portability, ubiquity and low costs of digital technologies can enhance communication abilities and interactivity, enabling the Zimbabwean university students to be digital natives and prepare them for survival in an information rich digital society Johnson, et al (2013) posit that today's workforce requires university graduates to possess communication and critical thinking skills that can be fostered through technology enabled learning.

For students to compete effectively in this digital age, they must have the diverse digital skills. Emerging digital technologies like cloud, mobile, big data, and social networks can enable academic institutions in Zimbabwe to capitalize on new opportunities to improve efficiency and effectiveness and achieve quality education. More so there is evidence in literature that students who engage on relevant digital technology can positively impact on the society (Johnson, Adams, Estrada, & Freeman, 2014) hence delays in digital technologies integration widens the existing digital divide between Zimbabwean university students and their counterparts in developed nations

Problem Statement

Technology based teaching and learning is not visible in higher education institutions, particularly in the developing nations. Despite the widespread adoption and high access to digital technologies their use for learning and teaching in Zimbabwean universities has not been constant across programmes and institutions (Mbengo, 2014). Although Universities decision and policy makers encourage the use of digital technologies to enhance both the teaching and learning practices, a significant number of institutions in Zimbabwe have fully embraced the affordances of the digital technologies into the curriculum. Even among universities where the majority of students own such digital technologies and devices, their use for teaching and learning is still at its infancy (Bhuasiri, Xaymoungkhoun, Zo, Jeung, & Ciganek, 2012). More so there is little has been documentation of the students' perspectives about digital technologies in Zimbabwe's university education (Mbengo, 2014). The key questions answered by this study are:

1. What are the university students' perspectives about digital technologies in education?
2. Which digital technologies do students use and for what purpose?
3. What forms of digital technologies do students consider useful for their studies?

The current generation of university students are affectionately considered the digital natives (Prensky, 2001) hence knowledge about their digital technology choices, concerns and priorities could assist university management to make informed

decisions about technological investments from which they can get returns. Globally the university students have developed an inherent ability and reliance on technology across all contexts of their lives (Corrin, Lockyer, & Bennett, 2010) therefore answers to the preceding questions are necessary for making technological investments that favor their needs. Li and Ranieri (2010) argue that mere access to digital technologies does not translate to effective use in the learning context, hence the need to establish students' view point about digital technologies in education. This is on the premise that in a study by Kennedy, Krause, Gray, and Judd (2006) university student use a range of digital technologies for entertainment and seldom to support learning. In addition, in a study by Echenique (2014) university students' use of digital technologies in learning is influenced by a range of factors such as subject-specialty more than individual characteristics, differences in technology access or expertise, an observation acknowledged in a study by (Selwyn & Facer, 2014).

Objectives

The study aimed at investigating the perceptions and concerns of university students about teaching and learning through digital technologies. Although a well-researched phenomenon, little has been done with a focus on university students in developing nations (Mbengo, 2014) such as Zimbabwe. Much of the existing literature relate to the developed world with students that probably have different experiences and expectations about digital technologies from those in the developing world. For instance, Minocha (2009) examined the use of social software with respect to UK students' learning and engagement aimed at uncovering both the benefits and the challenges students experience from using the digital technologies. Little is known about how relevant the benefits and challenges are concerning the developing world context. The study thus sought to establish evidence based view about digital technologies in university education to enable university decision and policy makers to make informed future plans concerning technology enabled education since the appeal of digital technologies in universities varies with the context. On this basis, Kennedy, et al., (2006) contend that technological experiences are vital to informing university decision and policy formulation that can transform the way education is delivered. A consideration of students' technological concerns and priorities is vital since most developing countries seek to achieve quality education using scarce resources (Aiammary, 2012). Therefore, simply focusing on adopting digital technologies without proper operating model or framework can result in failure (Conole, de Laat, Dillon, & Darby, 2008) and thus deprive Universities of returns from the costly technological investments. On this premise the objective was to investigate the viewpoints of university students about integrating the digital technologies into education and assess their similarities and differences from their worldwide counterparts' perspectives reviewed in existing literature as discussed in the next section.

Related work

Despite many studies demonstrating levels and patterns of technology access and use in education, researchers are still concerned about the underutilization of digital technologies in universities (Noguera, 2015; Johnson, et al., 2013), a persisting trend since the 1990s (Dimaggio & Hargittai, 2001). For example, Echenique (2014) examined the use of new digital technologies in teaching and learning in higher

education and the findings show that in the developed world students use a variety of digital technologies and recognize their value as teaching and learning tools. Conole, de Laat, Dillon, & Darby (2008) carried out a series of in-depth case studies on students' use and experience of technologies and their findings demonstrate that technology is at the heart of all aspects of university students' lives and use them to support all aspects of their learning processes. Their findings show that students find digital technological tools appropriate in teaching and learning in a variety of ways, depending on individual needs and preferences ranging from directed study, resource discovery, preparation and completion of assignments, communication and collaboration, presentation and reflection.

Corrin, Lockyer, and Bennett (2010) like Liaw, Huang, and Chen (2007), explored the learners' attitudes toward e-learning system usages, and found that learners have abundant computer related and experience in digital technologies such as the browsers and electronic mail. They then concluded that university students believe that e-learning environments are an efficient learning tool and expect teachers to satisfy their learning needs that are technology based.

The study by Jones, Blackey, Fitzgibbon, and Chew (2010) indicate that at universities there is more use of educational technologies such as Power Point, Virtual Learning Environments and Wikis. They also reveal that social networking software is valued by university students as an ideal tool that assist both the students and/educators to reflect on their learning and teaching practice.

On the contrary, an investigation by Margaryan, Littlejohn, and Vojt (2011) on the extent and nature of university students' use of digital technologies for learning and socializing and their findings show that students use a limited range of established technologies with the use of collaborative knowledge creation tools, virtual worlds, and social networking sites very low. Kennedy, et al., (2006) reported that while most students regularly use established and available digital technologies such as email and Web searching tools, only a small subset of students use more advanced or newer digital technologies such as use of augmented reality, games and simulations.

In conclusion, from the reviewed literature is evidence that students appreciate the value of digital technologies in education. The main concern they university students have is on the limited integration of such technologies by the relevant institutions, which in turn hinders the students' technological abilities. The universities appear to have failed to set up a conducive environment that promotes students' use of digital technologies in the learning process. With this background, the subsequent section discusses the methodology used to collect and analyze data from Zimbabwean university students about their perspectives with regards to digital technologies in education.

Methodology

The research drew data from one of the sixteen universities in Zimbabwe. The choice of this university case was influenced by the institution's mission to produce technologically competent human resources and a workforce that is compliant with the current digital society' labor market requirements. A survey method was

employed where one hundred questionnaires were administered to both full time and part time students. A response rate of 84% was achieved, with eighty-four questionnaires returned and eighty-two questionnaires having clean data after two of the returned questionnaires were discarded for incomplete data entries and outliers. The survey questions were designed on the background knowledge that students' use of digital technologies is normally influenced by digital technology affordability, availability and accessibility. In addition, other questions sought to establish the demographic data, students' digital skills and competence, level of education, subject area and mode of study. The questions were easy to answer as students were mainly required to choose answers provided in the form of a 5 point Likert scale. There were only few open ended questions for further elaboration. The collected data was analyzed using the Statistical Package for Social Sciences (SPSS) and the subsequent findings were obtained.

Findings and Discussion

Through our investigation, we got the underlying findings towards answering the questions asked in the preceding section. Regarding the question on the perspectives of students about the use of digital technologies in the teaching and learning, we found that the students valued technology based teaching and learning very much. They revealed that digital technologies are convenient and flexible tools that could enhance their learning and improve their academic performance especially students enrolled in the business and engineering programme as depicted in Figure 1 and Table 3. The students found them valuable for both communication and retrieving course content material. However, the students expressed dissatisfaction with the service provision of IT infrastructure, campus computers, bandwidth and Wi-Fi.

The students also condemned lecturers for their irregularity in using the implemented LMS tools, which they felt deprived them of the affordances from the digital technologies which are currently enjoyed by their counterparts in universities in the developed nations. This is in alignment with the observation by Kolikant (2010) that both learning institutions and the educators have failed to build on the students' technological abilities. This is contrary to findings in Paul, Baker, and Cochran (2012) showing that academic institutions and faculty are increasingly using social networking sites, such as Face book and LinkedIn, to connect with current and potential students and to deliver instructional content. Table 2 is a representation of the low uptake of the electronic learning system currently deployed at the institution, which can be attributed to underutilization by the lecturers. Below is an extract of students' views in this regard that are further represented in Table 3 and figure 1 respectively. One student responded to a discontentment with the technological conditions at the university by saying that: *"The institution is depriving us from using and embracing the technologies by slow internet speed "*

Another commented on the benefits drawn from digital technologies in education as follows: *"It is of paramount importance because reading a hardcopy textbook is harassing than reading a soft copy at times due to poor network connections, this may lead to use of digital technology not being seen as helpful "*

Table 2 E-learning portal by Subject area

"Subject Area specific use of the institution's e-learning system"						
			portal			Total
			Not Useful	Somewh at useful	Very Useful	
Subject Area	Engineering	Count	6	2	17	25
		% within Subject Area	24.0%	8.0%	68.0%	100.0%
		% within portal	23.1%	22.2%	34.7%	29.8%
		% of Total	7.1%	2.4%	20.2%	29.8%
	Languages, Education	Count	3	2	5	10
		% within Subject Area	30.0%	20.0%	50.0%	100.0%
		% within portal	11.5%	22.2%	10.2%	11.9%
		% of Total	3.6%	2.4%	6.0%	11.9%
	Natural Sciences	Count	4	0	1	5
		% within Subject Area	80.0%	0.0%	20.0%	100.0%
		% within portal	15.4%	0.0%	2.0%	6.0%
		% of Total	4.8%	0.0%	1.2%	6.0%
	Creative Art and Design	Count	3	0	6	9
		% within Subject Area	33.3%	0.0%	66.7%	100.0%
		% within portal	11.5%	0.0%	12.2%	10.7%
		% of Total	3.6%	0.0%	7.1%	10.7%
Business	Count	10	5	20	35	
	% within Subject Area	28.6%	14.3%	57.1%	100.0%	
	% within portal	38.5%	55.6%	40.8%	41.7%	
	% of Total	11.9%	6.0%	23.8%	41.7%	
Total		Count	26	9	49	84
		% within Subject Area	31.0%	10.7%	58.3%	100.0%
		% within portal	100.0%	100.0%	100.0%	100.0%
		% of Total	31.0%	10.7%	58.3%	100.0%

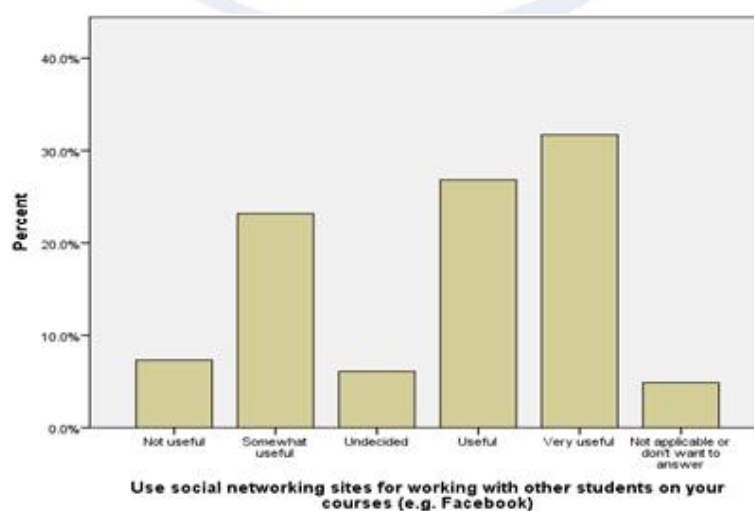


Figure 1 Digital technologies used for collaboration
 Table 3 Subject Area based usability of social networking technologies

		social networking			Total
		Not Useful	Somewhat useful	Very useful	
Subject Area	Engineering	4	8	12	24
	Languages, Education	0	4	6	10
	Natural Sciences	1	1	3	5
	Creative art and Design	0	2	7	9
	Business	5	9	20	34
Total		10	24	48	82

Table 4 Students' perceptions about digital technologies in education

	Not useful	Somewhat useful	Undecided	Useful	Very useful	Not applicable or Missing value
	%	%	%	%	%	%
Internet search engines	0.0%	3.7%	0.0%	24.4%	63.4%	8.5%
Search for journals	2.4%	7.3%	3.7%	26.8%	52.4%	7.3%
Use recordings or videos area of study	4.9%	11.0%	4.9%	26.8%	48.8%	3.7%
Use social networking sites students on your courses (e.g. Face book)	7.3%	23.2%	6.1%	26.8%	31.7%	4.9%
Wikipedia	7.3%	15.9%	3.7%	31.7%	30.5%	11.0%
Web-based bibliography tools	6.1%	18.3%	4.9%	36.6%	23.2%	11.0%
Use web-based document (e.g. Google Docs)	3.7%	15.9%	4.9%	35.4%	36.6%	3.7%
Free educational content (e.g. i-Tunes)	7.3%	19.5%	2.4%	29.3%	35.4%	6.1%
Twitter	31.0%	26.2%	7.1%	10.7%	11.9%	13.1%

Tables 3, 4 and Figure 1 are an indication of the usefulness of digital technologies to the students. Of most priority to the students' learning are the search engines used as the primary source of information. 60% of the surveyed students also confessed to using YouTube to both share and lectures notes from sources external to their institution. Table 5 shows that research activities are the fundamental purpose for technology use with 89% of students for the idea. These results can be attributed to the flexible bring your own device (BYOD) practice where students are free to use their digital devices and software within the institutional premises.

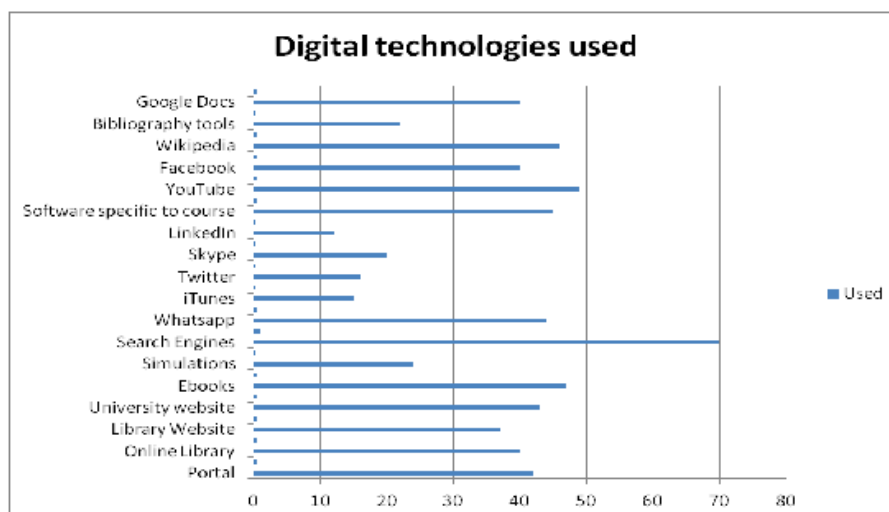


Figure 2 common digital technologies among students

Figure 2 concurs with the findings that the students are very aware of the digital technologies at their disposal for use in the learning practice. Interestingly, though, the use is concentrated on a limited selection of these technologies such as search engines at 70 %. Social media like twitter, Facebook and WhatsApp have limited use in academia probably due to the idea of separating the learning from social activities.

Table 5 Table 5 Common uses of digital technologies among students

Variable		Number	Percent
Find Information	no	9	10.7%
	yes	75	89.3%
Audios and Videos	no	23	27.4%
	yes	61	72.6%
Insert citations	no	59	70.2%
	yes	25	29.8%
Collaborations	no	39	46.4%
	yes	45	53.6%
Free sources	no	30	35.7%
	yes	54	64.3%
Communication with Instructors	no	36	42.9%
	yes	48	57.1%
Email33	no	32	38.1%
	yes	52	61.9%
Writing Documents	no	17	20.2%
	yes	67	79.8%
Presentations	no	18	21.4%
	yes	66	78.6%
Creating videos	no	44	52.4%
	yes	40	47.6%
portal	no	15	17.9%
	yes	69	82.1%

These results demonstrate that students rather focus on digital technologies that support their learning as indicated in literature that the students' digital technology preferences is highly determined by both task completion and academic performance. For instance, in Figure 3, simulation technologies are mostly used by the students

enrolled in the engineering courses as they find them handy in completing their practical task unlike the arts and natural sciences students with less application.

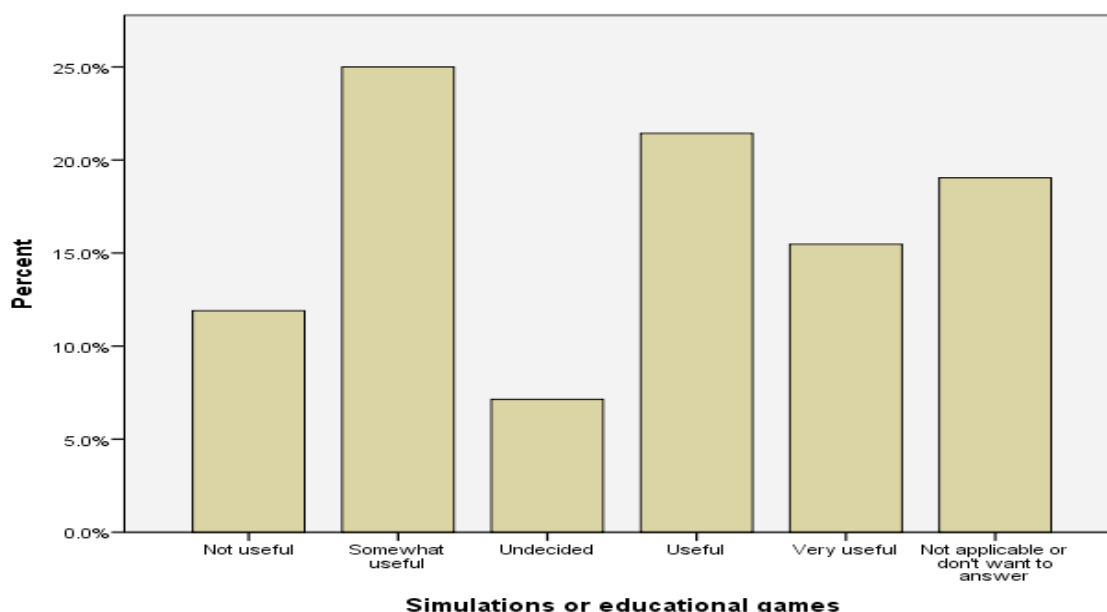


Figure 3 Course related technology preferences

These findings also show that the university students digital technology preferences are dependent on the capability to multiprocessing and discovery-based learning. Our research findings are contrary to the contention in literature that use of digital technologies by students is mostly influenced by age, giving rise to the digital natives and immigrants debate. According to this research, there are minimal differences in digital technologies usage across age. However, it seemed gender shaped the use of certain digital technologies such as social networks and library websites.

Our findings also reveal that availability, accessibility and affordability were not the major determinants of using the digital technologies in the learning practice. For example, Figure 2 has evidence of the affordability, availability and accessibility of the various digital technologies to the students both personally and institutionally. However, the same Figure 2 shows a gap between access to and use of such digital technologies as Face book, twitter, google docs and WhatsApp for learning purposes. This second order digital divide is puzzling considering the widespread access, affordability and availability of such technologies to the students' disposal. More so the uptake of such digital technologies as iTunes, Web-based e-learning portal and the citation tools are not as common among the surveyed Zimbabwean university students they are to their counterparts in the developed nations. This is evidenced by the 2.111 coefficient against a 0.184 value for twitter technology. It can thus be concluded that the popularity of any digital technology is rather consistent with environmental and institution contextual settings than the general notion of age as stipulated in Prensky (2001).

Consequently, the current second order digital divide existent in higher education environments in Zimbabwe could be attributed more to the institutional context than either technological and individual human characteristics. This is based on the observation by Kennedy, et al., (2006, p. 413) that "Universities are still ill equipped to educate a new generation of learners whose sophisticated use of emerging

technologies is incompatible with current teaching practice” The contribution from this research is therefore to inform both the university management and policy makers to develop ICT policies that facilitate the use of all the affordable, available and accessible digital technologies to both improve and enhance students’ learning and academic performances. The full utilization of the available and accessible digital technologies is bound to prepare the current generation of university students for survival in the current digital society. Furthermore, it will equip these students with the digital skills required in the 21st century labor market. It is therefore the duty of the university management and policy makers to ensure that their students neither lag behind nor are deprived of the digital technology affordances currently enjoyed by the students attending university in the developed nations. The institutions need to devise the technological implementation models that encourage a wide embrace of digital technologies for teaching and learning by both educators and students respectively. By so doing, the universities will also realize the returns from the costly technological investments.,

Conclusion

Through this research, it was clear that the both the institutions and students can afford and access available digital technologies that can be embraced in the teaching and learning practice. Nevertheless, a second order digital divide persists in the Zimbabwean learning institutions. Despite the widespread access to several digital technologies, a gap still exists in the full utilization of such technologies in education, a situation that both deprives students of the needed skills for survival in the information rich society and robs the institutions of the returns from the costly technological investments. There is therefore a need for the learning institutions to channel their resources towards the facilitation of an increased utilization of both the existing and future digital technology investments.

Despite these findings being based on a single university case in Zimbabwe, the results have an implication on learning institutions of similar situations where a paradox of the second order digital divide exists. For a more informed view on the students’ perceptions about digital technologies, future studies can focus on multiple cases with a longitudinal background to enable the provision of a more generalizable view that represents the perceptions of the students across institutions and environments. In addition, such studies should also incorporate both quantitative and qualitative data for the presentation of both valid and reliable results

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***Massive Multiplayer Online Games Communities:
Lessons for Diversity in School Classrooms***

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Abstract

Computer gaming is often seen as a barrier to good performance at school. It is claimed that young people are becoming more obese, demonstrating poor psychological adjustment and developing addictions to video games (Kulman, 2015). However, by using a systems approach to the understanding of group dynamics, based the Hackman and Morris (1975) Input-Process-Output Model of Group Performance, it is possible to find that there are lessons in learner experience from computer games, particularly the Massively Multiplayer Online Games (MMOGs), such as World of Warcraft, which may be applied to schools. By examining the Macro, Meso and Micro Levels (Hackman and Morris, 1975) and the accompanying Environmental Factors (Chou, 2015) of these two different communities, it may be seen that there are positive aspects of computer gaming that might be helpful in managing today's highly diverse school communities. Meso Level characteristics from MMO Games such as "self-organising" groups and Environmental Factors such as positive motivational drivers (e.g, empowering creativity and ownership) may be beneficial in developing a more learner-centred classroom. These characteristics could at least partially replace the "concocted" groups and negative loss avoidance motivational strategies that currently exist in European schools. This may go some way to developing classrooms in which diversity among students is respected rather than treated with contempt.

Keywords: School Community, MMOG Community, Group Performance, Diversity Management

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Introduction

Young people in schools today have to manage a wide range of stresses and pressures. These include intensifying pressures to perform on exams, even at a very young age, and stresses induced by the increasing diversity of our communities. As a result of increasing migration into and across European states and communities, as well as other pressures on young people, such as exams and social media, diversity management in European schools is becoming increasingly important in order to prevent conflicts in schools. The @MINDSET project has looked at diversity across a range of European states, and has developed a conflict prevention programme that provides Continuing Professional Development (CPD) for European teachers.

In order to better understand the needs of young people in schools, it is important to understand the nature of the social groups which these young people inhabit. The nature of young people's communities can be usefully analysed through a systems approach using an Input-Process-Output Model of Group Performance (Hackman and Morris, 1975). This will demonstrate how factors at various levels of analysis impact on young people. In this paper, the ways in which school environments and social environments, such as Massively Multiplayer Online (MMO) Gaming communities, impact on diverse groups of young people will be analysed, and lessons from MMOG communities will be explored for their applicability to school communities.

Both school communities and MMO Games communities can be described using the Input-Process-Output Model of Group Performance. The model will demonstrate how factors at various levels of analysis impact on the environment of young people. Figure 1 below illustrates the Input-Process-Output model, where group level factors, individual level factors, and environmental factors form the Inputs. The group interaction process in the community is the Process, and the Outputs can be seen in terms of group performance, community member satisfaction, community member development, etc.

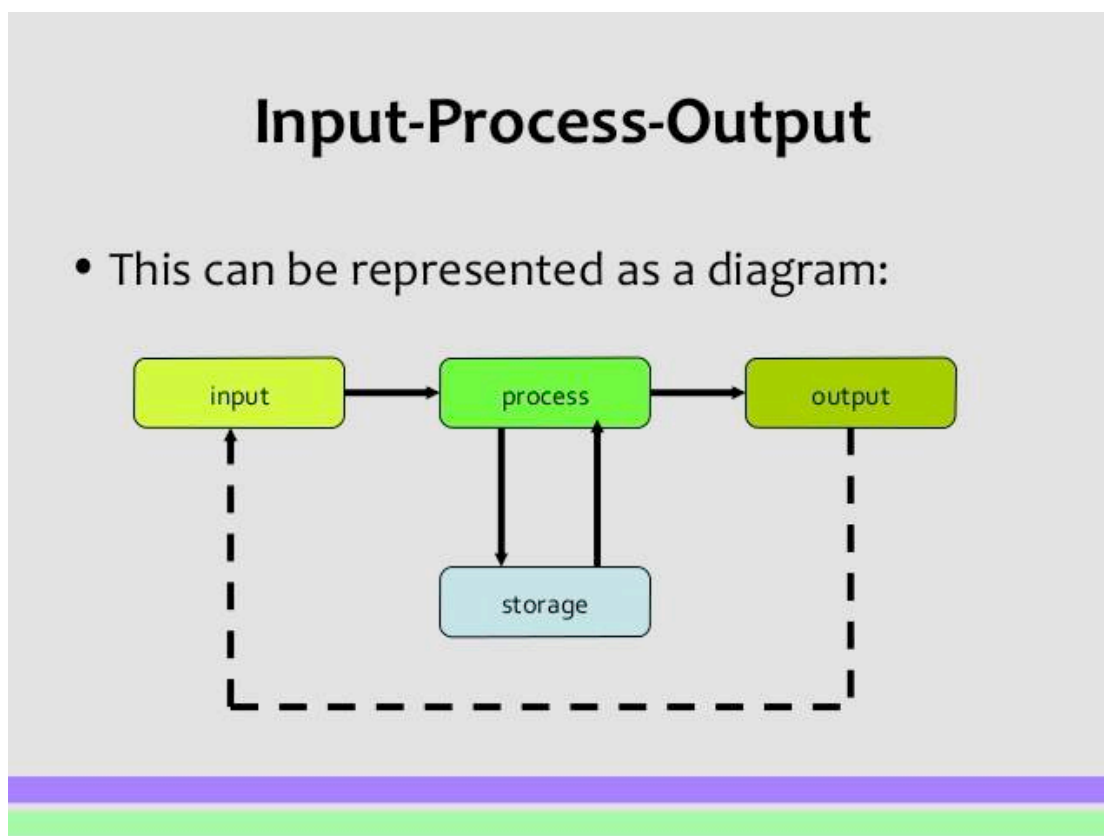


Figure 1: Input-Process-Output Model
(Source: <http://www.slideshare.net/menisantixs/pp10-input-processoutput>)

Figure 1 demonstrates that inputs to social processes can be analysed in terms of the Community (Macro Level), Groups within the Community (Meso Level), the Individual (Micro Level) and the Environmental Level.

Once it has been established how the two communities map onto the levels of analysis model, they can then be compared. In order to undertake a comparison, it is first necessary to look at what is known of the structure of these two communities. Figures 2 and 3 demonstrate how the levels of analysis may be applied to the two communities.



Figure 2: Community Structure in Schools

(Source: <http://www.slideshare.net/markmfelvus/micro-mesomacro>)

In Figure 2, the Macro Level includes:

The school itself

The wider community

Parents

Staff

Governors

The Meso Level includes:

The class

Sub-groups within the class

Cliques

While the Micro Level includes the individual students.

In MMOG communities, the levels may be diagrammed as follows:

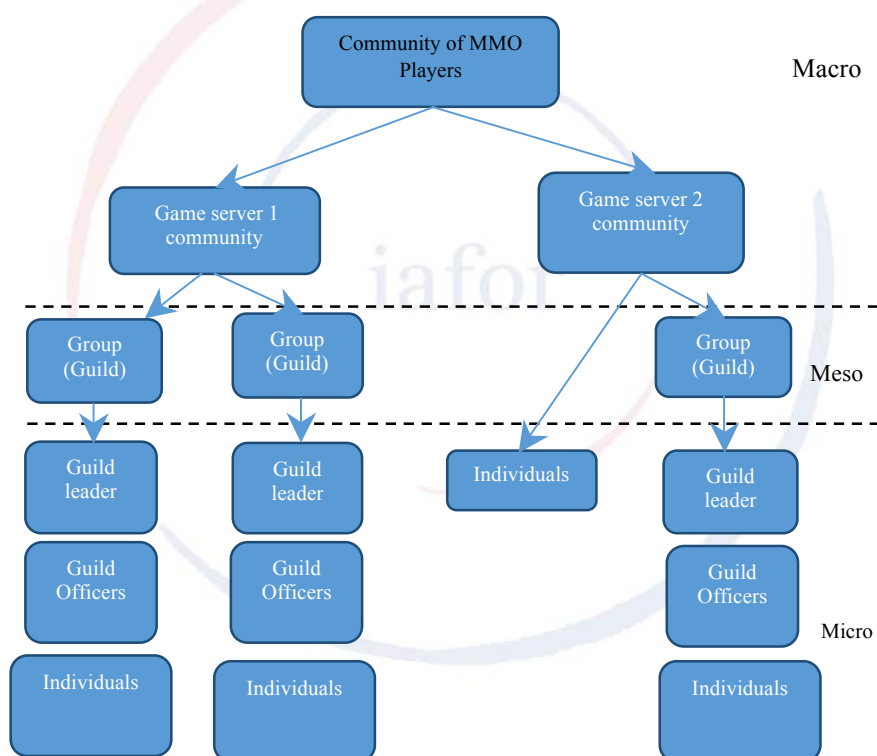


Figure 3: Community Structure for Massively Multiplayer Online Games (MMOG) Communities (Source: authors)

Figures 2 and 3 illustrate the levels of analysis model as applied schools (Figure 2) and MMOG communities (Figure 3). School communities are commonly thought to be very hierarchical. While this may be true in terms of the command and control management systems operating in many schools, it is less true in terms of the school as a larger community. Schools have a large variety of stakeholders at a macro level, which means there has to be a high level of community consensus and the establishment of norms which satisfy a broad range of needs for inclusivity. MMOG communities, in contrast (see Figure 3) have highly hierarchical structures. The top

level is the Macro Level, the centre is the Meso Level, and the bottom is the Micro Level. To a large extent in these Game communities, consensus is required a priori in order to play the game.

Group Factors at Macro Level

The Macro Level of a school community consists of multiple stakeholders:

Head of School

Staff

Governors

Parents

The Local Community

The School itself as an entity

For MMOG communities, the Macro Level consists of Game Community Managers who are responsible for the smooth running of a game world that is based on a server. Different servers will have different types of gameplay. In World of Warcraft, the types of gameplay are termed realms.

There are four main categories of realm: Normal realms, Player-versus-Player realms, Roleplaying realms and Roleplaying with Player-versus-Player realms, which will be considered below in order to understand the structure of the Macro Level of the game.

Normal realms, often referred to as Player-versus-Environment realms or simply PvE-realms, are realms in which the player base is mostly focused on the PvE aspects of the game. These include:

Undertaking quests

Exploring dungeons

Raiding

Killing bosses

The players on PvE realms also play PvP (Player-versus-Player), but this usually has a much lower priority. The technical difference between a PvE realm and a PvP realm is that no players are flagged for PvP combat outside enemy territory. This means players of the Alliance cannot attack players of the Horde when they meet in the world, unless they are in a Horde major city, or vice versa. Non-player characters (NPCs) of the opposite faction will still be hostile. An NPC, sometimes known as a non-person character or non-playable character, in a game is any character that is not controlled by a player.

Player-versus-Player realms, often referred to as PvP realms, are realms with a forced PvP flag in all contested territories. The main priority for players in PvP realms is usually split between PvP and PvE, and, although the server is marked as PvP, that does not indicate there aren't any players undertaking PvE on the realm. The only places you will be able to un-flag yourself for PvP is in your faction's territory and major cities.

Roleplaying realms, or RP realms, function in the same way as PvE realms. The only difference is an additional layer of rules regarding naming and language. On RP realms, players have to give their characters 'fitting' names. This means:

No '133tspeak' or 'dudespeak' names

No names with a totally unrelated meaning, such as 'Microwave'

No names related to real persons such as celebrities

If Blizzard finds a character with a name not fitting a RP realm, it pokes the character with a free name change (and an account warning/temp ban, depending on the seriousness of the bad name).

RP realms also have rules for chatting in the 'visible channels' (i.e. /s, /y and /e). You have to stay in-character in these channels. That means players have to talk as if they are in character, living in the Warcraft universe. It would be perfectly fine to say this on a RP realm: "Look at the nice weather! I want to take a walk down to Lakeshire and fish on the bridge." It would not be fine to say this on a RP realm: "My sister got a new Volvo yesterday. It's a nice and fast car." The difference is that the first sentence is in-character (IC), and the second sentence is out-of-character (OOC).

Roleplaying with Player-versus-Player realms, more often referred to as RP-PvP realms, functions in the same way as PvP realms, and includes the additional RP rule set. These realms are RP realms for the players who wish to play on realms with PvP flags up. (Lethan, 2011)

Norms

Norms are the informal and formal social expectations used by the community to guide behaviour. An example of a norm is the idea that competitors should shake hands after a sports event. Norms are important factors at the Macro Level of the group.

In schools, the Macro Level stakeholders together develop the expected norms of behaviour of the school. For schools, there are a variety of ways in which norms are communicated to the community. These include:

Behavioural contracts

Shared belief words (e.g. tolerance, kindness, integrity etc)

Mission statements (e.g. "creating educated and engaged citizens")

School motto (e.g. "Working together with Jesus by our side")

School song

Religious affiliations of the school

Schools promote their norms to the wider community so that the local area will be more likely to support the school. Good Governance should include positive interpersonal interactions between:

parents and the school

the school and the wider community

teachers and students

teachers and parents

Where positive and inclusive norms are established, these should reflect the needs of the macro stakeholders, the community sub-groups, and the individuals. Positive and inclusive norms should also impact on school governance, the arena in which Macro stakeholders interact. It is our contention that good governance has a direct effect on inclusivity within the school. It is personal interactions between stakeholders that can play an important role in school decision-making (van der Arend and Behagel, 2016). In MMOG communities, positive interpersonal interaction and reward creates positive ties between community members. Negative interpersonal interaction and punishment or unfair/ unjust treatment weakens those ties. For MMOG communities, the members are:

Fellow community members

Community Manager

Guild Leader

Guild Officers

For MMOG communities, norms are written into the rules of the realm and engagement with others within the realm is dictated entirely by the rules of the realm. In the examples of realms above, there are strict rules to which players must adhere. In some realms, competing factions cannot compete against each other unless certain conditions are met. With other realms, the language the player uses must adhere to certain codes to fit in with the realm lore. There are also extensive lists of rules governing conduct associated with the accompanying forums for the community. (Battlenet, 2015)

For both types of community, however, interpersonal interaction has multiple facets. For instance, there is a linkage between an individual's position within the community and their satisfaction with that community (Shaw, Robbin, and Belsar, 1981). Both communities may be studied using Sociometry (Moreno, 1956), in order to find the path of information flow through a group by examining interpersonal relationships.

Group Level Factors at Meso Level

The Meso Level of a school consists of classes, sub-groups within a class, and cliques. Cliques are excellent examples of self-categorising groups that develop their own ethos to perform effectively, taking into account the influence and cohesion that is present at a group level.

The Meso Level in the MMOG community consists of guilds, which are teams within a realm. These teams not only follow the rules of the realm, they will also decide upon their own acceptable modes of behaviour and goals.

Cliques and guilds are examples of self-categorising groups.

Social (Self-) Categorisation

In both communities, self-categorisation is extremely effective as a group development strategy as it immediately gives the community member a clear sense of belonging and identification with the group. These are self-organising groups that develop their own norms. Figure 4 below demonstrates the social categorisation and self-identification process, in which group members identify themselves with group characteristics in order to be identified as belonging to the group.

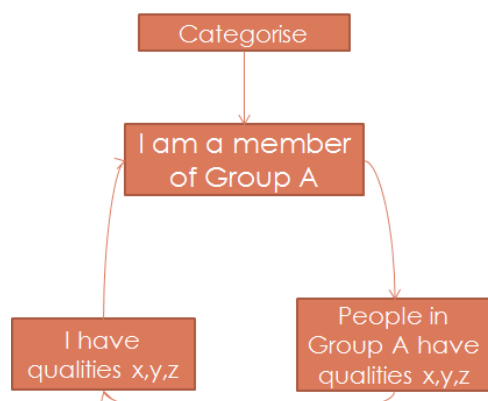


Figure 4: Social Categorisation

In schools, classes are artificial constructs to put students into "concocted groups" in which students do not necessarily identify with others as the classes are groups planned by individuals or authorities outside the group. As this is the case, the students in the class will often try to form self-organizing groups in the form of sub-groups or cliques which "emerge when interacting individuals gradually align their activities in a cooperative system of interdependence." (Forsythe, 2006) When this is left to happen naturally, it may lead to the possibility of the isolation of individuals or groups of individuals. Such social exclusion may have substantial and substantial and long lasting effects on cognitive performance (Emadi-Coffin, Fletcher, and Hetherington, 2015)

Group Identity and Esteem

School classes often struggle to develop group esteem due to the lack of the ability to socially categorise when they are first formed. To give students a sense of identity to strive together schools often create a second artificial group construct in the form "houses", where "house points" can be accumulated by individuals or house groups and put towards a grand total. As house membership is determined by teachers, this leaves no room for social categorisation, unless of course you are a student at Hogwarts and a sorting hat is applied on the day you enter the school.

Individual Factors (Micro Level)

The takes into account the individual's needs within a community, especially their need to express themselves as individuals but from within an inclusive and cohesive group.

The greatest similarity between MMOG communities and school communities is at this Level. The Membership Attitudes of the individual in both cases are:

- desire or intention to remain in the group
- identification with or loyalty to the group
- attitudes about other members of the group

Whereas the behaviour that each displays due to their attitudes are:

- their decision to participate in the group
- susceptibility to interpersonal influences
- commitment to group goals
- attachment to the group belief system or norms

If, however, an individual in a school does not have an attachment to the group belief system or norms, it is harder to leave the school than it is to leave a guild and a realm in the MMOG community.

Environmental Level Factors

Environmental Level factors are not related to the environment in a physical or virtual space where the community exists, but are related to the social environment that determines the types of tools that are used for motivation and reward so that the individual as well as the group succeeds.

Over the last decade, (Chou, 2015) has created a framework for motivation primarily for the purposes of instruction into how to apply gamification to products and services in order to engage consumers. This framework can be applied to communities and to engaging individuals in a community through eight core motivational drivers:

Epic meaning and calling

Narrative of personal growth

Empowerment of creativity and feedback

Ownership and possession

Social influence and relatedness

Scarcity and impatience

Unpredictability and curiosity

Loss avoidance

The first of the core drivers is epic meaning and calling. It is the driver that makes individuals connect emotionally because they believe they are participating in something bigger than themselves. This is often a technique used in change management and organizational studies (Czarniawska, 1998).

The second core driver motivates by developing a narrative of personal growth towards a targeted goal or set of goals. It creates a sense of accomplishment through challenges that can be quantified against others in the same setting and has its basis in performance studies (McGonigal, 2006).

Empowerment of creativity and feedback is the third core driver and is about autonomy. It is achieved through play and playfulness, including the creation and sharing of ideas and fun things to do. This drive has its roots in self-determination theory (Deci and Ryan, 1980).

The fourth driver, ownership and possession, derives from the human need to possess things and to protect those things that they own. Csikszentmihalyi (1993) splits these down into two main categories: objects of power and objects and continuity of the self. The motivation is based on the idea that objects extend the sense of self. "We need objects to magnify our power, enhance our beauty and extend our memory into the future." (Csikszentmihalyi 1993)

The fifth core driver, social influence and relatedness, is associated with the perception of individuals or groups of what others think of them. The perception may operate on a personal level or on a group level. This core driver motivates individuals to social mingle and compare themselves with others in terms of ability or material possessions.

The sixth core driver, scarcity and impatience, is centred on the human desire to have something that the individual cannot have, or at least cannot have immediately. In fact, when the goal is extremely hard to reach, this increases the scarcity and creates the same motivator. Scarcity and impatience is a combination of motivation caused by the economic concepts of supply and demand (Marshall, 1890) which are now the basis for almost all economic theories, including Worchel, Lee, and Adewole (1975). This driver also draws on Flow Theory (Csikszentmihalyi, 1990), where the difficulty of the challenge must meet the ability of the participant and grow as the participant grows in experience.

With the seventh core driver, unpredictability and curiosity, the notion of reward derives from Forster & Skinner (1957). Skinner's contingency of rewards that breaks them down into fixed and variable ratio schedules, fixed and variable interval schedules, and avoidance and chain schedules are the basis for the method of the distribution of the reward. The pacing of this reward can add a dimension of unpredictability which prevents the recipient falling into a rut and becoming demotivated.

The eighth and final core driver is loss avoidance. This is the simple motivator of fear of losing something. This may range from something that has been worked on to get and is hard earned both in time and or effort. Conversely the same effect can be achieved by the individual imagining or perceiving that they are missing out on something.

When you analyse both communities using Octalysis, it is interesting to see the similarities and differences in the motivational drives used, see Figures 5 and 6 below. The Octalysis Framework is an octagonal chart diagramming the Eight Core Drives of Gamification (George, 2012). The most marked difference between the two communities is the greater emphasis that schools place on using loss avoidance. It is used more often than other motivational drivers as a means of deterring poor behaviour than other motivational drivers. A second factor which shows a greater difference between the two communities is that schools have very little emphasis on ownership and possession as motivational drivers.

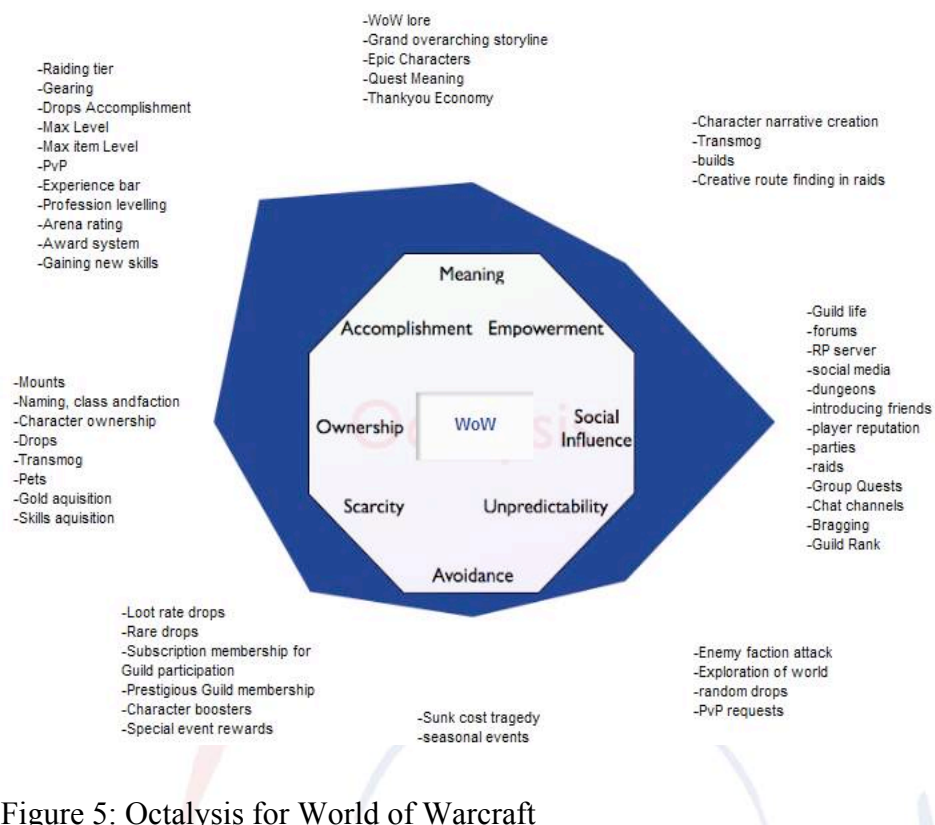


Figure 5: Octalysis for World of Warcraft

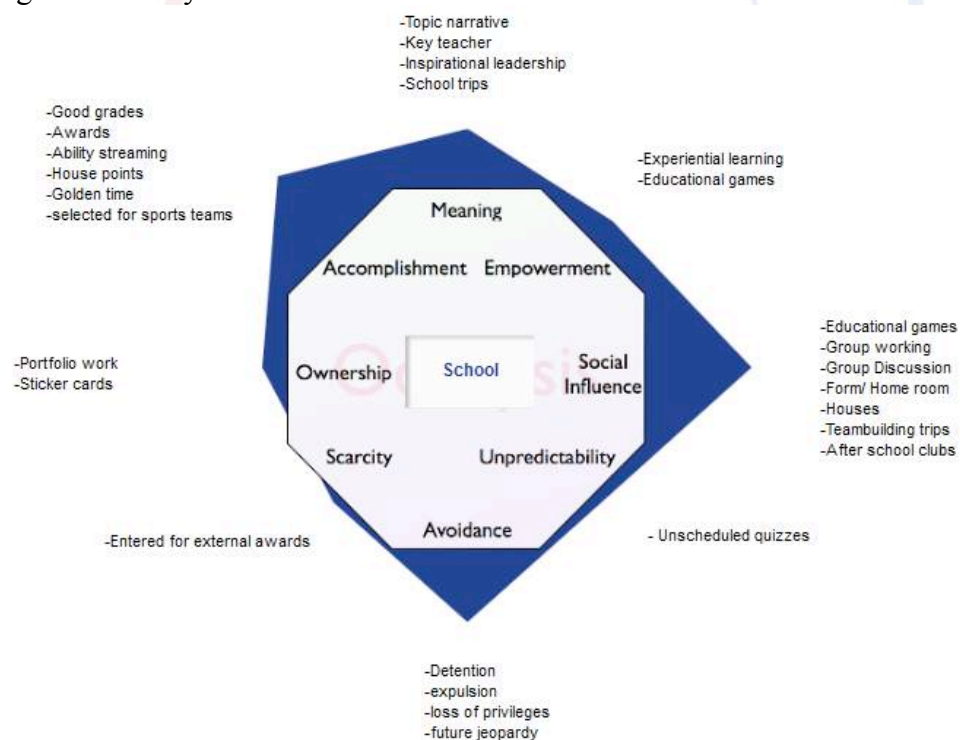


Figure 6: Octalysis for Schools

Conclusions

Despite the many criticisms that educators make of computer gaming, the @MINDSET project believes that there are some positive lessons that can be learned

from MMOG communities for managing diversity in school classrooms. There are significant lessons from the Meso Level and the Environment in games that may be usefully applied to schools.

The first lesson that can be learned from MMOG communities is from the Meso Level Group Factors. While the practise of creating "concocted groups" is a practical way to organise large numbers of students in a school community, it does not make the groups necessarily cohesive or productive. If there were a way of allowing "self-organizing groups," such as those found in MMOGs, to form naturally as a part of the planned structure of the school community and have these groups work towards their own shared goal it may increase the quality of their performance and satisfaction levels and reduce conflict and discrimination.

The second area in which schools could learn an important lesson is in Environmental Factors and the use of motivational drivers. The heavy reliance by schools on loss avoidance as a motivational driver has a significant effect on student relationships as this is termed a Black Hat motivational driver. The heavy use of Black Hat motivational drivers has been proven in computer games to be demotivational they cause feelings of powerlessness, a lack of fulfillment, dissatisfaction, and a lack of control. In contrast, motivational drivers such as ownership and possession encourage engagement and cooperation, and therefore improve social relations within the school. A conflict prevention programme, such as the @MINDSET managing diversity curriculum, is a long term investment for a schools. It needs to take a multi-faceted approach, learning lessons from other activities in which young people engage with minimal conflict. Evidence from MMOG communities suggests that focusing on group formation at the Meso Level and motivational drivers might be useful in creating less conflictual and discriminatory classrooms.

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***Can MOOC's be a Model For Providing Quality Higher Education to Refugees?
Lessons from the First Experiment***

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Abstract

The literature on refugee studies thus far has explored the role of education in the settlement of refugees in their host countries (Hek, 2005). Efforts to integrate them through various socio-economic programmes have met limited success with millions forced to work illegally in the informal economy (Orhan, 2015). Although holistic assistance is required to ensure their effective integration, we believe that access to quality education is the single most important variable that can define their socio-economic success in years to come. Traditional models of higher education have been largely inefficacious in bridging this gap as refugees face a multitude of obstacles in accessing higher education in their host countries, from legal documentation and high tuition fees, to language barriers. The advent of Massive Open Online Courses (MOOCs) has paved the way for a new model to facilitate democratization of education. Thanks to the widespread usage of mobile devices and computers among refugees in Germany, Kiron Open Higher Education is experimenting with the first ever attempt to provide open higher education to refugees through an online curricula that is mainly composed of MOOCs. The current research paper summarizes the lessons learnt from Kiron's pursuit to bring refugees on board with the German higher education system, deriving from the engagement with its first two batches of students.

Keywords: MOOCs, refugee education, forced migration, higher education, democratization, digitalization

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1.1 Introduction

The current wars and civil unrest in Syria, Iraq and Afghanistan have interrupted the education of hundreds of thousands of people who are of age to enrol in higher education (Ward, 2014), and has caused what is widely referred to as a “refugee crisis” in neighbouring countries and throughout Europe. Indeed worldwide the current number of refugees and displaced persons is higher than it has ever been (UNHCR, 2015). Observers have warned of the creation of a “lost generation” of young people who could possibly never receive access to higher education. Furthermore, the loss of an educated professional class could possibly deepen the challenge of restoring the war-torn states once the conflicts eventually subside (Butler, 2015). This may also further intensify integration processes in host countries. In response to this the German NGO “Kiron Open Higher Education” (hereafter referred to as Kiron) was founded in Spring 2015 with the mission to remove barriers refugees face in accessing higher education. Through an innovative model of blended learning, Kiron offers tailor-made, modularised curricula of MOOCs (Massive Open Online Courses) provided by renowned educational platforms enabling refugees to start studying, regardless of their location and legal status. Additionally, it offers an extensive student support network aimed at ensuring the student’s success in completing their studies.

This paper looks at some of the lessons learnt by Kiron from its first enrolment period, where it released an initial embryonic form of the platform, and the study opportunities it now offers to refugee-students. Firstly we will look at the data Kiron was able to collect from the enrolment period between October 2015 and February 2016. Then we will discuss the lessons learnt from this initial phase, from both the data and consultation with the wider literature. This will be followed by a comparison of the data from the first enrolment phase with data from the second enrolment phase. Additionally, there will be a discussion of the several development phases of the Kiron study model. We conclude with further avenues of research that are needed for Kiron to learn about what factors influence how refugees interact with its platform.

Kiron Open Higher Education (gGmbH) is a non-profit organization founded in 2015 with the mission to remove barriers refugees face in accessing higher education. Through an innovative model of blended learning, Kiron offers tailor-made, modularised curricula of MOOCs (Massive Open Online Courses) coming from renowned educational platforms like Coursera and edX so that refugees can start studying regardless of their location and legal status. Courses in the Kiron study tracks are Engineering, Business & Economics, Computer Science and Social Sciences, which are mostly provided in English, completely free of charge for the students and all accessible via the learning platform Kiron Campus (campus.kiron.ngo). Through strong partnerships with universities worldwide, students have the opportunity to apply to a partner university of Kiron after two years, get a major part of the online modules completed with Kiron recognized, and finish their program with a regular bachelor’s degree.

Table 1 - About Kiron Open Higher Education

1.2. Kiron Open Higher Education

In September 2015 Kiron launched its platform for refugees who wished to pursue higher education. The only requirement of the students at this time was that they had to provide a certificate proving their status as a refugee. The students were able to enrol and self-select a study track with Engineering, Business & Economics, Computer Science, Intercultural Studies and Architecture as the options available. The students would then be directed to external MOOC providers, and report back to Kiron when they had completed a course. Because at this time Kiron was acting to meet the needs of a rapidly expanding number of refugees, unable to access higher education from across the globe, the platform's initial set-up represented a prototypical version of its present configuration.

The engagement with a first batch of students prompted several iterations of the Kiron platform and ultimately led to an overall shift in the conceptualisation of what the organisation should provide. As such, whereas traditional research often relies on an extensive literature review before a solution is proposed to meet a research gap, this paper will instead lead with the data first, followed by reflections which will incorporate the wider literature. This reflects the process that Kiron underwent, and the lessons learnt afterwards, which were derived both looking at their data, and consulting with wider literature on refugees and online education.

2. Data from the first enrolment period

2.1. Data Collection

The data we collected for this paper consisted of information on the number of logins and user activity on the Kiron online platform during the first enrolment period, from October 2015 until March 2016. This data was provided to us as an SQL database, which we could then query for simple statistics of individual platform usage, data correlations, and usage over time. The data provided us with the students' gender, nationality, age, the curriculum they elected to take, the number of MOOCs they have completed (self-reported), the number of logins per user, and the dates of their logins. This data is not representative of the current status quo at Kiron, but its initial attempt at providing access to online education for refugees. The current status quo of Kiron's operations, and its future plans will be discussed towards the end of the paper.

2.2 Data Protection

The data we were provided was scrubbed to remove any information that may identify the students. The data was provided to us for research purposes with the consent of Kiron.

3. Data Analysis

For the data analysis of the SQL database we queried it using Python software. Typical queries involved comparing one data table with another, for example the number of user logins with students from different nationalities, to see if there were any meaningful results. We looked at means of logins and course completion self reports across nationalities, gender, age, level of education, and course selection. There were very few significant results ($p < 0.05$) coming from the data, and we will consider the implications of this in the discussion. However, the analysis did reveal some results that are meaningful to Kiron as an organisation, which we will detail below.

3.1. Results from the first enrolment period

In the first enrolment period 1,246 students applied to Kiron, however 527 did not respond to the invitation to complete their registration. Of those who did, 494 used the platform on multiple occasions. During this first enrolment period 73 students reported completing courses (there were 326 MOOCs available). To do this, the students would have to have logged into the platform at least twice. For the analysis, we compare those who logged in more than 20 times, “frequent users” (approximately once a week), with less regular users of the platform. However, as we shall see below, this was not useful as a representative of completion of online courses or general academic activity away from the platform.

Total number of applications:	1246
Total number of students who logged in at least once:	719
Total number of users who logged in more than once:	494
Total number of course completions:	263 (by 73 students)

Table 2 - Numbers of Applications, User Logins and Course Completions

The majority of students who registered for Kiron were from Syria ($n=702$), and the second most common national group were Afghans ($n=84$). Smaller national groups included Eritreans ($n=31$), Pakistanis ($n=43$), Palestinians ($n=35$) and Somalis ($n=57$) (see figure 1). However, for the analysis all the nationalities except for Syrians and Afghans were grouped together because there was not enough data from the smaller numbers to identify significant outcomes. Ultimately however, we found no cogent correlations between nationality and usage of the platform or course completion in the data.

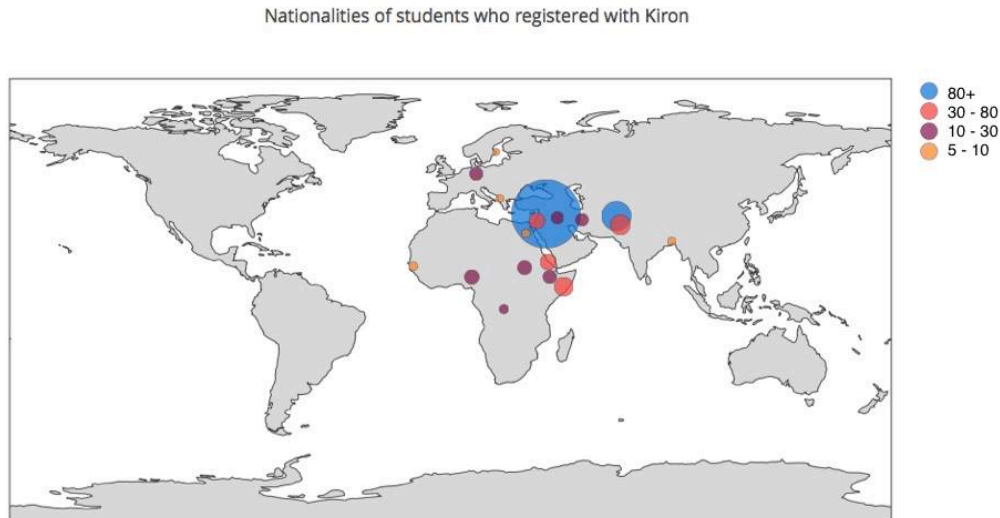


Figure 1 - Map of registered users by country of origin

Figure 2 – Graph of logins to courses completed

From here we excluded users who had never logged into the platform, and we looked at the correlation between logins and courses completed. In doing this we found no convincing correlations (see figure 2). However, there were some clusters (shown by the different colours), and which identify some striking groups of outliers. Three users had a very low number of logins, but high course completions, yet, for four users it was the opposite, with a high number of logins, but a low level of course completions. Here, several factors have to be taken into account. Firstly, the course completions by Kiron students are entirely self-reported. Kiron generally links to course content on external partner platforms, such as Coursera or EdX. Users could potentially access the courses prescribed by Kiron via the external providers, and then log into the Kiron platform again only to mark a course as completed.

We also compared the user-logins based on gender (see figure 3). Here we found that females were far less likely to register on the platform than males. Of the 1246 that applied, 226 were female (18%) and 1020 were male (82%). This is a somewhat concerning find that will be discussed in the next section of the paper. That said, as we can see in figure 3, females who did complete their registration and used the platform were using it just as much as the males. So, although fewer females were registering on the platform, their usage statistics were quite similar to the males, if not slightly better.

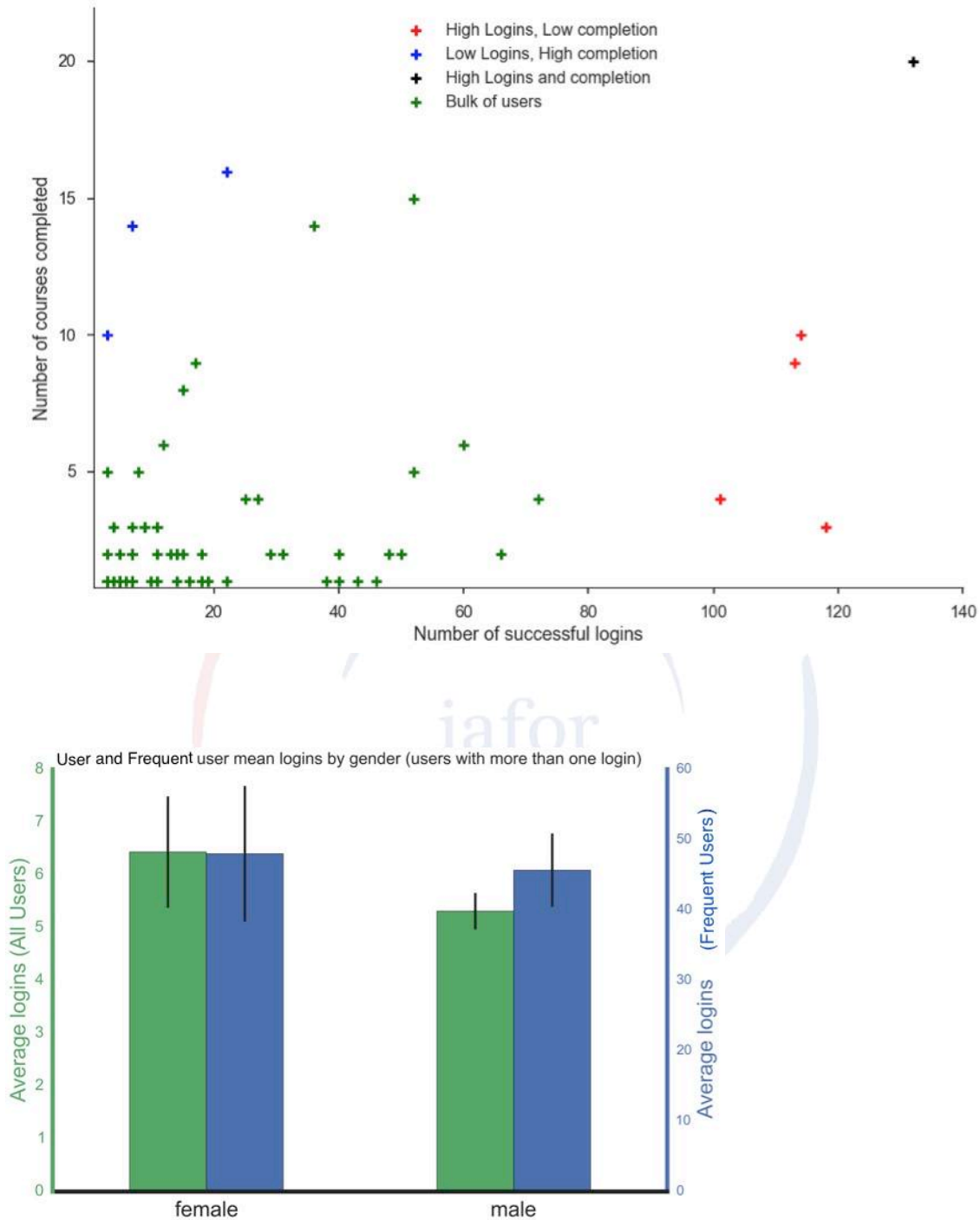


Figure 3 – Comparison of male and female login averages

Finally we looked at the login patterns of users and frequent users over time (see Figure 4). Here we found that, while the logins of frequent users remained at a fairly stable level over 24 weeks (reaching just about 100 per week), the logins of regular users dropped sharply after the first two weeks, and then stayed quite low throughout the rest of the time period. This suggests to us that it is important to make a strong effort to connect with the

students in the first two weeks of enrolling on the platform; otherwise they are unlikely to continue using the platform after this period.

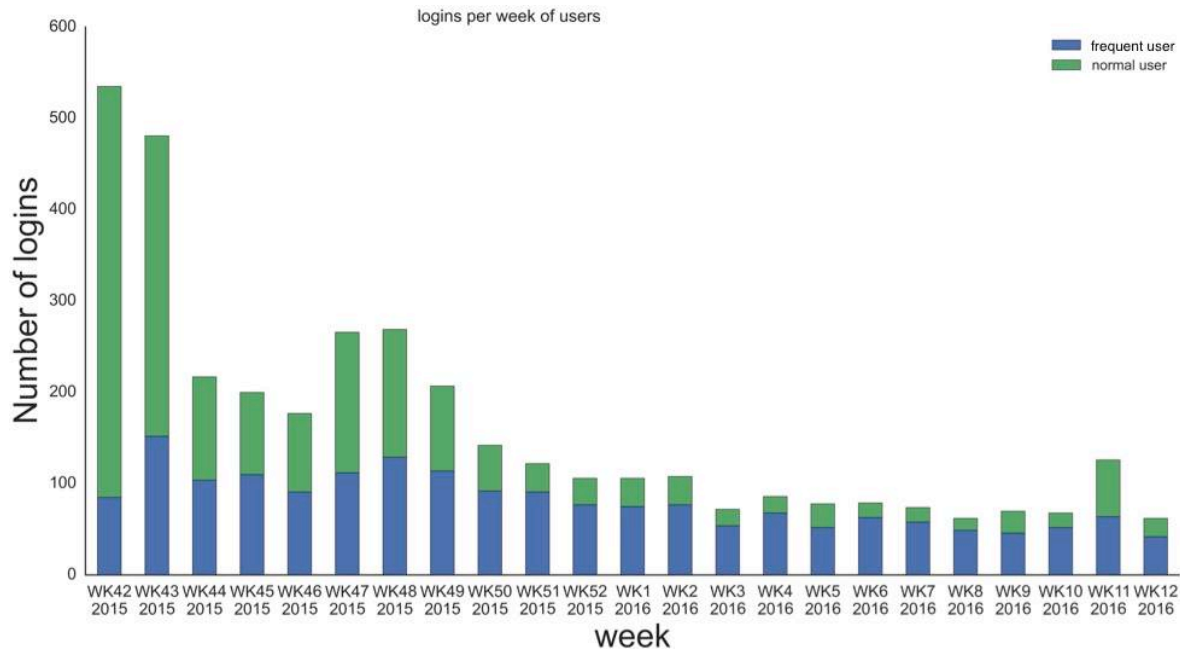


Figure 4 – Logins of users over time

3.2 Summary of findings from the first enrolment period

- Only a minority of users reported completing a MOOC as part of the Kiron curriculum so far (although this could be due to end dates of the courses extending to beyond the date of the data collected).
- User behaviour based on nationality indicated no direct correspondence between the user's activity and their country of origin.
- We found that there was no correlation between user logins and course completions, although there were some interesting outliers of users who recorded a high number of logins but few course completions and vice-versa.
- There was a large gender divide, in favour of males, in the number of applicants, but females using on the platform were, if anything, more likely to login on average.
- The first two weeks seem to be the time when most users will login, so an effort needs to be made in the first two weeks of enrolment to retain and engage the students who have logged on.

4. Discussion – Lessons learnt from the data and wider literature

4.1. Indications of platform usage

We found that the country of origin was not directly related to the success of student's study outcomes (course completion). In order to better understand and finally link the heterogeneous educational biographies of their students to their learning experience on

the platform, Kiron needs to further investigate their individual educational backgrounds. Fortunately there are clues within the literature on where to look in order to better understand what factors can have an impact on study success for refugees.

Prior educational attainment has been found to indicate the study success of refugees who enter higher education, particularly in English language (Fennelly & Palasz, 2003). **Providing appropriate support** is another aspect that requires special attention, as many refugees feel disadvantaged compared to non-refugee students because of a lack of support on entering higher education (Earnest, Joyce, de Mori, & Silvagni, 2010). In Germany refugees wishing to apply to a university face a multitude of hurdles. For instance, during the often tedious process of being recognized as asylum seekers, they are legally subjected to an “obligation of residence” (Wohnsitzauflage), which constrains their mobility and therefore their choice of university. At the same time, refugees are often put into collective housing, which research has shown can drastically impair the learning situation and access to the Internet (Schammann & Younso, 2016).

Providing sufficient support, and understanding of the structural disadvantages that refugees face is essential in ensuring that as students they will be motivated to continue in Higher Education. Unfortunately there has not been much research in this area beyond what has been detailed above. That said, although research has shown that refugees find academic life challenging, many find ways to cope with the different issues at hand through seeking peer support, and finding places more conducive to study (Hirano, 2015).

4.1.1. Lesson learned

What Kiron has since implemented on its study platform now reflects this need for additional guidance and support. When students register with the platform they must now inform Kiron of their previous level of education, so that in the future Kiron can see how much of an impact this has on their use of the platform. Also, as part of the registration process the students are presented with an English language test, so that they can better understand the level of English that is required of them to complete the online courses. The final change is that Kiron now offers support for students in terms of study buddies, psychological counselling, career mentors and English language support, to help to increase the retention of students through improving students’ study experience and well-being.

4.2. Literature on Refugees and MOOC-based Distance Learning

How refugees have, or could use Distance Learning as a way to gain access to formal higher education has thus far received very limited attention in academia. However, considerable effort has been devoted to researching the efficiency of Massive Open Online Courses through analysing data on student learning behaviour (Seaton, 2014).

While MOOCs provide students with high flexibility, through the possibility of accessing the same content multiple times, anywhere and anytime (Welsh & Dragusin, 2013) they

are typically said to have a low average retention rate, 15% (Jordan, 2015). Chung (2015) and Khalil and Ebner (2014) have explored the reasons for this low retention rate, and they have found the following factors as particularly relevant to a high dropout rate:

- Lack of time
- Diluted learner motivation to complete the course
- Feelings of isolation
- Lack of interactivity in MOOCs
- Insufficient background knowledge and skills
- Hidden costs
- Limited access to technology (particularly salient to refugees)
- Low levels of self-organisation
- Unwillingness to seek help

However, there is considerable debate on whether completion rates are indicative of the overall success of an online course. Reich (2014) prominently argues that these rates are typically evaluated without accounting for student intentions. When viewed in the appropriate context, the apparently low retention rate often appears to be more reasonable (Koller, 2013).

To our knowledge there has only been one account of research with refugees using MOOCs. Moser-Mercer (2014) found that in a small-scale study (2 male refugee participants, aged between 24 and 28) that learners face three main types of challenges, which were **technological** (e.g. access to the learning platform), **contextual** (e.g. time management is problematic in a refugee camp) and **linguistic** (e.g. following instructions in English, and understanding and completing assessment tasks).

The German Rector's Conference (HRK) has also emphasized that the amount of existing offers as well as the total number of traditional universities involved in host countries like Germany is not sufficient to systematically ensure access to higher education through MOOCs (HRK, 2014) neither for refugees nor any other target group of higher education. In general, the recognition of credits for MOOCs as well as the equivalence with on-campus programmes is still not widespread, even within many universities who themselves offer MOOCs (Bates, 2015).

4.2.1. Lesson learned

Since the first enrolment period Kiron has moved to tackle some of the challenges above that the may potentially students face and has rearranged its curriculum in order to better cater to the needs of its target group as well as ensure the general feasibility of its study tracks.

4.2.1.1. Study tracks

As a result of student feedback, as well as matching processes with partner universities, Kiron has rearranged its study tracks. As of March 15th 2016, Kiron now only offers 4 different study tracks: Engineering, Business & Economics, Computer Science and Social

Sciences. These provide the framework for a modularization of Kiron core curricula that facilitate the matching processes for study programmes at different partner universities.

4.2.1.2. Modularization

Kiron's academic concept is now following the common standards of the European Higher Education Area (EHEA) based on the Lisbon Recognition Convention as well as study programme accreditation guidelines provided by the German Accreditation Council. As a result of weak outcomes in student success rates with an academic model focussing on the single MOOC instead of coherent curricula, Kiron went forward in implementing a fully modularized curricula based on learning outcomes as the main indicator for successful learning processes. In July 2016 Kiron completed module handbooks for all four study tracks with at least 60 ECTS (transferable university credits) of potentially recognizable MOOCs clustered in modules with a workload of 5-10 ECTS. Kiron is also a member of working groups on virtual student mobility aiming at developing transferable guidelines for the recognition of MOOCs in on-campus degree programmes.

4.2.1.3. Kiron's Blended Learning 2.0

Kiron's academic concept is based upon different levels of blended learning that are realized through different platforms and academic partners. Its main goal is to find the appropriate balance between openness/flexibility and the individualisation of teaching and learning.

4.2.1.3.1. Synchronous and asynchronous e-learning

Especially self-paced Massive Open Online Courses provide a very asynchronous e-learning environment that makes highly flexible learning processes possible (see the literature section above). The low importance of location and time (Wannemacher et al., 2016) makes higher education much more accessible for mobile populations such as the target groups of Kiron. In order to facilitate synchronous e-learning processes and ensure the development and testing of the learning outcomes describing Kiron's modules, the organization has developed its own synchronous teaching concept called Kiron Direct Academics. Here, qualified academics can provide real-time interactive online tutorials in their field of expertise for students on a voluntary basis. Students get direct feedback and individualized support with key competencies such as academic writing.

4.2.1.3.1. Online and offline learning

The core of Kiron's innovative approach towards higher education is the possibility to get online credits acquired through the successful completion of a modularized set of MOOCs recognized for accredited bachelor's degree programmes at the partner universities of Kiron Open Higher Education (see figure 5). Refugees get the chance to combine a two-year online-study-phase at Kiron's online learning platform (campus.kiron.ngo) with a two-year offline study phase as a normal student in an accredited degree programme. This offers a totally new route to a bachelor's level degree to refugees who are not able to enter the traditional higher education system in their host country from the very beginning.

In major cities in Germany the organization has created study hubs to combat feelings of isolation and increase learner motivation. These pilot projects are also places where students can seek help with their work, discuss the tenor of a course, and share knowledge with their peers.

However, there are still challenges ahead. Because of the nature of distance learning, Kiron has to invest additional efforts into studying the life circumstances of their students. Kiron is a free service, and the MOOCs it offers access to are also free, but that does not necessarily mean that the students who use the platform have time and resources to devote themselves to regular study. Factors such as having easy access to technological infrastructure and sufficient funds to support being a student instead of working have to be taken into account. Kiron must also work to better build rapport with its students both online and offline to better understand their unique needs.

4.3. Gender gap in access and usage of the platform

In the data from the first enrolment period we found that there was a large gender gap in favour of males registering to use the platform. Here we will look at what the literature suggests may be obstacles for female refugees accessing higher education, and discuss the significance of this gender gap.

In their study on female refugees, Harris and Spark (2015), found that they may feel stronger pressures upon themselves when entering higher education, as pursuing education may challenge traditional cultural roles and identities. Limited access to higher education for female refugees is also a problem that has been recognised by the European Parliament (Europarlament, 2016). The gender divide within Kiron still strongly favours males. However, this may be more of a reflection of the demographics of refugees entering Europe. In 2015 the proportion of refugees entering Europe and claiming asylum, of university age (18-34), was 21% female and 79% male (Eurostat 2015). There is currently no reliable data that reveals the number of women among those 21% who have the educational background suitable to entering or re-entering higher education. This is understandable, as refugees may not be able to take documents with them that show their educational achievement, or their educational achievement in their home countries may not be recognised where they are now residing. However, one further statistic for us to bear in mind is the highest number of users from one country is Syria. Since half of Kiron students from the first enrolment cycle come from Syria (and the majority of females using the platform are also Syrian), we should take a look at the gender ratio in Syrian higher education before war times. Before the war women in Syria comprised of 41.4% of the university population (Hausmann, Tyson, & Zahidi, 2011), and had equal enrolment in secondary education (Bekhouche, Hausmann, Tyson, & Zahidi, 2013), yet our enrolment numbers for Syrian women are not representative of this. We have 834 male Syrians and 209 female Syrians who applied to the platform, a ratio of approximately 4:1, which shows an imbalance compared to the proportion of Syrian students who *could* enrol on Kiron. However, those Syrian refugees might not be in a position to gain access. At the moment this issue remains somewhat of a black box. A further consideration is the type of courses that Kiron offers, which are mostly STEM

courses. This adds another dimension to the gender inequality, because traditionally STEM subjects attract more male students (UNESCO, 2015), so Kiron may also need to become aware of the efforts in this area to attract female students.

4.3.1. Lesson learned:

Kiron is now increasingly aware of this general problem of female refugee access to higher education and is developing strategies to encourage more females to register on the platform. In order to develop these strategies Kiron is trying to find out more about what barriers female refugees face in accessing higher education, and what the organisation can do to support female refugees who wish to pursue higher education on their platform.

4.4. Further steps taken to tackle the rapid decline in users after the first two weeks

We saw from the data above that the number of students who used the platform declined after roughly two weeks of platform-usage. Therefore, for the next cohort of Kiron students, as of March 15th 2016, Kiron has implemented a multi-step registration and introductory phase. Kiron now requires several steps of registration in order to assure that the students who are registering for their platform are ready to embark on online higher education. Firstly the students have to take a short motivation test including questions about their educational background. Secondly, an English language proficiency test is compulsory with a minimum English Common European Framework of Reference (Council of Europe, 2001) level of B2. As a third and major step the students have to complete two test MOOCs before they can start accessing the Kiron curricula and choose one of the Kiron study tracks (see figure 6). After a beta phase Kiron is planning to introduce self-assessments developed together with partner universities the latest by October 2016.

Students can take modularized online courses to the amount of 60 ECTS via Kiron's online platform before applying for a partner university of Kiron.

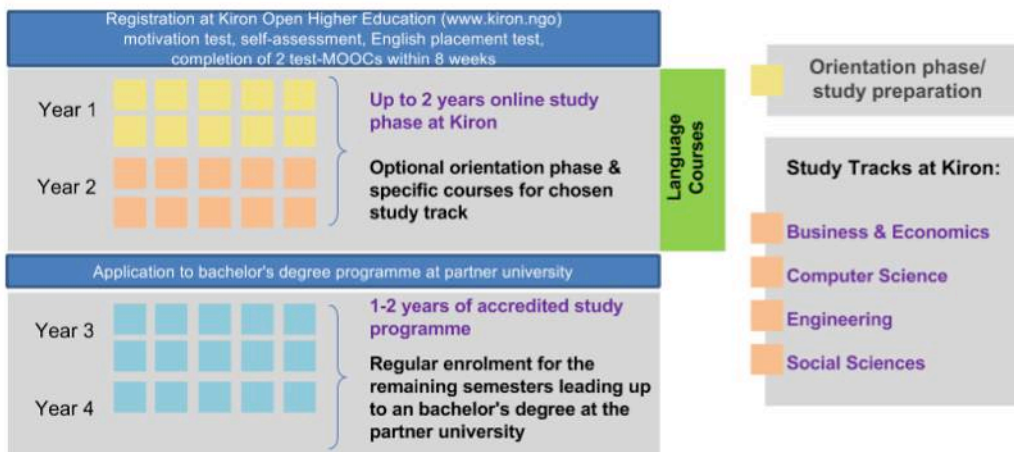


Figure 5 – Kiron’s Academic Model

5. Initial Findings from the second enrolment period

In this section we will detail some of the initial findings from the second enrolment period, which began in March 2016 (table 3). As this has period only just ended (June, 2016), they are not as detailed as those from the first enrolment period.

	2nd enrolment period	1 st enrolment period
Total number of applications:	1304	1246
Students who completed the new application components, i.e. students.	850	N/A
Total number of users who logged in at least once:	603	719
Total number of users who logged in more than once:	510	494
Total number of course completions:	347 (by 130 students)	263 (by 73 students)
Total number of MOOCs offered:	329	326

Table 3 – Numbers from the second enrolment period

As we can see there were more students who applied this time (n=1304), and a smaller proportion who logged in at least once. However, the results show that there is a greater amount of activity and platform usage from this enrolment period compared to the first enrolment period. This is evident in the number of students who have logged in more than once already, and the number of course completions from the second enrolment period (n=347), and more students in second enrolment period were completing those courses. Although this is only a comparison of two data sets, and there are limitations on the extent to which we can say there the improvement in user retention is a result of the reforms Kiron has introduced, the data from the second enrolment period is suggestive of improved student retention, and improved student engagement with the platform, and the study programme that Kiron offers.

6. Summary of Lessons learned

- Kiron needs to initiate more research aimed at better understanding the many structural disadvantages their current and prospective students face.

- In order for students to remain motivated and bridge the digital isolation from professors and co-students, Kiron is building a physical support-network for their students, which includes study-hubs in major cities, career mentoring, psychological counselling and language courses. Additionally Kiron is further developing its synchronous “Direct Academics”
- The user experience during the first two weeks of study seems to have a significant impact on student retention and motivation. Kiron has introduced several measures (intro to platform and style of learning during on-boarding, modularized study tracks) aimed at creating a smooth introduction to the study program programme.
- Additional effort needs to be made to understand what barriers limit the access of female students to higher education, and what Kiron can do to attract more female students to the platform.

7. Conclusion

Although still a very young online platform and learning provider, Kiron has been very proactive and responsive in providing a better study experience for students, and improving and expanding the services they offer. Kiron has managed to implement standards that reflect the requirements for traditional higher education institutions. Although the first set of data we were able to look at does not provide evidence for the long-term feasibility of Kiron’s academic concept. Through comprehensive research and development activities with external research partners Kiron needs to collect more valid data sets from its students in order to better understand platform usage patterns, as well as the contextual factors that may influence their activity on Kiron Campus. Kiron also needs to better connect this data to its outcomes-based theoretical framework. Only from this information will Kiron be able to make further long-term decisions as to what they offer their students, and how to pursue recognition and assessment processes with partner organisations.

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Digital Funds of Identity: Funds of Knowledge 2.0 for the Digital Generation?

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Abstract

This paper is a theoretically orientated analysis that synthesises the literature on Funds of Identity with the literature on digital identities. It makes the case for considering Funds of Identity as more than just an enrichment of the Funds of Knowledge approach by suggesting that it is in fact a development. This article also extends the concept and methodology of Funds of Identity by situating identity within a digitised interpretation of social interaction. It does this by exploring the role that avatars and virtual learning environments could play in the development of online identities and their potential application within the classroom. The literature on funds of identity is then synthesised with the literature on new technology, identity and digital literacies. This article also explains how digital funds of identity could be used in relation to domain specific knowledge which is illustrated by focusing on English literature and secondary education.

Keywords: funds of identity, funds of knowledge, new technology, digital literacies

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Introduction

In this paper, I extend the concept and methodology of Funds of Identity by dialoguing with the discourse on digital identities and literacies. I focus on the role that avatars, virtual learning environments, and hypertext could play in the development of online identities and their pedagogical application within the classroom, synthesising the literature on Funds of Identity (Joves et al., 2015; Subero, et al., 2016) with the literature on new technology, identity and digital literacies (Alvermann et al., 2012; Nakamura, 2013; Peachey & Withnail, 2013; Thomas, 2007; Yee, 2007; Yee & Baileson, 2007). My thesis is encapsulated in the following phrase: Digital Funds of Identity: Funds of knowledge 2.0. This phrase highlights the connection with Funds of Knowledge, which I consider to be foundational in its social-historical accounts of culture and the combating of deficit thinking. But it also emphasises that Funds of Identity is a significant development of the former concept. Therefore, I number it 2.0: firstly, to show that the Funds of Identity concept should be seen as an evolution of the Funds of Knowledge approach and secondly to locate the former approach within the growing academic discourse on digital identities and virtual learning environments. The numbering, 2.0, also references Web 2.0 which has enabled hybrid-learning spaces, such as Wikis, blogs, vlogs, multimedia sharing, that have transformed the way identity is conceptualised and articulated through sociocultural discourses.

Funds of Knowledge

*Funds of knowledge*¹ have been described as “historically accumulated and culturally developed bod[ies] of knowledge and skills essential for household or individual functioning and well being” (Moll et al. 1992, p. 133). Within the work of the Tucson scholars (Moll & Greenberg, 1990; Moll et al., 1992; Gonzalez, et al., 1993; Gonzalez et al., 2001; Gonzalez et al., 2005) *funds of knowledge* are an integral part of the survival of the household and the local community. The household is understood as socioculturally dynamic, functioning as part of a wider community in which households are all connected through social networks that ensure survival for the whole community (Moll, 1992). Within this conception of Funds of Knowledge, the household is seen as the main unit of analysis, and the skills and knowledge therein are taken to be representative of the whole family, although socio-historical perspectives emphasise that these bodies of knowledge and skills are spatially and temporally dynamic (Guiterrez & Rogoff, 2003). Teachers are trained as ethnographers and visit students’ households in order to identify and document cultural knowledge that exists in students’ homes (Gonzalez et al., 1993). These investigations seek to understand household practices, skills and bodies of knowledge from a historical perspective. The collected data is then used to construct units of work that not only help to bridge the gap between home and school, but valorise marginalised students’ out-of-school identities and lives. So influential is the household visit that Joves et al. (2015) refer to it as a highlight of the Funds of Knowledge approach.

¹ When I discuss the brand or the concept of Funds of Knowledge I will capitalise the phrase. However, when discussing the bodies of knowledge and skills that individuals possess (their *funds of knowledge*) I will italicise and write the phrase in lower case in order to remove ambiguity. The same principal is applied to the Funds of Identity concept.

However, the emphasis on a single methodology has been critiqued for creating dependence on adult household practices as the main unit of analysis (Esteban-Guitart & Moll 2014; Hogg, 2011;). Moll (2005) himself, a founding member of the Funds of Knowledge approach, came to recognise that “children create their own social worlds, with accompanying *funds of knowledge*, which may be independent from adults’ social life and their shared home environments” (p. 279)². In response to the critique of overreliance on a single methodology (Esteban-Guitart & Moll, 2014), the concept of Funds of Identity has been developed and has started to gain traction in the literature (Joves et al., 2015; Nogueira, 2014; Subero, et al., 2016).

Funds of Identity

Definition of funds of identity

Whereas *funds of knowledge* are taken to be the resources, skills and bodies of knowledge of adults, *funds of identity* are constructed and appropriated by individuals in the construction of their identity (Esteban-Guitart, 2012). Therefore, individuals accumulate not just household *funds of knowledge* but also life experiences that help them to define themselves (Joves et al., 2015). These life experiences, it is argued, may or may not be in continuity with the *funds of knowledge* available in the family home (Subero et al., 2016) as children also create their own *funds of knowledge* (Esteban-Guitart & Moll, 2014; Nogueira, 2014). Although there can be discontinuity between household knowledge and an individual’s experiences, the two approaches are seen as complementary, with Funds of Identity enriching or refining the Funds of Knowledge concept (Joves et al., 2015). As Esteban-Guitart & Moll explain “funds of knowledge are funds of identity when people use them to define themselves” (2014, p. 37). However, *funds of knowledge* are still considered to be dominant as they are the impetus behind identity formation (Saubich & Esteban-Guitart, 2011).

Strategies for uncovering funds of identity

In order to detect *funds of identity*, researchers make use of visual methods, such as *self-portraits* (Saubich & Esteban-Guitart, 2011) and a *significant circle* which is defined as a graphical representation based on relation mapping which involves participants writing down the people and activities or things that are most meaningful to them in a big circle (Joves et al., 2015). Subero et al. (2016) also suggest the use of symbolic artefacts as a way for students to bring aspects of their out-of-school lives into school. Because artefacts are endowed with “identity resonances” (Zipin, 2009), they can be used by teachers as a springboard for the identification and analysis of local lifeworld issues and *funds of identity*. Researchers have also made use of identity texts for detecting and creating new *funds of identity* (Subero et al. 2016). An identity text can be any artefact produced by students who have invested some of their identity in them. These texts can be multimodal – that is in written, spoken, visual, and musical form, allowing for the combining of different modalities. Identity texts are also well suited for bilingual learners. As Subero et al. (2016) explain “connecting to English what students know in their first language is a strategy that helps to affirm

² See Moje et al. (2004); Hattem et al. (2009); Johnson & Johnson (2016); Zipin (2009) for alternative conceptualisations of out-of-school contexts and funds of knowledge.

and recognise their identities and to foster biliteracy development in an effort to expand pupils' thinking" (p. 9).

Pedagogical application of Funds of Identity

Identity is fundamental to education and has many pedagogical applications, particularly in relation to the Funds of Identity approach. For students, identity can be used as a lens through which to absorb new information and identities (Esteban-Guitart & Moll, 2014). For researchers, focusing on the individual student rather than a household analysis can help to uncover variation in students' *funds of identity* (Esteban-Guitart & Moll, 2014). By locating individuals' *funds of identity* within sociocultural accounts of learning and identity formation, which stress a historical and contextual account of culture, teachers can work through their own deficit thinking about their students (see Sugarman, 2010 for an account of a teacher using a students' funds of knowledge to address deficit thinking). For schools in general and teachers specifically, uncovering and drawing on students' *funds of identity* can transform educational practices, which typically marginalise out-of-school knowledge, so educators become more sensitive to the lived experience learners (Joves et al., 2015). Teachers also need to be aware that identity formation is never a private, internal activity that is outside of their concern; rather, the process requires external validation; an accompanying transformation in teachers' and peers' own behaviour towards the individual student in order for a new identity or role to move beyond an inchoate state to become integrated within the personality. However, the emphasis on the formal curriculum can quash the development of learners' emerging identities and roles, particularly because even now policy is still biased towards fixed, trait-like accounts of culture (Guitierrez and Rogoff, 2003). This can lead to blind spots in which teachers overlook their students' *funds of identities*.

Limitations of strategies for identifying funds of identity

However, Subero et al. (2016) identify a number of limitations with the current strategies used for identifying students' *funds of identity*. Firstly, a great deal of time is required to develop activities. Secondly, undertaking Funds of Identity research requires teachers to be skilled in techniques and strategies for uncovering *funds of identity*, and almost certainly would require professional development. Finally, the activities suggest for identifying *funds of identity* do not always generate new knowledge. Subero et al. (2016) locate the concept of Funds of Identity within the notion of prospective education, which requires the development of new competencies that increasingly find their expression in the form of digital literacies and the creation of new knowledge. As some of the strategies suggested are largely linear in nature – such as the self-portrait – it can be seen that there is a tension between the aims to which Funds of Identity is being put and the strategies employed for doing so. Another limitation lies in the way identity is conceptualised. Thus far, the Funds of Identity discourse has failed to engage with recent developments in the conceptualisation of digital identity in relation to new technology and digital literacies³. Joves et al. (2015) and Subero et al. (2016), I would argue, over emphasise the strategies used for detecting *funds of identity*, consequently under-theorising the

³ However, Schwartz (2015) has explored digital literacy and new technology in relation to Funds of Knowledge.

concept of identity as it has been dealt with by Esteban-Guitart & Moll (2014). While Nogueira (2014) does extend the concept of identity, her critique does not suggest how extending the concept of identity impacts on the methodologies employed by teachers and researchers for uncovering *funds of identity*.

In response, I propose appropriating the work of digital identities, multimodalities and digital literacies (Peachey & Withnail, 2013; Thomas, 2011; Warburton, 2009; Warburton & Hatzipanagos, 2013) which could help to overcome the limitations highlighted above.

Digital identities and literacies

Digital literacies

Digital technologies, such as smart phones and laptop computers, have revolutionarised education, particularly literacy practice, by adding a third dimension of space, which allows for collaboration, and a fourth dimension of time, which allows for interaction. Increasingly for millennials – those born after 1981 - reality includes new literacies embedded within new technologies such as vlogs, smart phones, simulations, interfaces, and hypertext (Miller, 2015). The creation of multimodal texts now involves the juxtaposition of text, sound, and image. However, there still remains a disconnect between home and school as many teachers do not recognise or valorise students' facility and familiarity with new technology or multimodalities as they themselves equate literacy with traditional pen and paper forms of literacy. Teachers also hold deficit views of their students' *digital funds of knowledge* which underestimates their ability to manipulate new technology (Honan, 2008) despite the fact that many young students are more adapt than their teachers at creating multimodal texts.

Digital Identities

The transformation of literacy has also had a profound effect on the way identity is conceived and constructed vis-à-vis new technology. While the discourse on digital identities is still ontologically sociocultural in nature (Jäkälä & Berki, 2014; Peachey & Withnail, 2013), the proliferation of new technology has created a nascent form of social identity, the technological identity (Amaral & Monteiro, 2002). In contrast to real world social interaction and identities, digital identities are mediated by digital literacies and multimodalities that allow individuals to (re)present themselves in ways that would be impossible in the real world. This digital or technological identity is represented by five distinct types: eponymity,onymity, anonymity, pseudonymity, and polynimity (Jäkälä & Berki, 2014). Althoughonymity and anonymity are significant, I will only define eponymity, pseudonymity and polynimity as they are most relevant to Funds of Identity and education. Briefly, eponymity involves an individual constructing an online identity that corresponds to their 'actual' offline identity. This might involve the use of the individual's name and a corresponding photograph. Eponymous identities are often utilised in educational settings, such as virtual learning environments. In contrast is pseudonymity, which involves being identified by a name that is not an individual's real name. Pseudonymity can offer individuals safety when entering virtual communities and has been identified with positive outcomes which include challenging the digital divide, increasing social

inclusion, and enhancing self-presentation for online students (Jäkälä & Berki, 2014). For these reasons, pseudonymity is a powerful form of identity that should be appropriated by the Funds of Identity discourse. Connected to pseudonymity, polynimity involves an individual using a number of different names that may be a mix of eponymous and pseudonymous identities. The construction of different identities, real or not, also has potential utility for Funds of Identity, particularly as students often identify differentially to subjects. Pseudonymity and polynimity are often encapsulated in the form of an avatar. Although there are many forms of online identity, I will limit myself to considering how pseudonymous and polyninimous avatars could be effective in identifying and facilitating the construction of funds of identity.

Avatars

The role of avatars in the construction of identity has received considerable attention from researchers (Bailenson, 2013; Peachey & Withnail, 2013; Thomas, 2007; Yee, 2007; Yee & Bailenson, 2007). Thomas (2007) views identity as embodied and instantiated in the avatar as a performance that is always enacted through the body in the form of gender, age, race, age, and ethnicity. Although cyberspace is often viewed as disembodied, Thomas's emphasis on the physicality of the body is a reminder that offline and online identities are inextricably linked and intimately tied to emotions. This provides a link with Funds of Identity: for if individuals' personalities grow in response to the working through of complex emotional situations then virtual learning environments and identity representations like pseudonymity through avatars can facilitate the move towards catharsis and integration by scaffolding progress through an individual's *zone of proximal identity development*. In Vygotsky's original theory, a student undertakes a task in collaboration with an adult or an expert which they cannot ordinarily undertake independently. The experience pushes the student further along their *zone of proximal development*. This experience is subsequently internalised, gradually leading to understanding and the ability to reproduce the task or skill independently (Vygotsky, 1998). Social interaction is thus understood as cooperatively achieved success (Wood, 2003) which is considered to be a prerequisite for both learning and constructing identity. It is no surprise then to find that many individuals select avatars that allow them to project an idealised version of themselves, thereby sustaining a feeling of confidence when they return to the real world (Peachey & Withnail, 2013). The emphasis on appearance and change is also explored by Yee (2007) who makes a distinction between veridical change (corresponding to reality) and non-veridical change (human desire to change ourselves). While physical change, such as undergoing a haircut or plastic surgery, can be effected in the real world at some expense and potential risk, digital media provides a way to easily enact change in through avatars in collaborative virtual learning environments (2007).

Virtual Learning world

A virtual world is a richly graphical three-dimensional online representation of space in which users can move around using an interactive avatar (Peachey & Withnail, 2013). An example of a collaborative virtual environment is *Second Life*, an immersive virtual environment unrestricted by any imposed external narrative (Peachey & Withnail, 2013). Residents – as users of *Second Life* are called – are able

to create anything they need in order to function in world. Increasingly, virtual worlds are replacing the classroom as the main space in which learning takes place (Peachey & Withnail, 2013; Petrakou, 2010). However, the role of virtual learning environments in primary and secondary education remains underexplored. Potentially, collaborative virtual learning environments could facilitate the deployment and development of digital literacies that also provide students with a more egalitarian context in which the insecurities and socioeconomic inequalities of their real lives can be (temporarily) bracketed. This points to the potential of avatars and virtual learning environments in furthering social justice for disadvantaged students.

Overall, it can be seen that the relationship between identities in real and second life are not separate but reciprocal. Increasingly, individuals do not distinguish between offline and online identities (Thomas, 2007). While they bring with them aspects of their identities and rules for social interaction from the real world which determine the way they behave in virtual environments, they also take back with them identities and social practices that redefine social interaction and an individual's identity in first life. This has led to the notion of hybrid identities that are a mixture of offline and online social interaction. While we cannot (yet) physically embody an avatar in real life, the positive changes that occur in terms of identity, increased confidence, and development of digital literacies can transform the way individuals behave in both an immersive virtual environment (Yee & Bailenson, 2007) and their behavior in the first life (Peachey & Withnail, 2013). The effect that digital environments can have on raising students' self-esteem has many applications in the classroom to which I turn next.

Funds of knowledge 2.0: towards digital funds of identity

In this section, I explore some of the pedagogical and methodological implications of using digital contexts for researching and utilising students' *funds of identity*. I focus on the teaching of English literature at GCSE level with bilingual learners in mind in order to provide a specific instantiation of *digital funds of identity*. These two examples also reflect my own teaching and research background. I also focus on a specific subject in order to underscore the hypothesis that students relate to school subjects and teachers differentially which has implications for the way they perceive, and subsequently construct, identities.

Avatars and virtual learning environments

The use of an avatar as a cultural artefact is inspired by identity artefacts as suggested by The Home School Exchange Project (Hughes & Pollard, 2006), Schwartz (2015), Subero et al. (2016), and Zipin (2009). However, it adapts the use of artefacts in a significant way. While the physical artefact embodies an existing identity, the creation of an avatar is an open-ended process that can be developed over time. Students are therefore able to modify their avatars' appearance in order to reflect their own emotions and developing understanding of themselves. The use of avatars could also allow for polynimity (multiple online identities). Although currently empirically untested, it is the author's hypothesis that students tend to relate to school subjects and teachers differentially. As a result, they are also likely to develop different identities in relation to specific subjects and teachers. Therefore, teachers should encourage students to develop an avatar for each subject. This will also be of more

utility to teachers hoping to tap existing, and emerging, *funds of identity* as it will provide them with subject specific resonances from which to draw. *Funds of identity*, then, are not just mediated by digital literacies and virtual learning environments, they are also constituted by domain specific knowledge. Moreover, unlike the traditional classroom, which is bounded by time and space, a virtual representation of the classroom in *Second Life* breaks down the boundary between home and school giving students a chance to redefine themselves by creating online personas in the form of avatars. The intersection of avatar and learning environment could also help to bridge the digital divide between school and the home (Honan, 2008) by drawing on digital literacies and immersive online environments with which students may already be familiar. For example, teacher and students could collaborate to create a virtual learning environment that reflects the location or time period of a particular text. Students then develop avatars in response to their burgeoning understanding of (con)text, their existing digital literacies, and existing identities. Some students might choose to create avatars that represent characters from a text while others might choose to develop avatars that reveal something about their attitude towards English literature in general.

Empathy and identity

Empathy is also an important skill linked to identity development that could be developed through the use of avatars and virtual learning environments. Empathy is considered to be fundamental in understanding personality dynamics and for effecting changes in personality (identity) and behaviour (Rogers, 1995). It is also related to positive outcomes and is an important factor in constructive learning which is integral for emotional and psychological growth. Avatars offer teachers the opportunity to develop students' empathy which simultaneously develops their understanding of both literary characters and their own (emerging) identities. For example, students could be assigned a character from a text and are given the task of creating an avatar that represents that character. The resulting avatar reveals the students' interpretation of their assigned character while also embodying a range of hybrid identities. Students are then encouraged to embody the identity of their character by taking on their idiolect and behavioral idiosyncrasies. Students then "perform" their character *inworld*, giving an interesting spin on what would normally be a conventional drama-based activity. The development of empathy created through such close identification with characters from fiction could also assist students in developing new identities. Despite its centrality in identity formation, the role of empathy in the classroom is missing from sociocultural accounts of identity. Avatars and digital learning environments offer the chance to extend empathetic relationships that are typically played out in face-to-face interaction, and can be used as conduits through which *funds of identity* are channeled in the construction of new identities which may help to overcome the limitations identified by Subero et al (2016). By changing the strategy for identifying *funds of identity* to one that is inherently performative and prospective – that is, one that is digitised - it is more likely that new knowledge will be produced as students will be drawing upon digital literacies that are multi-modal and therefore offer a wide-range of different combinations for re(constructing) knowledge. In so doing, students' *digital funds of identity* are mobilised and can be used to construct new identities.

Hypertext and social justice

Finally, the reading and construction of hypertexts could also be an effective strategy in drawing on and developing *digital funds of identity* for social justice, critical pedagogy, and the generation of new knowledge. Hypertext has been defined as a “medium for representing information as a network of linked informational ‘chunks’ that exists online and can be accessed in any order” (cited in Ebsworth & McDonell, 2014, p. 64). Unlike the analogue book, which is linear and hierarchical, hypertexts are non-linear, non-hierarchical and decentred. This means that the margin, or the marginal or marginalised, is as significant as the central (Gaggi, 2015). This has radical implications for the subject (Gaggi, 2015) and the role that hypertext and Funds of Identity play in social justice. In contrast to the post Enlightenment view of the subject as stable, unified and complete, the digital self (or the rhizomatic self) is defined by its open-endedness; it is not something that is inherently given but in a process of permanent becoming (Baldwin & Hill, 2012). At its most Utopian, this concept of identity empowers the subject to create his or her own path through the labyrinth of becoming. In relation to the teaching of literature, the actual text being studied could also be read *inworld*, in linear form or in hypertext form. The creation of a hypertext edition of an analogue text could also provide an invaluable chance for the creation of teacher-student collaboration that draws on students’ existing *digital funds of identity* while also providing opportunities for the honing and development of digital literacies and identities.

Hypertexts could also be used for social justice and developing critical pedagogy. Postcolonial and feminist literary discourses, *inter alia*, have reinscribed marginalised identities by appropriating silenced characters from the so-called “English” canon. For example, Jean Rhys’s *Wide Sargasso Sea* (1966) is a prequel and response to Charlotte Bronte’s *Jane Eyre* (2001). The work rehabilitates the character of Annette, who in Bronte’s novel is presented as the one-dimensional “mad woman in the attic”, by presenting a first person narrative that explores Annette’s backstory in Jamaica. Similarly, Achebe’s postcolonial work, *Things Fall Apart* (1994) is a critique of Conrad’s *Heart of Darkness* (1990). *Heart of Darkness* is narrated from the perspective of Marlow, the coloniser, whose imperialistic gaze silences and marginalises the Nigerian people and their culture by representing them to the reader as “natives” or “savages.” In contrast, *Things Fall Apart* presents Nigerian culture from the point of view of Okonkwo, a warrior and clan leader which enables and empowers Achebe to present Nigerian culture as dynamic, complex and ambivalent, something Conrad’s protagonist Marlow is unable to do due as his perception of Nigeria is refracted through the distorting lens of ethnocentrism. In the same way, hypertext empowers students to similarly rewrite texts when they encounter parochialism, racism, sexism or deficit thinking, creating alternative narratives that challenge patriarchal and occidental representations of dominance. The act of rewriting dominant narratives brings marginalised identities into the centre, thereby empowering the reader by encouraging active *writerly* reading and revision (Gaggi, 2015). Works like *Wide Sargasso Sea* and *Things Fall Apart* scaffold and model ways of resisting and revising grand narratives which students can then enact in hypertext form. The advantage of hypertext over tradition print-based media to channel *funds of identity* lies in hypertexts’ inherent immediacy and malleability; students can manipulate text, image and sound indefinitely, revising narratives in real time as they forge their own paths through a text. Hypertext also supports multimodalities which

allow students to engage their *digital funds of literacy* while also channeling and crystallising their *funds of identity*. For example, a dual identity text could be augmented by a bilingual spoken performance which would help to recognise and affirm local identities (Subero et al., 2016).

Hypertext, like the use avatars and virtual learning environments, can facilitate and create new knowledge, thereby making it more likely that students are producing texts rather than consuming them. Moreover, hypertext is particularly suited to the fostering of critical pedagogies as it destabilises the literary canon by allowing students to revise and (re)write canonical texts in order to bring the silenced and the marginalised into the centre.

Conclusion

This paper has suggested how the concept of Funds of Identity could be extended by recognising digital identities, such as avatars, and collaborative learning environments as potential source of *funds of identity*. This paper also suggests how teachers could utilise subject specific avatars as identity artefacts for drawing on funds of identity and also constructing new and evolving identities. In so doing, this article argues that the concept of Funds of Identity is not merely an adjunct of the Funds of Knowledge approach, but a significant evolution of it, one that is commensurate with digital identities and virtual learning environments. This is not to negate the role of household *funds of knowledge*, but to underscore the fact that increasingly young people interface with reality via the Internet and other digital devices that problematise the centrality of the household as the main unit of analysis for researching *funds of knowledge*. Teachers need to be cognisant of this in order to effectively draw on out-of-school digital identities.

However, there needs to be more discussion of how avatars and virtual learning environments could provide space for social justice. It is suggested that virtual learning environments could give researchers greater accessibility to at risk students, particularly in contexts where gaining access to disadvantaged or minority students' out-of-school contexts is culturally, logistically and ethically problematic (Poole, 2016a, Poole 2016b). Virtual learning environments could also enable the fostering of critical pedagogies that could then be used to address real world inequalities. Moreover, a systematic methodological account is needed to show how data relating to students' *funds of identity* could be collected. It is hoped that teachers and researchers working with the concepts of both Funds of Identity and Funds of Knowledge consider the role that digital funds of identity could play in bridging, and problematising, the "digital divide" between home and school and allowing critical pedagogies to leak into the curriculum.

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Augmented Reality Applied to the Teaching of the Descriptive Geometry

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Abstract

Augmented reality (AR) allows students to visualize tridimensional shapes by turning and handing them in the palm of their hand. Taking objects "away" from the computer improves the students' perception of the three projection planes. With this new representation tool, was designed a pedagogical application. Tridimensional models were made using the Google Sketchup open license software to view these 3D models using AR. Handling the 3D models by students improves the clarity of tridimensional perception. The project also allowed for the assessment of pedagogical aspects, including the ways through which students improve their learning experience and how teachers can use these tools to build a more interactive setting where students can play an active role in the construction of their own learning environment.

Keywords: Augmented reality, Education, Geometry, architecture, ITC.

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Introduction

The rise of smart phones and the ability to access the Internet has facilitated the use of applications that use the 'augmented reality' to facilitate the user location and display information about your location. There are many definitions of the source of augmented reality. Azuma defined it in 1997 as "a technology that combines real and virtual elements, which is interactive in real time and is registered in three dimensions" (Azuma, 1997). From that year began to handle this concept among researchers and developers of this technology, although in 1994 had already presented the first prototype, Karma [Knowledge-based Augmented Reality for Maintenance Assistance], at the conference on interface design, the research project interfaces laboratory at Columbia University. The system aid to maintaining a laser printer. (MacIntyre, 1994).

In 1999 Hirokazu Kato ARToolKit develops software which is still used in some applications development through the use of open source libraries and is available for free download on the site <http://artoolkit.org> (Kato and Billinghurst, 1999). ARQuake in 2000 was the first outdoor game with mobile AR. In a version of Quake, a video game fashion around the world at the time, the user carrying a suitcase with everything needed to display the game in addition to a pair of glasses, a Wi-Fi antenna and a helmet with a webcam built (Thomas et al., 2000). Currently the method of AR) is applied in many areas of knowledge, but is advertising who has driven its development. Virtually all major brands have some kind of web application that uses AR to interact with its users. In the area of design, use of AR has been limited to the representation of 3D models. In some Spanish universities (such as the Polytechnic University of Catalonia), it has used this method for students of the School of Architecture view their urban design projects directly in the space for which were designed by them. This project pioneered the use of AR in the representation of architectural projects. The research group that conducted this project designed markers that were displayed by students from their digital tablets and smartphones (Sanchez Redondo and Fonseca, 2012).

Discussion

Learning is a process that allows individuals to manipulate instruments of knowledge. These instruments are all those tools that provide insight and understanding reality (Squire, 1987). In the last decade, the development of technology has expanded these instruments have now been incorporated into the classroom digital, portable tables, smart phones and all the tools of Web 2.0 that the teacher wants to include: blogs, wikis, forums (Dror, 2008). Since 2000, the AR has been undergoing a major evolution through the development of applications designed primarily to marketing and advertising that have taken advantage of this new technology to impact your customers with 3D content. In education, this new tool have different ways and it is important to analyze the learning process and user experience (Portalés Ricart, 2007). From a constructivist pedagogical (Gruber and Vonèche, 1995), the use of these tools could facilitate students to construct their own learning environment, considering that each individual has a unique way of creating knowledge. Each individual recreates a subjective reality that cannot be assimilated or ultimately. The role of the teacher in this learning process is to provide information, to be a guide, a facilitator (Ausubel, 1968).

Currently, despite existing tools, this process is not interactive and in some cases teachers simply limited to display information. The student is a taxable person who focuses on storing information, limiting their learning process and leaving it to a rote level. There is no construction or creation of knowledge by the student, a situation that sometimes affects their motivation to acquire new knowledge (Di Serio, Ibañez and Delgado, 2013). When students are motivated, they participate and interact with the contents exposed in the learning process. Construction and improvement knowledge was activated. The student makes it to acquire a skill that will allow you to apply this knowledge and appropriate it. The question arises: could these new learning technologies change the passive attitude of the student? To Dror (2008), to promote three aspects: control, challenge and commitment was used the technology.

This is where the AR can improve this process and enable these three aspects, in addition to improving the participation and interaction, which improves the cognitive processes of student learning.

The AR has some elements in common with the virtual reality but it has two features that make it a very useful tool in the classroom. These are, one allows the transformation of a collaborative environment by recreating a real environment with objects 3D, they have created; and, two, it allows tangible interaction, which helps students create their own learning environment, personalization of content and elements that activate. These contents (such as bookmarks, graphic elements that activate 3D content) plus motivate students to improve their learning and to share this experience with the rest of the class.

Method

The academic population that was part of this experience were eighteen students of architecture first course. The age of participants ranged between 17 and 19 years. As research, tools and in situ observation survey. Developed in sixteen weeks of which half with traditional methods and the other half-using AR.

The project started with drawing 3D models. For this, the free version of Sketch Up program that allows you to export models to collada extension (*.dae) which is accepted by any program that generates content for RA was used. The site Moodle course were uploaded the contents, for students entering the web page and download 3D models by class. The computers had installed the program Sketch Up and using the monitor as display volumes.

In some schools of architecture programs using CAD (computer-assisted design) in teaching geometry and has virtually replaced the traditional methods of graphic expression, i.e., pencil and paper were popularized. However, not all schools have migrated to these new technologies, and in some cases, this change is unthinkable. For this reason, in many of the meetings in which this project has been presented, the paper ends with a "demonstration" that allows attendees understand the benefit of this methodology. The transition between 3D models and scenes AR it was resolved with Augment, a computer program open license for educational applications that allowed associate the model to a graphic mark that triggers the projection contained in RA to put on the webcam. The application is cross-platform allowed that in digital was

installed by tablets and smartphones, which facilitated the visualization of 3D models. See Figure 1.

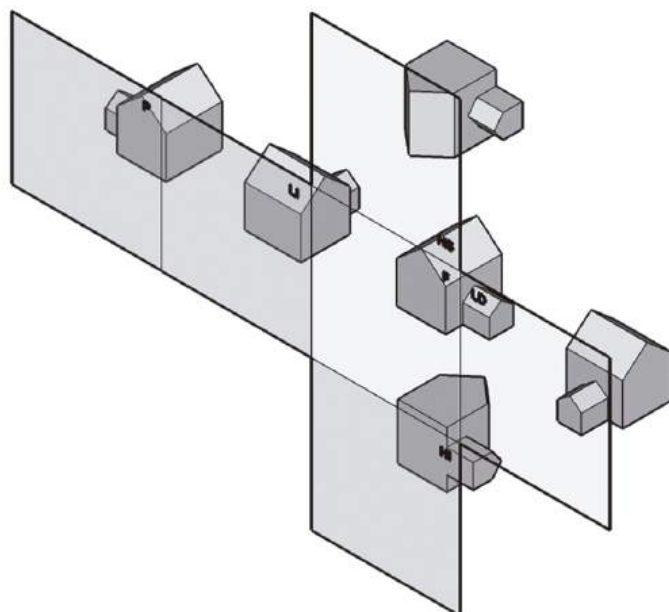


Figure 1. View of a model in all views projection, modeled by the author.

In this case, the method of RA allowed to manipulate the 3D object in real time and helped the student to understand the three-dimensional space and, more specifically, to understand the projection planes. Augmented reality allows students to mix with the 3D model projections in the same environment. Traditionally this it is done independently. When the student identifies how the views of the planes are projected acquires competition to visualize a 3D object from 2D projections (Figure 3). It was determined that this new methodology improved the perception of three dimensions in the eighteen students of the course. Using the traditional method (pencil and paper) was performed an evaluation. To draw a 3D model in isometric perspective and then the results of these exercises viewing AR were compared the models. The method increased the percentage of AR met goals set at the beginning of the year. In exercising, in the development of the drawings but in the process of interpretation of a three-dimensional model to a two-dimensional plane was not assessed the skill, in each of the methods (Table 1). The methodology used to evaluate the two methods was to compare the drawings submitted by students and determine which of the two is closer to the initial objective of the exercise, that is, represent the views of a 3D volume. According to this representation a rating from 1 to 5. The rating of the presented work was done randomly among students without teacher intervention was. This method allowed students to improve the perception of three dimensions using AR, as well as improving communication between teacher and student.

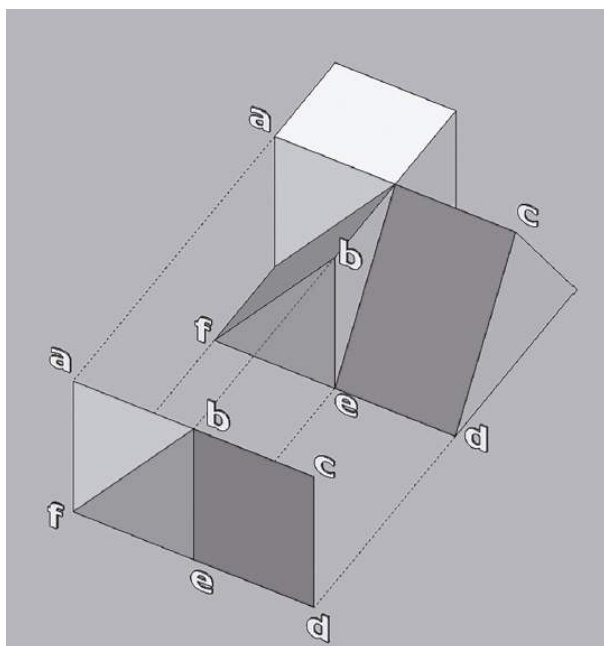


Figure 2. 3D model created to explain the vertical projection, modeled by the author.

Proposed exercises	Percentage of successful exercise. Traditional method	Percentage of successful exercise. Augmented reality
Identify points in projected views	45%	85%
Identify a plane in one of the views	42,5%	81,5%
Draw the 3 orthogonal views correctly	39,9%	71%

Table 1. Results of the evaluation and source: elaborated by the author.

The virtual platform of the university uploaded to 3D models, the student could download the model according to the subject, at home or in any workplace. According to the topics developed in the course by the models, starting with point and ending with volumes composed of inclined planes (Figure 2).

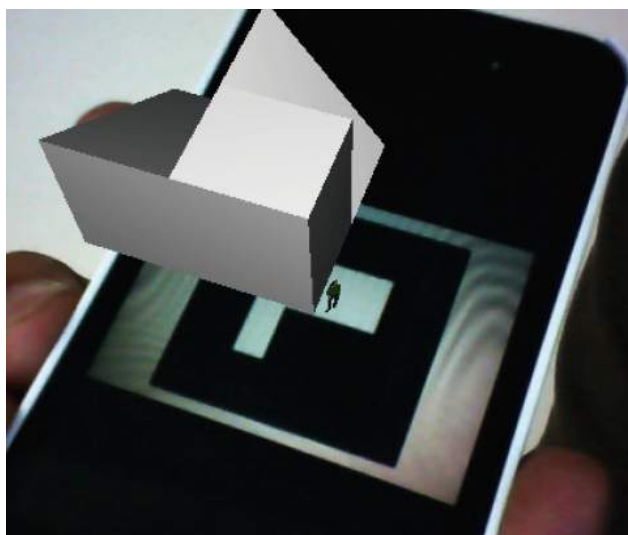


Figure 3. 3D volume using AR, source the author.

Some students with smartphones could visualize patterns directly on their cell phones, which for them was really a novelty. 3D models of the course made these technological devices have an educational use, something that was unthinkable for them (considered these devices for entertainment and communication). In addition to test scores in geometry class a teacher interested in the topic he implemented this methodology in Technical Drawing class in a course of education at the Cooperative College La Calera. The results obtained were similar to those observed in the Descriptive geometry class. Although not made an assessment of the results that this methodology the interest aroused in students. Interest was such that some students individually decided visualize 3D models developed independently under the supervision of Professor Pedro Ayala. Low cost and easy assembly was what encouraged the teacher to use this unprecedented tool in a High School in Colombia.

Results

Students responded at the end of the course entirely a survey based on questionnaires ISO 9241-11 [Ergonomic requirements for office work with visual display terminals (VDTs) - Part 11: Guidance on usability] (Mark, 2006). This was made virtual and anonymously, using the application form designed for cloud Google Drive that allowed insert this form and sent to institutional mail each student. All participants answered the questionnaire by and its main objective was to establish the levels of efficiency, effectiveness and student satisfaction with the presented product and RA watching 3D models as an innovative element (Figure 1). The overall rating of the course was 4.44 points out of five, it that gives an idea of the level of satisfaction. In the correlation between global views of the course with the other variables a very close relationship between the representation of the models and understanding of the concepts detected, which is very important in this type of project because it allows us to establish that students they perceived an improvement in their learning process. The students can did other correlations but overall the survey gave an overview of how they perceived this new technology. Proof of this is that 100% said they would use the RA method as a tool in other courses.

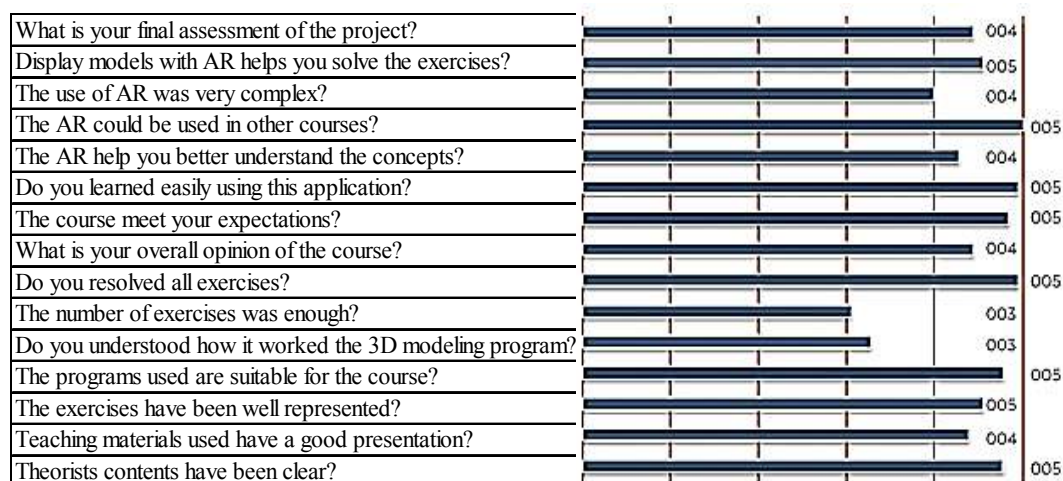


Figure 4. Survey questions effectiveness, efficiency and satisfaction, source: the author.

The RA as visualization tool had a positive effect from the pedagogical point of view. It was possible to meet the objectives of the course and the concentration level improved significantly, while increasing satisfaction levels.

Conclusions

In the last decade AR applications by publicity, marketing and engineering, among others were developed. Pedagogical applications for RA are still incipient. However, because most programs used to develop such projects are open source, the number of research proposals in this area can increase considerably.

RA in this project improved dimensional perception students. Thanks to the 3D models, the student understood how the dihedral projection system and the basic elements of descriptive geometry works: point, line, plane and volume. The relationship between teacher and student it enriched by the interest aroused among students using this technology, which was reflected in an increased interest in the contents of the class. Building a more interactive environment that involves the student in the learning process is a challenge that with more commitment by the teachers. The application of these tools facilitates this process and encourages the student to participate as an actor and not as a spectator.

In line with the new educational trends constructivists, "constructivism asserts that knowledge resides in individuals, that knowledge cannot be transferred intact from the head of a teacher at the head of apprentices" (Ilabaca Sánchez, 2004: 77). That sentence perfectly defines the essence of this concept in collaborative learning has its main tool. In this project, the student builds from visualization and experience, concepts that are the basis of descriptive geometry and applied throughout his career and later in their professional lives. Hence the importance of this educational experience.

This experience wants to show the academic community that the use of these technologies is not very complex. There are many ways to implement augmented reality in education. Although one cannot speak of a perfect solution or a magic

formula, simply because it is not a research project focused on educational aspects, we observed that its implementation in the classroom shows to be in tune with some aspects of collaborative learning. Students also present a problem of lack of attention and understanding as a simple solution.

According to the PISA 2009 report, 20.4% of Colombian students is at level one performance in science. This means that they are not only difficult to participate in situations related to scientific and technological domains but also reveal limitations to use scientific knowledge in order to benefit from future learning opportunities (ICFES, 2010). The use of new technologies of representation still has a long way to go. AR applications in architecture and teaching are becoming more innovative time, considering that you can incorporate animation and 3D models.



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***Towards Building Authentic Understandings of Contemporary Science Practices
for Science Educators***

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Abstract

ReMSTEP is a collaborative initiative involving four partner universities funded by the Australian Government Office for Learning and Teaching. The project aims to promote the reconceptualising of Mathematics and Science Teacher Education Programs by fostering partnerships between scientists and educators to improve confidence and competence in teaching STEM education. One response developed by the Faculties of Science and Education at Monash University has been the design of a masters unit to assist pre-service and in-service science teachers to explore the practices of contemporary science and examine how varied understandings can influence science communication. This unit was designed to encourage teachers to explore their current understandings of the Nature of Science (NoS) and to contrast their views with those known to be widely held by society (Cobern & Loving, 1998). Teachers are challenged through constructing visual representations about contemporary science practice which reflect their altered understandings of NoS and provide insights into the thinking that shaped their design. In order to build authentic understandings of contemporary science practice each student 'shadows' a research scientist and engages them in conversations intended to explore the scientists' views of NoS and practice as mapped against a framework of five levels of science cognitive engagement. Preliminary findings suggest that teachers were initially uncomfortable with the challenge of constructing visual representations to express ideas. Teachers were also surprised how diverse the views of NoS can be, even among scientists and their peers, and that these views can directly impact on ways of communicating contemporary science practice.

Keywords: STEM Education, The Nature of Science, Contemporary sciences practices

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Introduction

In Australia and internationally there is wide acceptance of a consistent downturn in the participation rate across the secondary and tertiary sectors of students engaging in the study of science, mathematics technology and engineering (Kennedy, Lyons & Quinn, 2014; Mack & Wilson, 2014). Research by Engineers Australia in 2015, confirmed that Australia has always had a varying but substantial reliance on skilled immigrant engineers, however it also showed that the most recent resources boom from 2007 to 2013 created a particularly strong demand which exceeded the local supply of Australian graduates. Australian Census data (Engineers Australia, 2015) revealed that 51.6% of practicing engineers in 2006 were born in Australia and this had reduced to 46.1% of the workforce by 2011. Attracting engineers from overseas to meet the changing demands of the Australian industry labour market has been effective, although this approach became increasingly more difficult during the boom period due to a growing world shortage and rising salaries. Australia experienced a boom in the engineering labour market until 2012 when the sector underwent a serious downturn. After this, there were frequent media reports about the difficulties new engineering graduates were experiencing in finding jobs that inevitably resulted in reported reductions in lower level engineering salaries. In 2014, the number of applications for engineering places in Australian universities fell for the first time in almost twenty years (Engineers Australia, 2015). It still remains unclear if this reduction was an effect of the tightening labour market near the end of the mining boom or a consequence of the reducing engagement by Australian students with STEM education or a combination of both.

Background

As reported by the Australian Office of the Chief Scientist (Office of Chief Scientist, 2014), there is growing acceptance by industry employers that scientific and mathematical competencies are essential for productive participation in a growing competitive knowledge based economy. This report stated that 75 per cent of the fastest growing occupations required science, technology, engineering and mathematics skills and knowledge in order to be internationally competitive. Twenty first century workplaces will increasingly rely on employees having skills in digital communication, information technology and knowledge of mathematical competencies essential for analytical and financial modelling. Longitudinal results from the Programme for International Student Assessment, PISA (ACER, 2001; Thomson, De Bortoli, & Buckley, 2013) showed that Australian students' performance in Mathematics and Science literacy experienced a decline between 2000 and 2012, equivalent to a reduction of more than half a year of schooling. Likewise, in a review of outcomes of school education in Australia by the Australian Council for Education Research (Ainley & Gebhardt, 2013), a comparative analysis of 2012, PISA and NAPLAN data shows that student performance is weakening among both low and high achieving students.

A more recent study (Kennedy, Lyons, & Quinn, 2014) compared subject enrolments of year 12 students in New South Wales between 1992 and 2012. They found that although there was an increase in participation by more than 30,800 students in 2012, there were 8,000 fewer students studying physics, 4,000 fewer studying chemistry and 12,000 fewer studying biology compared with 1992. These reductions are similarly

reflected in other states in Australia. Earth Science, the least popular science subject was the only science course analysed where participation rates were shown to increase and this interest was attributed to the resources boom active at this time. The percentage of students studying advanced and intermediate mathematics also declined over a similar period but the proportion of students selecting entry-level mathematics grew by 60 per cent. The number of students (Mack & Wilson, 2014) shunning both mathematics and science has also risen, from 2.1 per cent (male) and 5.4 per cent (female) in 2001 to 5.9 per cent (male) and 14.6 per cent (female) in 2014. Similar trends have also been observed for Information Technology participation in schools (Ainley, Kos & Nicolas, 2008).

There has been wide speculation as to the reasons underpinning this decline in student STEM engagement and although this is seen more or less as a worldwide trend (Langen & Dekkers, 2005; Henriksen, Dillon & Ryder, 2015) little research has been able to authoritatively identify the key contributors in effect across international contexts. Australian sector experts identify a range of possible reasons for this decline. These include a deficit of enthusiastic, confident, and competent teachers in the early years to an Australian secondary system which offers too many subject choices in the senior years. Others lament a local tertiary entrance scheme which consequently rewards the brightest of our final year secondary students for selecting less difficult subjects in which they have greater opportunities to achieve outstanding results to maximise their University admission scores. Less attention appears to be paid to the possible combined impact caused by higher education fee creep, diminishing employment opportunities and declining industry incentives caused by the more widespread use of fixed contracts and increasing downward pressures on salaries within the industry.

In an interview conducted by John Burgher, (Burgher, 2014) with Prof Iwona Miliszewska, Australian Council, Deans of Information and Communication Technologies, suggested a comprehensive, multi-pronged approach encompassing many ideas similar to those proposed by other industry experts, to encourage greater student interest in STEM engagement by;

- Enhancement of compulsory STEM education through a major revision to the national curriculum that resolves to increase the study hours and content of STEM classes in both primary and secondary schools. The goal of this initiative would be to improve the quality of basic STEM education nationwide, generating and stimulating interest in scientific topics and thus creating a broad support base for STEM in Australian society.
- Introduction of programs to nurture and train the best and brightest STEM talent by enhancing 'elite' education; such programs would lay the foundation for a STEM 'elite track' from secondary to tertiary levels of education.
- Facilitation of university-to-career transitions by supporting job placement of graduate students and post-doctoral researchers who complete degrees in STEM fields.
- Specifically addressing the under-representation of women in STEM education and careers by launching targeted initiatives supported through both public and corporate sector funding.

In acknowledgement of this deepening problem the Australian Government announced its *Students First-Restoring the focus on STEM in schools initiative* (Australian Government, 2015) that committed \$12 million to restore the focus on and increase student uptake of science, technology, engineering, and mathematics subjects in primary and secondary schools across the Nation. It consisted of 4 key initiatives:

- Providing innovative mathematics curriculum resources for primary and secondary school students, focusing on inquiry-led teaching.
- Supporting the introduction of computer coding across different year levels in Australian schools leading to greater exposure to logical and computational thinking.
- An innovative approach to education based on the successful 'Pathways in Technology Early College High School' program originating in the United States of America, and
- The introduction of summer schools for STEM students, to increase the number of girls and disadvantaged students (including Indigenous students and those from regional and remote areas) engaging with STEM.

Additionally, there was also a focus on the preparation of prospective STEM teachers through a number of targeted learning research grants. One of these grants was the ReMSTEP project.

The ReMSTEP Project

As part of this National initiative, the Australian Government Office of Learning and Teaching (OLT) provided funding in 2014 for two years to four collaborating universities. The University of Melbourne, Deakin University, La Trobe University, and Monash University were charged with exploring how pre-service teacher (PST) education programs could be enhanced in ways to better provide PSTs with greater competence and confidence in their teaching of science and mathematics. In particular, the focus was on examining productive ways of integrating the specialist knowledge of practicing scientists, researchers, and STEM specialists into the school curriculum and teacher classroom practice in order to create greater engagement and subject relevance for students. The project entitled, Reconceptualising Mathematics and Science Teaching Education Programs, (see www.remstep.org) shares the vision of the Chief Scientist of Australia (Office of Chief Scientist, 2014). This vision advocates that learning and teaching STEM competencies should introduce students to aspects of contemporary science, technology, engineering, and mathematics practices in ways that students and teachers find exciting and socially relevant, rather than following a curriculum that represented STEM subjects as apparently divorced from any real world applications or social contexts.

Monash University's involvement in the ReMSTEP project offers exciting opportunities as it involves the development and researching of new PST programs to better address the social relevance of science, technology and mathematics and importantly the sharing of these research findings across all four universities. This paper explores just one of these new initiatives resulting from collaboration between the Faculties of Education and Science at Monash University. The Monash ReMSTEP project team was keen to develop new opportunities for PSTs to experience and better understand many of the contemporary practices of science and mathematics used

widely across a range of industry sectors. The assumption underpinning this initiative was that teachers who are more informed and better able to discuss these practices with greater confidence should be able to achieve greater classroom engagement and improved student interest and attitude towards future study of STEM subjects. The new master of teaching unit (equivalent to 288hrs of study) was devised with a number of key objectives consistent with the ReMSTEP project and incorporated successful reflective pedagogical approaches informed by past evidence-based science education research undertaken by the Faculty of Education.

Key objectives identified for this unit are to encourage PSTs to;

- Understand how sciences¹ knowledge, processes and communication shift over time through the influence of social and technological change.
- Explore the diverse and changing understandings of the Nature of Sciences (NoS) while challenging participants to re-conceptualise and articulate their own personal contemporary view.
- Investigate first hand contemporary practices of science and examine how new knowledge created has significantly changed to become more inter-/multi- and trans-disciplinary, e.g. Nanoscience, and Bio-informatics.

Each of these is briefly discussed. The first objective underpinning the unit focuses on how sciences knowledge changes over time and is influenced by technological and social change. Much of the knowledge and practices of science and mathematics are tentative and undergo constant reappraisal and update. Some ideas prove to be more enduring than others, however all remain open to question. The creation of new technology can often have substantive impacts on how new knowledge is generated and in turn this can influence the directions of subsequent technology development and applications. The idea that sciences knowledge and contemporary practices are tentative and changing is not widely explored in science or mathematics classes in secondary schools where content is often conveniently delivered as definitive and enduring. Present textbooks are more likely to be revised to accommodate changing government curriculum initiatives rather than contemporary changes in science knowledge, such as new or revised understandings or the impact of technological advances. For example, the recent debate over Pluto and changing the classification of what should constitute a planet in our solar system may be seen by some as revealing an indecisiveness or weakness of sciences' ability to have enduring knowledge and authority.

¹sciences includes mathematical knowledge

However the debate by astronomical research scientists over the need for change in a historical classification system provides insights into the dynamic nature of sciences and the need for sciences to constantly reassess and accommodate changing understandings based on the acquisition of new evidence. To ignore such instances of debate and review is to ignore a critical aspect of how sciences are undertaken and that all scientific knowledge remains open to question and revision.

The second objective identifies that contemporary practices of science and mathematics and the new knowledge arising from such practices, has largely now changed to become more inter-/multi- and trans-disciplinary in nature. Increasingly more sciences research is now being undertaken at the fringes between the traditional

subject disciplines. This requires researchers to have broad understandings across a number of what were once seen to be independent fields of specialisation. Emerging areas such as Nano-science, Nanotechnology, Bio-informatics, regenerative and imaging technology, require complex understandings of multiple disciplines. However, despite this mix of traditional discipline areas, the key processes by which sciences are undertaken and the overarching constraints remain equally applicable. This unit aims to make the processes of sciences and their associated skills more explicit for PSTs and emphasises the importance for teachers to also make these explicit to their students as a part of their regular classroom practice. It seeks to identify the importance of science, mathematics and associated technology as a way of knowing and exploring our world where cross-discipline understandings have the potential for convergent investigation to generate richer understandings and reveal unseen complexity and interdependence.

Although it is possible that some PSTs undertaking the unit may have strong backgrounds in science, engineering or mathematical studies, including research backgrounds (or even PhD's) in related sciences or engineering fields, this is not typically the case. In addition, many PST of early years students often have more limited science and mathematical backgrounds. Given this diverse mix of sciences experiences amongst the PST cohort it was felt essential that all PSTs should undertake a visit to a contemporary research facility where they can meet with and interview practicing scientists. The intention of this visit is to provide the PST's with a 'face to face' experience in which they can chat with scientists to explore the nature of their work and familiarise themselves with the operation and practices of a contemporary research facility. The PSTs are then encouraged to share their reflective insights gained from the visits in follow up workshop discussions with their peers.

Monash University, as a research intensive university, is fortunate that it has a large number of world class "Centres of Excellence" and more than 20 expert research scientists operating across these have agreed to meet individually with a PST for at least three hours. In addition, several expert scientists from the Melbourne Museum (Australia) in specialist areas of entomology, paleontology, and plant physiology have also agreed to be involved in the program. In almost all cases the scientists have been approached to be involved in this program because they are engaged in research areas which help to demonstrate the highly interdisciplinary nature of contemporary research and they have a demonstrated track record for seeking to actively communicate their understandings of science to a wide range of audiences. Prior to the PSTs visiting the research centres the purpose of the visit is discussed and scaffolded in the unit workshops to make the intentions explicit and to assist the PSTs in constructing relevant interview questions that will explore the scientists understandings of the Nature of Sciences (NoS) and the purpose and range of audiences that they routinely communicate with. This approach is intended to assist the PSTs to maximise the learning benefits achieved from such a relatively brief visit to an authentic setting.

Examining the effective communication of science, mathematics and technology is periodically revisited throughout the unit in ways that assist in reinforcing to the PST's the importance for teachers to embed the investigation of STEM knowledge in a social context. A schema developed by Corrigan (2015), attempts to assist the PSTs in their analysis of the methods and intentions of the different types of science

communication engaged in by contemporary scientists. This approach is seen as innovative as it tries to assist the PSTs to distinguish between the broad areas of complex cognitive engagement needed for effective communication with different audiences for different purposes. The schema attempts to identify 5 areas of science cognitive engagement that scientists, technologists and researchers are likely to engage with;

- 1) **General public engagement** - this is probably the most basic level of communication, however even though the sophistication of the science knowledge exchanged is likely to be quite elementary it does not imply that it is not without challenge. Looking to effectively communicate insights into big ideas or complex processes using powerful metaphors or analogies is a creative and often demanding task which confronts many educators on a day to day basis. Predictably not all scientists are skilled at communicating with the general public which make those that are, such as Tim Flannery, Richard Dawkins and Brian Cox highly sought after by both the mainstream media and the general public.
- 2) **Informed engagement** - This describes engagement by those who are conversant with a scientific field or discipline. They are informed and seek opportunities to share and improve their knowledge and understanding amongst competent peers with similar interests or expertise. This form of engagement is practiced by amateur interest groups, student societies to professional institutes and associations, e.g. Amateur Astronomical Societies, Soil Science Australia, Australian Society for Microbiology, Royal Aust. Chemical Institute, and the Australian Academy of Science.
- 3) **Applied engagement** – This describes a broad engagement by scientists, engineers, technical designers and science communicators who apply current scientific knowledge to develop real world applications of technology or provide insights into fundamental processes of science. Their interests may include fields such as; engineering, medical imaging, robotics, polymer science or nanotechnology. They use the knowledge of science and its processes, e.g. experimental design, analysis of data and scientific modelling to test and improve technology and its applications.
- 4) **Focused engagement** – This includes engagement which deals with the routine practicalities of communication practices within and between scientific or industry research centres. Examples could include system approaches for regular reporting on project challenges and achievements to project personal, routine laboratory meetings, initiatives exploring workflow or communication practices and team reviews of technical protocols. It could also include project reporting to industry and Government, mentoring practices and career building and management within a specific research field or scientific organisations.
- 5) **Expert engagement** - This engagement involves science discipline authorities or research leaders acknowledged by their peers as experts and visionaries, e.g. Nobel Laureates, Prime Minister's Prize for Science, Eureka Prizes, Australian Institute of Physics awards, and Australian Academy of Science award winners. This could include expert analysis or commentaries on new technology or recent scientific research discoveries and their likely societal or cross discipline impact.

Experts regularly provide key note addresses at conferences and their insightful presentations and critical analysis is regularly sort by industry, field specialists and the general media.

In addition to utilising this organisational schema, PSTs are also challenged to communicate their understandings of science using creative multimedia artefacts. The rationale for this is to encourage the PSTs to develop and practice skills in creating and critiquing visual images or multimedia which has now arguably becoming very much mainstream when using contemporary educational communication. Multimedia channels such as, YouTube.com, Vimeo.com and Vevo.com already provide access to a multitude of video resources from which educators can source and share useful multimedia artefacts. It is considered essential that PSTs are skilled to select discerningly from these rapidly growing collections with such diverse quality.

Another innovative approach used in the unit encourages PSTs to review, articulate and defend their personal view of the Nature of Sciences (NoS). This approach was initially adopted to encourage PSTs to develop and refine their views of NoS and to assist them to form a more coherent view that they felt more confident to share and discuss. Although there has been considerable research into the views of NoS held by a wide cross-section of the community, from the general public to students, scientists and science educators, there appears to be far less research literature which reports on ways of developing activities by which PSTs can effectively evaluate and articulate a coherent personal view of NoS. In initial workshops the PSTs are introduced to a provocative NoS collaborative card activity outlined by Cobern & Loving (1998). In line with the approach advocated in Cobern and Loving's paper the PSTs are encouraged to work initially as individuals and then form larger and larger groups to select or reject (by consensus) written statements about science that align with one of six broadly identified views of NoS. Through creating opportunities for peer discussion and debate, PSTs are encouraged to construct and revise their view of NoS and invited to reflect on changes in their positional understanding.

The activity has been adopted because it does not privilege one view of NoS over another or encourage all PSTs to adopt one 'currently acceptable' view, but reveals how contemporary understandings of NoS change and will continue to change over time. The NoS theme is periodically re-examined at key points throughout the unit and is seen as a mechanism for identifying and tracking changes in individual thinking about attitudes and values of science.

Research methodology

This unit has been successfully trialled and at the time of writing the unit is about to be offered for a second time. The preliminary findings from the first completion (n=16) by PSTs show promise and indicate that greater research is warranted to enable a more effective evaluation of the unit achievements and shortcomings. All PSTs were invited to participate in the research study and completed a preliminary online survey aimed at gathering data on their course pathways and intended areas of teaching specialisation. PSTs were also asked to identify how confident and prepared they felt about the range of skills they possessed and needed to successfully undertake the teaching of science.

At the completion of the unit all PSTs were invited to undertake a 30 minute individual face-to-face interview with an independent researcher. Only two ($n=2$) PSTs agreed to be interviewed due to course workload demands and survey timing. The interviewer sought to investigate the PSTs understandings of the course intentions and approaches and to seek feedback on how the PSTs thought that the unit objectives were achieved. A number of the research scientists interviewed by the PSTs were also approached and interviewed, but again only two ($n=2$) were able to meet briefly with the independent researcher, so feedback about their involvement and interaction with the PSTs was limited.

Preliminary findings

The data collected from the initial online survey ($n=3$) provided only brief insights into PSTs' course backgrounds and employment intentions. The PSTs that completed the survey indicated that they were choosing to undertake the unit to gain a better understanding of the contemporary practices of science and to develop additional skills and understandings which they thought would be helpful for their classroom professional practice in teaching science and/or mathematics. Not surprisingly their articulated intentions closely reflected those of the unit objectives.

During a unit workshop review session the PSTs ($n=14$) provided feedback on a number of aspects of the unit. The majority of the PSTs reported finding the creation of the multimedia task highly challenging and generally rewarding. Many PSTs discussed how they did not feel confident about creating and critiquing visual representations compared with the traditional and more widely practiced critical essay approach to assessment. This lack of confidence was also reflected in the number and frequency of clarifying questions fielded by the unit lecturers regarding the implementation of this assessment task. This view was similarly reported by the PSTs that were interviewed of feeling apprehensive and ill equipped to undertake this creative task. In general it was acknowledged that the PSTs lacked confidence in addressing the task of designing and critiquing visual images or multimedia.

One of the surprising findings was the acknowledged impact that the collaborative discussions on NoS had on building the PSTs' confidence and ability to communicate a coherent and more contemporary view of science. Many of the PSTs spoke of how their thinking and view of science had changed during the unit from one in which they originally privileged understandings of science or mathematical content to one with a broader understanding of the processes by which science is undertaken. This acknowledged shift was evidenced by a number of PSTs in their writing for assessment tasks and during workshop discussions within the unit. There were no opportunities to investigate or witness the implications of this changed view on their professional practice.

On reconceptualising a personal view of NoS, the PSTs reported; greater self-confidence in constructing and justifying a personal coherent view of NoS and an improved ability and confidence in discussing and communicating NoS understandings across a range of professional settings:

Student (2) – “You know you always start this going, oh [I] already know this, [but] ... really talking about it [NoS] and kind of expanding that

understanding was really good. ... I came out [after the unit] with a fairly different kind of conception...than I started with of what science is and what's core to it".

Student (1) – "Questioning and actually reflecting on ... what I think about science and what other people think about science and trying to figure out ... what you know, what a coherent view is because a lot of these things aren't ... necessarily explicitly looked at ... "

Student (2) – "If I was doing an interview for a science position I think it gives me a better understanding to talk about science education in a way that I think would stand out to employers, compared to people who hadn't done this unit or something similar".

Several of the PSTs also reported that since visiting a research facility and talking to 'real' scientists they now felt that they had improved understandings of contemporary science practices and how science is undertaken by scientists. Many of the PSTs acknowledged that before their site visits they knew very little of how 'big' science is undertaken in world leading Centres of Excellence and their views were limited to highly contextualise educational experiences in undergraduate labs or even earlier high school settings:

Student (1) – "Yeah that was really good. I enjoyed ... the interview part [of] the site placement and talking to a working scientist and finding out what they value ... the importance of creativity and collaboration and what they ... know".

Student (2) – "There was a few things that ... I wouldn't have thought was important [before doing the unit] that when I got to do ... the interview [with the scientist] towards the end of the subject ... a lot of things came up that we'd talked about ... and it was ... confirmed ... by the working scientists".

Student (1) – "For example in science education our experiments work ...[this] is not what it's like in actual science. You don't know the outcome of ... the actual experiment".

Conclusion

The researchers acknowledge that the preliminary findings from the single unit offering are quite limited. However, the general findings from the interviews, workshops, and assessment tasks suggest that many of the approaches and activities used throughout the unit were largely successful in achieving many of the intended unit outcomes.

A surprising finding was that encouraging the PSTs to re-conceptualise their personal view of the NoS proved much more effective and engaging than originally anticipated. Participants were keen to revisit these ideas throughout the course and to actively explore and debate alternate views. The changing personal view of NoS as

articulated by individuals at various times throughout the unit also provided insights into how their views of NoS and contemporary sciences were changing over time. This provided a powerful insight into the impact that robust discussion and debate can have on changing long held views.

Constructing a coherent contemporary view of NoS also appeared to provide participants with language and confidence to engage in professional discourse which challenged and further enriched their understandings of sciences. Several participants self-reported improved confidence and competence in their professional practice when exploring science with their students as a way of knowing and understanding the world.

The research centre site visits and interviews with practicing scientists were also reported to be highly informative and although the conversations and experiences were diverse, the workshop discussions proved very rich in building contemporary views of science practices.

The preliminary findings raise many questions about the success and impact of this unit on shaping PSTs views of NoS and adopting teaching that a contemporary view of sciences and their authentic practices. Further research will be undertaken when this unit is next delivered.

The logo for the International Association for the Advancement of Pedagogical Research (iafor) is centered on the page. It features the word "iafor" in a lowercase, sans-serif font. The text is surrounded by several concentric, curved lines in shades of red, orange, and blue, creating a circular, dynamic effect.

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Evaluation of the Effectiveness of E-Lectures on Students' Learning

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Abstract

With the advent of new technologies, “digital learning and teaching” has been gaining more attention and is becoming an inseparable part of new curriculums. Although most of the studies demonstrate the effectiveness of Electronic-lectures (E-lecture) in improving learning and teaching, there are experts who warn against the trend of changes claiming that the ‘live’ lectures may very soon become obsolete. They argue that E-lectures do not provide an interactive environment required for learning and teaching.

This paper is intended to investigate the effectiveness of E-lecturers on learning of Master level Electrical and Electronic students at Swansea University, UK. Since most of the previous research in this area lacks the students’ view on the matter, a survey will also be used to hear the students’ voices on the concept of digital learning/teaching.

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Introduction and Motivation

Since September 2013 the author has been developing and teaching a module called 'Power Systems' at Swansea University. The final exam of the module consists of four questions:

Question 1, which is compulsory, has four subsections covering various chapters of the module.

Then, the students have to answer two questions out of the remaining three. The three remaining questions (i.e. Q2, Q3, and Q4) are, respectively, related to Chapter 2 (synchronous generator), Chapter 3 (fault calculations) and Chapter 4 (stability analysis). Speaking from the last two years' experience, it seems that chapter 4 is slightly more difficult for students compared with the two other chapters; and therefore the students have a tendency to answer the two other questions (i.e. from chapters 2 and 3). For example in 2013, less than 20% of the students attempted Q 4 (which is from chapter 4) while in 2014 no one even tried to answer the question. Moreover, the average mark of Q4 (in 2013) was 20% less than the average of Q2 (in the same year) and 17% less than that of Q3 (in the same year).

Since chapter 4 contains of very important topics, in order to make sure that students do not completely ignore it, the author always inform them that at least one part of Q1 (which is compulsory) will be from Chapter 4. However, the results of the last two years show that; the part of Q1, which is related to chapter 4, has the lowest average (and the lowest attempt despite being compulsory). This may indicate that students simply ignore the entire chapter 4.

Therefore, the author has been looking for ways of helping the students to learn this relatively difficult, and yet important, chapter better and encourage them to answer the question related to it in exam. Digital teaching and learning seems to be a promising aid for the challenge mentioned above. This paper is organised as follows: next section explain the methodology of the study while section 3 reviews previous research in this area. The outcomes of the survey and the students' exam results are explained in section 4, and section 5 draws some conclusions.

Methodology

It was decided to make E-lecture for the entire chapter 4 (including both theory and examples) and upload them on Blackboard prior to teaching the topics in the class. It was emphasised to the students that the videos are not aimed to substitute the normal 'live' lecturers, but as an extra help.

The whole chapter was taught in four videos, each about one hour. The videos in the author's office using Camtasia (<https://www.techsmith.com/camtasia.html>) which is a professional screen recording software while use Snowball Bluemic (<http://www.bluemic.com/snowball/>) to record the voice. The videos did not include a picture of the author (i.e. no camera was used). Wacom Intuos Pro (<http://www.wacom.com/en-us/products/pen-tablets/intuos-pro-se>) was used to write on the PC's monitor, which was recorded by Camtasia.

Therefore, beside the normal lectures' notes, that are always uploaded prior to the lectures, the students have four videos covering the entire chapter and its examples. This gives them the facility to watch it several times and if needed rewind it to understand the topic better.

The objectives of this study are to see if the E-lectures:

increases the percentage of students answering Q4,
increases the average mark of Q4

In order to hear the students' views on the whole process, a questionnaire, which is shown below, was designed and handed to the students:

Questionnaire:

1- What method of delivery do you think is the most helpful in learning?
(Please note that the university's standard of one office hour per week is assumed to be available for all options below)

Only E-lectures for the entire module including theory and examples.	
Only normal lectures for the entire module including theory and examples.	
E-lectures for theory and normal lectures for examples.	
E-lectures for examples and normal lectures for theory.	
Both E-lectures and normal lectures for the entire module including theory and examples.	

Or, if you prefer any other combination, please describe it here.

Why do you think your chosen option is the most helpful?

2- Please describe the advantages of having E-lecture?

3- Please describe the advantages of having normal lectures?

4- How could the E-lecture be improved?

It should be noted that the students did not know anything about the reasons of choosing this particular chapter to make the videos in order to make sure that similar to previous year they can freely choose to answer or not to answer Q4.

Pedagogical study

Most of the pedagogical studies demonstrate positive results and feedback (both from students and lecturers) toward using 'digital teaching/learning'.

M. Asensio et al. (2004) argued that 'image', 'interactivity' and 'integration' ('Three I's framework') can be interpreted as the 'added values' of the media in an educational environment. By 'image' they mean that the added 'visual richness' that comes with digital media. They explained that 'interactivity' consists of three characteristics: access (or availability), choice, and control (ability to start, stop or rewind).

Most of the advantages of E-learning for students, which are mentioned in literature, are related to the fact that it will give them the freedom to access the material

whenever and wherever they want to. It also enables them to start, stop and rewind the video/audio as many times as they want to. Some of these advantages are summarised by J.A.D. Balfour (2006) as follows:

E-lectures are especially beneficial for hearing-impaired and non-native speaking students

The ability to access lectures whenever and wherever suits the students. This can be very useful for students who cannot attend lectures at a particular time of days (due to a part time job, for example) or who are not at their best at a particular time of days (e.g. some people who aren't 'morning people')

Availability of the videos/audios at will which becomes more beneficial when doing a coursework or preparing for exams

J.A.D. Balfour (2006) also summarizes some advantages of 'E-teaching' for lecturers which are as follows:

The lecturer can improve his/her performance through watching (or listening to) the videos (the audios)

Improve the students engagement through providing them with the videos prior to the lectures

By doing this, the normal 'face to face lectures' can be used for more important and complex issues

Truth to be said, not everybody is supportive when it comes to 'digital teaching/learning'. For example:

J. Williams and M. Fardon (2005) argued that having access to video and audio files of lectures will discourage the students from attending the actual 'live' lecturers.

Regarding this issue, it is worth-noting that the author did not notice any change in the number of attendees (compared to the chapters with no videos), even though the students have had access to the videos prior to the lectures. The fact that this study is applied on master level students cannot be very effective since D.Simon, et al (2009) also did not notice any drop in students attending lectures (compared to years before) despite of applying their project on a level-1 module.

E. Bennett, N. Maniar (2007) believe that using e-lectures will make the students too much dependent on a 'repeating' lecture and prevent them from becoming an independent learners. The author thinks that this can be potentially an adverse side effect of E-lecture, which requires more studies. Moreover, it may make the students to pay less attention in the class hoping that they can understand it by watching the videos. However, these side effects might be mitigated by changing the students' view on E-lectures. They must be taught that E-lectures are aimed to answer the remaining questions they might have after a face to face lecture, not as the sole source of learning nor to substitute the live event.

Outcomes

This section explains the outcomes of this study from students' perspective and their exam results:

(a) Outcome from the students' survey:

The survey (shown in section 2) was emailed to the students and they were asked to either email the author the completed questionnaire or put it in his letter-box (in order to be anonymous, if they want to). The convergence rate was 86.4%, which was more than the author's expectation. The survey consists of the following four questions:

Question-1 asked the students to choose their favourite approach in teaching, out of the following options:

Only E-lectures for the entire module including theory and examples.

Only normal lectures for the entire module including theory and examples.

E-lectures for theory and normal lectures for examples.

E-lectures for examples and normal lectures for theory.

Both E-lectures and normal lectures for the entire module including theory and examples.

Table I shows the result of question 1. As it can be seen, nearly 50% of the students prefer both E-lecture and normal lecture for the entire module while none of them would like only E-lecture. The second place (with 27.3%) belongs to those who would like normal lecture for theory and E-lecture for example parts. One of these students justified their choice by mentioning that 'theory is more difficult than examples' so it would be better to have face-to-face lecture for theory. A very interesting outcome is that 9% of the students would rather normal lectures for the entire module i.e. no E-lecture whatsoever (note that this is twice of those who prefer E-lectures for theory and normal lecture for examples part). They argued that they are worried that 'E-lectures take over normal lectures'. Moreover, they believe that they could watch similar videos on 'youtube'. The concern that the current approach of digitalising learning and teaching may obsolete face-to-face lectures in future is a valid one, and the survey shows that no student like it. It is worth to emphasise that the survey clearly mentioned that 'the university's standard of one office hour per week is assumed to be available for all options'.

Table I. Outcomes of the survey

Delivery method	a: E-lecture	b: Normal lecture	c: Theory: E-lecture Examples: normal lecture	d: Theory: normal Examples: E-lecture	e: both
Percentage	0	9.1	4.5	27.3	45.5

Question-2 asked the students to mention some advantages of E-lecture.

Almost all of the mentioned points were related to the fact that videos are easily accessible at will, hence, they can study at their own pace wherever/whenever it is more convenient to them.

Question-3 asked the students to mention some advantages of normal lecture.

Most of the students mentioned 'live interaction' as the main advantage of normal lectures. They also pointed out that being in a lecture make them concentrate better. Moreover, other students may ask interesting questions that one may not notice on their own.

Question-4 asked the students to suggest ways of improving E-lecture.

Some of the students' suggestions are listed below:

Adding some sort of interactive section for discussions/comments

Shorter videos (suggested durations: 45 and 30 min)

The lecturer appears in the video (not just his/her voice)

Recording normal lectures as e-lectures

Adding more examples

(b) Outcomes form exam:

Table II compares the past three years' exam results of the question related to Stability Chapter (i.e. Question 4):

As it can be seen, 45% of the students attempted to answer Question 4 while no student answered it last year and only 18% answered it in 2013. The table also shows increases in both average and maximum mark of the question. The only negative result is the reduction in minimum mark which is, to some extent, justifiable as more students attempted the question in 2015 compared to 2013.

Table II. Comparison the past three years' exam results of the question related to Stability Chapter.

	Attempted	Average mark	Maximum mark	Minimum mark
2015-2016	45%	58.8%	96%	16%
2014-2015	0	NA	NA	NA
2013-2014	18%	40%	88%	20%

Conclusions

Table II demonstrates that after this teaching intervention the students have a better feeling towards Stability Chapter since much more students attempted question 4 compared with the last two years. Moreover, the survey also shows that most of them prefer to have both E-lecture and normal lecture for the entire module, which was the approach of this teaching intervention.

Since making videos for both theory and examples can be very time consuming, according to the survey, it is recommended to start with the students' second choice i.e. making e-lectures for the example part. Moreover in many cases, when teaching the theory, it is required to make longer videos, which is contradictory with the suggestion from some students.

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The Second Generation Bangladeshi and Pakistani Women in Brighton and Hove

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Abstract

This paper will explore the achievements of second generation Bangladeshi and Pakistani women in formal education. Existing literature shows disparities in their educational achievements when compared to the mainstream population. In the research I am studying the lives of the second generation women, their performances in education and trying to understand their identity formation. There is evidence of the stereotyped perception of the second generation Bangladeshi and Pakistani women as 'traditional Asian women' in school. This paper will highlight these factors in the context of their performances in education. The identity of the Asian pupils may determine the attitude of the teachers and in due course impact their academic performance. This paper will highlight the academic performance of the second generation Bangladeshi and Pakistani women and how their identity, teacher's attitude and socialisation impacts their educational achievements. My argument through my research is to explore whether education guarantees social justice.

Keywords: Second Generation, Identity, Education, Bangladeshi, Pakistani.

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Introduction

My professional experience as a Black and Minority Ethnic community worker in one of the deprived areas of Brighton and Hove led me to ask questions about the identity formation and social integration of the second generation Bangladeshi and Pakistani women, with whom I work very closely. I observed that there is limited participation from the Bangladeshi and Pakistani residents in community activities. There is also a continuity of their lower participation in the formal labour market and limited uptake of higher education through two generations. For the second generation low social and educational participation has sustained. As a professional these observations led into further observations and unsubstantiated theorising about the roots of these problems of social participation and inclusion. Some specific challenges for the second generation is restricted communication between parents and children. This is due to language barriers between the 'home' language of the parent and English spoken by the children. The first generation (parents) Bangladeshis/Pakistanis are socially isolated as they choose to socialise only within the Bangladeshi/Pakistani community. This creates unfamiliarity with the British culture and identity and therefore results in difficulty to communicate with their children. These observations were based on my limited professional experience with a small section of the population. This alerted me to the absence of systematic studies in Brighton and Hove on the second generation Bangladeshi and Pakistani women, and I took this up as my Doctoral research topic.

Context

The growth of the Bangladeshi and Pakistani community in the UK with a relatively young demographic profile suggests that it will remain a feature of the U.K population in the coming years. In 2009 it was recorded that 36.5% of the ethnic minority population are UK born which accounts for a sizeable proportion of the population (Dustmann, Frattini, Theodoropoulos, 2010). There is a considerable increase in the population of the Bangladeshis and Pakistanis in the U.K. and the Census report shows the population of the Bangladeshis have gone up to 402,428 in 2011 from 259,710 in 2001. The Pakistani population records a total number of 1,028,459 in 2011 from 657,680 in 2001 (ONS Table S104 and Table DC2201EW, cited in Ali, 2015). The Bangladeshi population facilitate the migration of more Bangladeshis from the home country through marriage. In the UK, Bangladeshis have "larger families compared with the rest of the population" and they are expected to contribute to the growth of "human capital" (Tackey et al, (2006, p.1).

Between 2011 and 2013 the rise in U.K born Pakistanis is "statistically significant", rising from 457,000 to 502,000 (ONS, 2014). The overall Muslim population in England and Wales increased from 1,546,626 in 2001 to 2,706,066 in 2011 that is a 75% increase (Ali, 2015). The growing population of both the communities attaches additional value to their performance in education and employment. Focussing on their achievements and addressing the issues affecting their performance can result in a positive change in the society.

Education

Research shows that there is evidence of an “ethnic penalty” towards the Bangladeshi community and they are “most seriously disadvantaged.” (Sanderson, 2006, pg 36). According to Pathak (2000, pp 1-2) “A large proportion of young Bangladeshis and Pakistanis are not in education, training or employment (14% and 9% respectively compared to 6% of whites) 53% of Bangladeshi women and 40% of Bangladeshi men have no qualification” (Pathak, 2000, pp 1-2). There is an identifiable gender difference in labour market participation. Out of the total number of Muslim full time students, 43% are female compared to 57% male and only 29% of Muslim women are in full time employment as compared to half of the general population (Ali, 2015, pg. 62). Additionally, national data from PSI survey shows the economic activity of Pakistani and Bangladeshi women is lowest, at about 10% compared to 72% of the white women (Dale, 2002, pg. 13). Through my research I aim to understand the level of academic performance and labour market participation of the second generation Bangladeshi and Pakistani women in the U.K thereby contributing to debates around these areas.

There are various Government initiatives that are aimed at addressing the “achievement gaps for pupils” from minority ethnic groups which indicates that the Government is showing increasing interest in the academic achievement of the groups (Arnot, Schneider, Evans, Liu, Welply, Davies-Tutt, 2014, and pg. 14). There are cultural, language and ethnic diversity that must be addressed in order to tackle the cause for different performance levels (Arnot, Schneider, Evans, Liu, Welply, Davies-Tutt, 2014). Educational credentials are an important step towards employment and the statistics show that the applications from Bangladeshi and Pakistani women for degree courses have increased sharply over the last twenty years. Applications for degree courses record “an increase of 95 per cent for Bangladeshi women and 71 per cent for Pakistanis women between 1994/5 and 1998/9” and simultaneously a drop in applications from white men (Higher Education Statistics Agency Table 10A, cited in Dale, 2002, pg. 9). A recent article by The Times Higher Education highlights that although the young Bangladeshi and Pakistani members are achieving higher levels of attainment, as a group they are much more likely to have no qualifications when compared with the white British (Times Higher Education, March 2014).

The Ethnic Minority Achievement Grant has been introduced by the Government “to narrow achievement gaps for pupils” belonging to the minority ethnic group and “to meet the cost of some additional support” required by the bilingual learners (DfES/0283/2004, pg. 2). There is a lot being done today to address the gaps in education for the minority ethnic pupils. The identification of the problems for the bilingual learners is leading to various changes being made in schools, like providing additional help, and teaching the language structure of the subjects (Department for Education, 2012).

Identity

Research around the lives of the second generation migrants emphasises the dichotomy between the two cultures they represent, the home country and the host country. It either highlights the strain that it imposes on the second generation immigrant or the benefit of creating a multicultural identity. It is important to define the other sets of conflict that come hand in hand with the contrast in the culture of the

two nations. There will be an interplay of the other aspects like, “traditional/Western”, “religious/secular”, “parents/peers” (Bhimji, 2008, 414). The formation of identity uses resources from history, language and culture to become what we are, thereby creating tradition. It is also about the discourses that makes us social subjects (Hall and Du Gay, 1996, pg. 6). In my research I will specifically look at the way the society perceives the second generation Bangladeshi and Pakistani women to understand how the identities of these women are shaped as they are constructed to be social subjects.

Identity is not just about claiming to be an individual, it has to be sanctioned by ‘others’ in the society and here we need to recognise that “power operates in and through the spaces within which we live” that shapes an individual identity (Valentine and Sporton, 2009 p. 735-736). In the process of socialisation this element of power that lives with us in the form of family, school, peers, and religion gives us an identity. The school has a major and perhaps the primary role to play in the socialisation of any child. “There has been limited critical examination of the probable impact of teachers’ attitudes, school provision and curriculum” on the performance of the children and it is also important to note “negative stereotypes of Asian pupils, particularly girls, can lead to lower expectations for them by teachers” (Tackey et al, 2006, pg 48). The common perception about the Muslim women is that they come from an essentially patriarchal structure of family and are usually “the oppressed victim” (Ahmad, 2013, pg. 13). The idea of the ‘victimised Muslim women’ can come in the way of their progression. The identity of the Asian girl fails to surpass the boundaries of stereotypical social perceptions. The continuity of lower performances in education that passes through two generations within the Bangladeshi and Pakistani community and is much related to social perceptions about their identity and culture.

The local Council and the practitioners in Brighton and Hove are taking an active step to bridge the gap in the performance levels of the black and minority ethnic pupils. As a professional I have facilitated the formation of after school clubs for children from minority ethnic backgrounds. These clubs create a space for children and parents to come together and are supported by workers. There are also widespread low cost English classes that the first generation migrants attend. This strengthens their language skills and is a step towards bridging communication gaps between parents and children. The performance levels of the Bangladeshi and Pakistani pupils in school that can be attributed to reasons like identity and socialisation can be addressed through these simple initiatives in the community.

Socialisation

The second generation Bangladeshi and Pakistani women grow up in a society that is diverse and multicultural. Brighton and Hove in particular has a mix of various cultures and residents from all over the world. This exposes the second generation Bangladeshi and Pakistani women to cultures and values highly dissimilar to their own. The feeling of oneness and belonging to the wider society is the precondition to ‘emotional relatedness’ to the ‘life world’. This belonging or connection with the society depends on the ‘socialisation and enculturation’ that is often a challenge for the second generation immigrants (Crul, Schneider, Lelie, 2012, pg. 287-88). The second generation immigrants experience a dualism in their lives that is composed of

two different culture, at home and in the wider society. This may prove to be the cause for the challenges they frequently face towards integrating with the society. The second generation Bangladeshi and Pakistani women live in a society that has a diverse population. Hence the contrast is not between the home and the society, but also within the wider society there is a mix of many cultures. Terms like multiculturalism, diversity, multi ethnicity, highlight the prevalence of 'heterogeneous elements' leading towards the context/question of social integration (Crul, Schneider, Lelie, 2012, pg. 288). Social integration in a multicultural society is the key towards forming shared national identities and commonalities. In the context of my research I aim to study the social integration and socialisation of the second generation Bangladeshi and Pakistani women and how it impacts their performance in education and employment.

"The Fourth National Survey of Ethnic Minorities in 1997 found that only four per cent of Bangladeshi and 28 percent of Pakistani women aged 45-64 years spoke English fluently or well". Looking at the age range, we could say that this set of data is most likely representing the first generation immigrants and thus establishes the fact that there will be a difference in the use of a primary language between the first and second generation. The curriculum will also seem to be quite unfamiliar to the parents that affects the supervision children receive at home. An indifference towards the education of the children can be influenced not just by the cultural values of the parents but also the unfamiliarity with the curriculum. The difficulty in using their mother tongue as a first language, coupled with the difficulty of performing well at school due to the parents' difficulty in speaking English results in the underachievement in education and in later years' employment. The second generation immigrants can have a difficulty in using their mother tongue as the primary language. Living in the UK would require the use of English in the outside world which includes the school which forms a primary agent of their socialisation. Not being well versed in the mother tongue can create a gap between the parents and the children that in turn shapes the lives of the second generation immigrants. "When parents remain foreign monolinguals as their children shift to English, conditions are created for internecine family conflict and loss of parental authority" (Portes, 2010, pg 891).

Language, culture, ethnicity, identity, social perceptions jointly impact the socialisation of the second generation Bangladeshi and Pakistani women. My preliminary research and work experience has evidenced that these factors may influence the performances of the women in education. This has led me to question if social justice can be achieved through education.

Conclusion

Generally, the Bangladeshi and Pakistani population have a lower performance in education but the issues that can explain this relates to cultural and ethnic identity. There is a lot being done to address the problem of underachievement in education that can simultaneously result in changes in their participation within the job market. The growing population also indicates that the Bangladeshi and Pakistani population are expected to contribute significantly to the growth of the country's economy. The lower performance in education has been explained by various factors which are created by the society. I have identified identity, socialisation and schooling to be the

contributing factors towards the lower performance of the second generation Bangladeshi and Pakistani women in education, at this of my research.

Through my research I aim to bring forward the views of the second generation Bangladeshi and Pakistani women. As a professional I have had the chance to work with them closely and taken short term initiatives in the form of community projects to support the women. These projects have empowered the women and helped them take the first step towards independent learning and community cohesion. The second generation Bangladeshi and Pakistani women have formed community groups where they share their views, opinions and problems and get a space to share ideas and knowledge. Community projects have come a long way to support minority ethnic residents in Brighton and Hove. By the end of my doctoral research I hope to answer the questions that I have raised leading towards the educational performances of the second generation Bangladeshi and Pakistani women.



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Higher Education and Black and Minority Ethnic (BME) Students: Borderlands of Being and Becoming What Drives Them?

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Abstract

This paper will explore the idea of educating the BME population and try to question what drives education- “borders of power” or “borderlands of being and becoming”.

Black and minority ethnic students and their educational achievement has been researched for a while now and HEA (2012) report shows that there is a huge attainment gap between BME and white learners in the UK. This attainment gap is visible in higher education especially in the universities. According to the report the reason for this gap is social, economic and cultural.

Surprisingly research done by department of business innovation & skills (2015) shows that there has been an increase of BME participation in higher education, mainly in level 3, 4 and 5. The same report points out an increase of BME student population in level 3 upward and progression to Higher Education.

There is a sudden change in further and higher education demography which is visible from 2012. Students from BME background are increasingly taking up level 3, 4 and 5 courses. What is the reason? Is it the self-realisation to do something with their life or is it the favourable government funding policy of money for education?

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Main body

This research explores the increase in enrolment of Black and Minority Ethnic (BME) student in higher education. Research by (Noden, Shiner and Modood, 2014) shows that there is an overall increase in enrolment and participation of BME students in university based traditional higher education. Recent research by (Smith, Joslin and Jameson, 2015, p. 9) shows that there is an increase of BTEC students from 22% in 2007-08 to 44% in 2011-12. This shows an increase in enrolment of student who wants to get a first degree following the non-traditional route.

Student finance England (SFE) from September 2012 started funding Level 4 and Level 5 other undergraduate (OUG) courses. Students applying for BTEC Higher national certificates and diplomas was given the opportunity to access student loan. This shift in policy from the UK government saw a sudden surge in numbers of applicants who want to do BTEC level 4 and 5. According to Smith, Joslin and Jameson (2015, p.9) there is an increase of number of students in BTEC from 22% in 2007-08 to 41% in 2011-12. This can be attributed to change of government policy in regards to student finance of OUG courses.

This change in UK government policy also so more mature students enrolling in OUG programmes delivered by Further Education /Higher Education (FE/HE) colleges (Smith, Joslin and Jameson, 2015, p.10). BME students accounted for majority of those who took up these courses delivered by FE/HE colleges. In St. Patrick's college, London 84% of the students identified themselves as BME. My research was based in this same HE college that I teach in School of Health and Social care.

I have been lecturing in St. Patrick's college since October 2012 just about the same time as the funding for OUG started by the UK government. Prior to 2012 St. Patrick's college focussed on international students and that made the crux of their student base. Changes to immigration rules which made it difficult for foreign students to come in the UK for education impacted FE/HE colleges and many ceased to exist. St. Patrick's college at this point ventured in domestic market and joined the bandwagon to deliver HNC and HND to home students who were helped by the student finance to get into education and get their first degree.

Students who enrolled for the HND courses came from London and surrounding areas. Most of these students (84%) identified themselves as BME and around 72% are women. This demography is quite interesting as it differs a lot from the traditional undergraduate demography. The age statistics show some interesting differences when a comparison is done between OUG and traditional undergraduate students. 88% under 20 years, 74% 20-24 years and 49% 25+ (Smith, Joslin and Jameson, 2015, p.51) years took traditional first degree route while in OUG courses 96% were 25+ years and only 4% under 25 years.

This statistics gives an interesting insight into student demography of the FE/HE colleges delivering HNC/HND courses. The statistics tells us that the students in OUG and in traditional undergraduate have different stories and different circumstances. Student's following the traditional route to graduation mostly had a steady educational achievement graph whereas it differs for students in OUG's.

To find out what actually drives students enrolled in HND courses in St. Patrick's college I did a small survey with a sample of 17 students studying health and social care. They were asked to answer a questionnaire comprising 10 questions ranging from- why did they take up the course? How the student loan and grant help them? What do they think about the government funding for HNC/HND? Would you have done a course without funding? and such.

Social justice can be defined as "the equal distribution of resources and opportunities, in which outside factors that categorise people are irrelevant" (Pachamama, n.d). Looking at the definition of social justice we can understand that equal opportunities is one of the major tenets of the same. I am trying to establish a relationship between the government policy of funding OUG courses and trying to achieve social justice. As we have seen above that the UK government's decision to fund HNC and HND courses saw an exponential increase of learners enrolling. This also highlighted the fact that most of these new learners come from the BME background especially from the black African and Caribbean communities.

Why this increase and why from these communities and why from 25+ age group? As stated earlier I conducted a small questionnaire based research on a sample size of 17 learners. The findings from that questionnaire showed that government policy of funding HND and HNC definitely helped a lot of learners to think about continuing studies and motivated them to start from where they left off. Learners at St. Patrick's college who took part in this research that the funding helped them to believe that they can get a degree at a university which was difficult for them as they didn't had enough credits in A level to follow the traditional route.

The learners also discussed how student loan and the maintenance grant helped them to get back into education. The funding also helped to take up full time education and reduce their working hours or leaving it completely. Some of the students also said now they can concentrate on education and career as the grant will be helping them to take care of childcare. Few of the learners said that the student loan made it easy for them to get an education as they couldn't afford to self-fund their education even if they wanted to.

When asked these students how this education going to help them. The answers sounded quite familiar, they are similar to what any university student will tell you when asked. The students said that they wanted to do something with their life, get a job or better job, get more knowledge that they can use at work. They also said that they think this is now their time to do something for themselves as now their children are grown up. They also said that they want to go to university to complete a degree.

The students were asked why they didn't do any similar courses before and 88% of the sample said that it was due to lack of funding. They said they wanted to do similar courses or other courses that would have helped them to get a better job. They couldn't do the courses as they didn't had the financial resources or support. They said without the financial support from the government they couldn't think about getting their first degree. 12% of the students said that they couldn't do any courses before as paying for childcare was an issue as they couldn't afford it.

The learners through the questionnaire and formal discussion expressed the view that it would have been difficult to do this course without the loan. They said that their aspirations, goals would have been a dream and their careers would have been stagnant. Student's also said that the course have helped them to get promotion at their workplace. Students who have left education at an early age said that the student loan for OUG has helped them to get back into education.

From September 2016 government changed their funding policy for higher education including OUG courses. The maintenance grant which students get will be changed from September 2016 to a loan component. This will affect student's financial liability and their monthly loan repayment. When asked students as in whether they would have done this course if the maintenance grant was changed to loan. Most of them said no, as they had to pay back more and it will affect financial wellbeing.

Why did the UK Government start funding OUG? Was it to give learners from disadvantaged backgrounds a fair chance and access to education? Was it to make up numbers to show that BME students are faring well as well? Was it a short term goal to get people off benefit and give them some skills? Why this change in funding policies? How will it affect BME students and their achievement? Will this affect their dreams and aspirations? Will social justice be achieved through education? How will the government achieve it?

The logo for 'iafor' 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 frame made of two concentric arcs. The outer arc is a light blue color, and the inner arc is a light red color. The logo is positioned in the lower half of the page, below the main body of text.

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The Utilization of Water Footprint Education to Build-up the Level of Environmental Awareness

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Abstract

Due to the water scarcity situation worldwide, there are many campaigns introduced to raise the awareness of people for the purpose of saving water. According to the manufacturing businesses, one of the initiatives is the water footprint focusing on the calculation of the amount of freshwater used to manufacture a product. For Thailand, the income from the exported ceramic products is accounted for approximately 15,000 million baht per year. Likewise, the large amount of water usage related to the manufacturing is also high. Therefore, if the industry itself is able to assess how its manufacturing process contributes to the water consumption and polluted water, the study will lead to the increasing level of awareness of the business operators. In this study, the amount of water used for the whole life cycle of a ceramic product, i.e., resource extraction, manufacture, daily use and disposal, is assessed by following ISO 14046: 2014 guidelines. The water footprint is calculated by categorizing into blue water, green water and gray water footprint. Moreover, the water footprint of ceramic package is also included in the calculation. Afterwards, the water footprint is used as the scaffolding technique to enhance the level of environmental awareness among ceramic business operators. The results indicate that the awareness is significantly built up after the application of water footprint education. This will lead to the sustainable use of water in the ceramic business.

Keywords: Awareness, ceramic, environment, water footprint

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Introduction

The environment issues have come into the attention of people since the last decade and they are ranged from global warming to water drought. Although the society starts to be aware of the importance of the environment, the pathway which leads the conservation of environment in reality is still unclear and not practical. As a result, initiatives, such as carbon footprint, are introduced in order to be used as a tool to assess the carbon emission due to human activities with the objective of having the medium for carbon trade. Similarly, water footprint is the concept introduced by A.Y. Hoekstra from UNESCO-IHE in 2002 and it is the amount of freshwater used to make goods or provide services. The water footprint of every product or service will reflect the tangible amount of used water which is easy to understand for people who are related to any part of the life cycle of product or service. The objective of this research is to study the potential of water footprint as a tool to increase the level of awareness among the people.

Literature Review

According to Badruzzaman, Oppenheimer, Hess, Smith, Upson, Postle, and Jacangelo (2014), the purposes of water footprint are differentiated into four categories, the measurement of water consumption, the identification of environmental influence in term of numerical results due to the consumption, the risk assessment regarding the consumption, the introduction of strategies leading to the reduced consumption. Noga and Wolbring (2013) conducted a study on the perceptions of water ownership and water management among one hundred and sixty four individuals. The questionnaires were used as a research instrument and the questions regarding the water footprint were included. The results reveal that the questionnaire respondents are concerned with the water scarcity. Another finding is that education regarding the water conservation and recycling are needed and it is key leading to the raise of awareness. Moreover, most respondents agree that the water footprint might be a potential tool leading to alleviate the awareness. A study by Attari (2013) also points out that the accuracy of water use perception (water footprint) is more precise than other means of perception measurement in the similar category, e.g., carbon footprint.

Hoekstra and Chapagain (2007) signify that the amount of water consumed for the production of services and commodities is the clear definition of water footprint and this number directly reflects the water use of the population in a nation. Their study is also extended to the identification of four factors affecting the amount of water footprint, namely, volume of consumption, consumption pattern, climate (growth conditions) and agricultural practice.

Gerbens-Leenes and Hoekstra (2008) identify that there are two parts of water footprint, i.e., operational water footprint and supply chain water footprint. Another way to categorize the water footprint is based on the types of freshwater sources, blue, green and gray water footprint. The blue water footprint is the amount of water retrieved from the surface and ground water while the green water footprint is the water evaporated from the rainwater in the soil. On the other hand, the gray water footprint is the polluted water due to the manufacturing activities.

According to Čuček, Klemeša and Kravanj (2012), footprint is a powerful indicator used to measure the level of sustainability in term of environment, society and economy

Method

In this study, there are two folds of processes used to carry on the research, the total water footprint calculation and the increasing level of awareness after the workshop regarding water footprint was introduced. The main concept of water footprint calculation is based on the identification of the framework of life cycle analysis. In term of framework, there are five steps incorporating with the framework creation.

- identify the studied impact
- identify the studied product
- identify the functional unit of product
- identify the period for data collection

The initialization of the framework is shown in the following Figure 1.

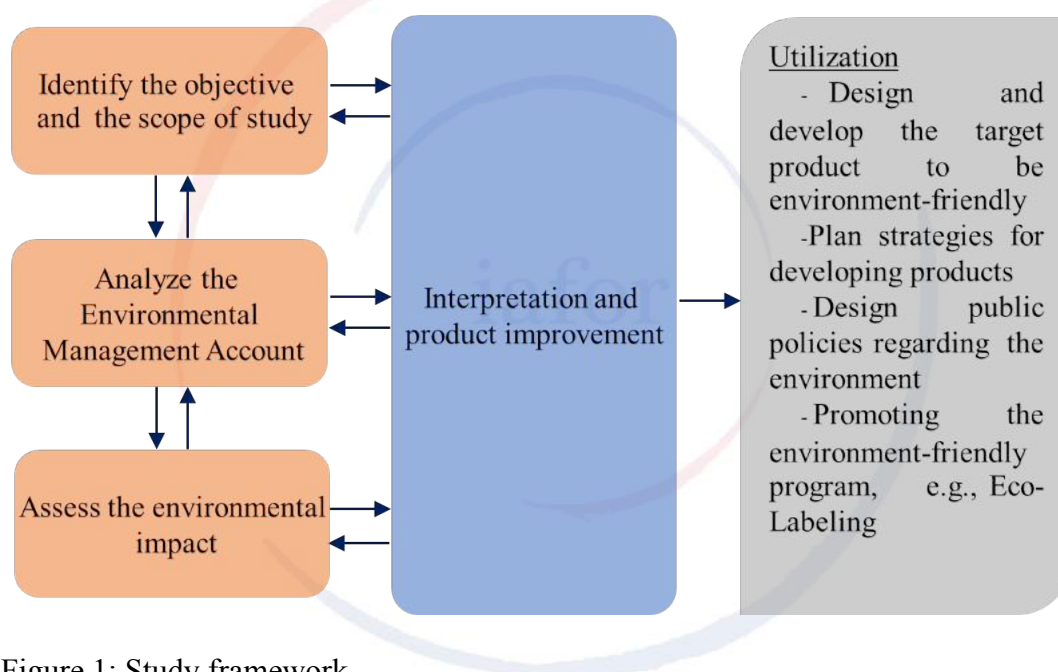


Figure 1: Study framework.

The life cycle analysis is depicted in Figure 2 as material flow analysis (MFA) which shows the scope of product life assessment (in this case, cradle to gate). For cradle to gate, the analysis focuses the life cycle only from resource extraction (cradle) to factory gate. However, if it is cradle to grave, the scenario will cover the whole life cycle of product (resource extraction, manufacturing, distribution, use and dispose). Moreover, another critical function of MFA is to identify the flow of materials in the manufacturing process of a certain product. Elaborately, MFA breaks the whole process into sub-processes and each sub-process has inputs (resources), waste (emission) and output (Hoekstra, 2011).

Another important method used to assess the potential of water footprint as a tool to raise the level of awareness is the questionnaires. They will be distributed before and after the workshop regarding the water footprint was carried on. The paired t-test was utilized to signify the different level of awareness after the workshop.

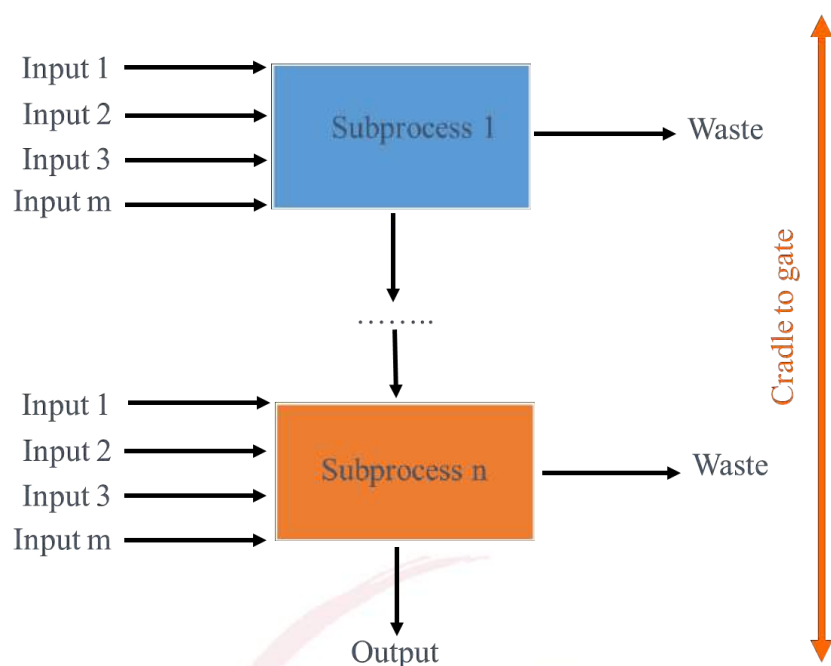


Figure 2: Material flow analysis.

Research Procedure

Since the target group of this study is the ceramic business owners and executives, the life cycle analysis of the ceramic product is limited to only cradle to gate which covers the impact from a partial product life cycle, i.e., resource extraction and manufacturing. A ceramic product which is used as the case study is a ceramic yellow jug for serving water. The weight of this jug is 500 gram and it is shown in Figure 3. Therefore, the function unit of product is a jug.



Figure 3: Ceramic jug.

To illustrate the life cycle analysis, the manufacturing flow chart is depicted in Figure 4 and it composes of six steps as follows: forming and finishing, biscuit firing, glazing, glost firing, polishing and packaging.

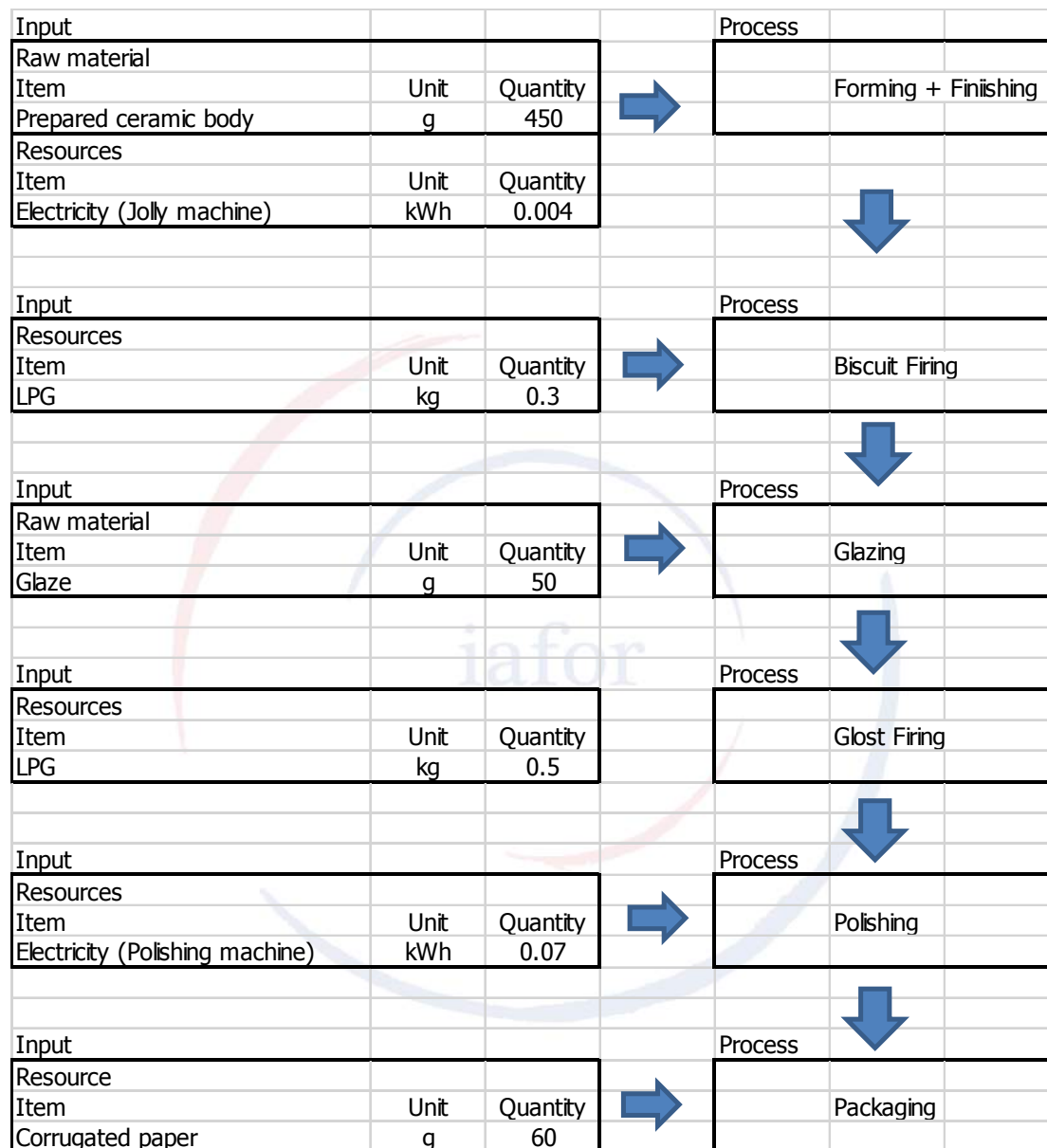


Figure 4: Manufacturing flow chart.

Water Footprint Calculation

According to the material flow diagram, there are three raw materials required to manufacture a ceramic jug, prepared ceramic body, glaze and corrugated paper (for packaging). Due to Table 1 and 2, the water footprint of prepared ceramic body (l/kg) is equal to 14.4 while the one of glaze is 65 l/kg (the data was forwarded from the suppliers who conducted the in-house experiment to determine the water footprint data). On the other hand, the water footprint of corrugated paper (l/kg) in Table 3 is equal to 38.9 (Corrugated Packaging Alliance, 2010). □

Table 1: Water footprint of raw material extraction (prepared ceramic body).

Resource	Weight(kg)	Water Footprint (l/kg)	Total(l)
Prepared ceramic body	0.45	14.4	6.5

Table 2: Water footprint of raw material extraction (ceramic glaze).

Resource	Weight (kg)	Water Footprint (l/kg)	Total (l)
Glaze	0.05	65	3.25

Table 3: Water footprint of raw material extraction (corrugated paper).

Resource	Weight (kg)	Water Footprint (l/kg)	Total (l)
Corrugated paper	0.06	38.9	2.334

Therefore, the total water footprint due to the resource extraction equals $6.5+3.25+2.334 = 12.084$ liter. The forming, finishing and polishing tools are run by electricity which is generated by natural gas. However, the fuel of kiln is LPG (liquefied propane gas). The water footprint calculation for electricity and LPG is shown in Table 4 and 5.

Table 4: Water footprint of generated electricity.

Resource	Process	Quantity (kWh)	Blue Water Footprint (5.6 l/kWh)	Gray Water Footprint (5.7 l/kWh)	Total(l)
Electricity	Forming and Finishing	0.004	0.0224	0.0228	0.0452
Electricity	Polishing	0.07	0.392	0.399	0.791
					0.8362

The water footprint shown in Table 4 obviously shows that the generated electricity is contributed to both blue and gray water footprint. Since the blue water footprint equals 5.6 l/kWh while the gray water footprint is 5.7 l/kWh, the generation of electricity causes more polluted water than the used water (the amount of gray one is higher than the blue one.). In conclusion, the electricity used to manufacture a jug leads to the water footprint of 0.8362 liter.

Table 5: Water footprint of LPG.

Resource	Process	Quantity (kg)	Blue Water Footprint (2.51 l/kg)	Gray Water Footprint (2.51l/kg)	Total (l)
LPG	Biscuit Firing	0.3	0.75	0.75	1.5
LPG	Glost Firing	0.5	1.25	1.25	2.5
					4

According to Table 5, the blue and gray water footprint are equal to 2.5 l/kg and this implies that the extraction of LPG spends the same amount of surface water as the water it polluted (EPE Empresa de Pesquisa Energética, 2012). Totally, the water footprint of LPG for a jug is equal to 4 liter. In conclusion, the total water footprint of

the resource extraction and fuel used is shown in Table 6. Therefore, the water footprint of a ceramic jug (cradle to gate) is equal to 16.9202 liter.

Table 6: Total water footprint.

Product	Water footprint (Resource extraction)			Water footprint (fuel)		Total (l)
	Ceramic prepared body	Glaze	Paper	Electricity	LPG	
Ceramic jug	6.5	3.25	2.334	0.8362	4	16.9202

Level of Awareness

Two groups of samples are selected to be studied. The first group is the business owners and top executives (N=9) while the second group is the mid-level management (N=15). The last group is the operators in the workshop (N=20). All of them is working in the ceramic business. The level of awareness is started from distributing questionnaires by mails to all groups of respondents. Afterwards, all respondents was invited to participate in a one-day workshop. The content covers the life cycle analysis, the water footprint calculation as well as the above case study. After the class, the same set of questionnaires is re-utilized to assess the awareness. The questions are adapted from Carbon awareness questionnaires (available on <https://www.dorsetforyou.gov.uk/media/191602/Carbon-Awareness-Questionnaire/s>) which are designed to assess the following aspects: attitude, environmental impact, water cost and waste, water saving, water usage reduction and motivation.

Table 7: Descriptive statistics of the questionnaire.

Question	Pre-training		Post-training		Mean Differnce
	Mean	S.D.	Mean	S.D.	
Q1: To what extent is your general attitude towards reducing your water footprint?	1.21	0.98	3.95	0.81	2.74
Q2: How aware are you of the environmental impact of water usage?	1.58	1.04	3.51	0.78	1.93
Q3: What is your level of awareness of water costs and where water is wasted?	1.96	1.21	4.05	0.89	2.09
Q4: How aware are you of the ways in which you can save water?	1.41	1.44	4.29	0.82	2.88
Q5: Other than reducing your water use, how aware are you of the other ways to reduce your water footprint at work?	1.77	1.13	3.69	0.96	1.92
Q6: How motivated are you to reduce your water footprint?	1.28	1.22	4.41	0.85	3.13
Q7: The life cycle analysis for water footprint is useful for	1.15	0.98	4.69	0.91	3.54

create environmental awareness.					
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The paired t-test was conducted to assess the knowledge and awareness of experimental group regarding the water footprint by comparing the pre-workshop and post-workshop means. The results signify that there both means differ significantly ($p < 0.01$). Therefore, the conclusion is that the awareness of the top-executive and workforces towards the environment increases dramatically after water footprint has been used a tool.

Conclusions

Theoretically, environmental awareness is the issue that comes to the interest of many people. Although a lot of information regarding the environment keeps flowing to the society through different mediums, a number of people still finds that the environmental issue is not tangible. As a result, this study focuses on the utilization of the water footprint concept an instructional media to raise the environmental awareness of a specific group of people (who works in the ceramic industry). Based on the life cycle analysis, the water footprint of a case study (a ceramic product) is calculated to show a certain amount of water contributed to manufacturing a ceramic jug. Afterwards, the lesson learned from the computation of water footprint was used to train the target group with the objective to raise the environmental awareness. The pre-test and post-test were used to assess the awareness of the corresponding group while the paired t-test shows that the level of awareness before and after the test is significantly different after the water footprint training was introduced to the target group. Therefore, the practical water footprint method is proved to be effective in alleviating the awareness of people towards the environment.

Discussions and Further Studies

The accuracy of water footprint calculation heavily relies on the inventory data. However, the preparation of inventory data in Thailand is not standardized. Therefore, most of the data is adopted from the foreign sources. This practice has the influence on the final result of the calculation. Since the target group of this study is the people who works in the manufacturing, the life cycle analysis only covers the manufacturing stage. However, the research study might be interesting to a large group of people if it is extended to the whole life cycle of the product (including distribution, use and dispose).

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Social-Emotional Challenges and Its Impact on Teaching and Learning

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Introduction

All individuals interact with others in different social settings. Be it children or adults all need to be socially well adjusted in order to be relevant in a particular social interaction. The ability to be able to respond appropriately or be able to pick the social cues is of critical relevance in social contexts. social competence has been defined as:

"the ability to achieve personal goals in social interaction while simultaneously maintaining positive relationships with others over time and across situations".

All children are born with the predisposition to learn the basic skills for their social adjustment by way of observing others in different social settings. some characteristics which are indicators of positive social and emotional behavior patterns have been identified, which ultimately lead to positive mental health during childhood.

How do children start to understand who they are, what they are feeling, what they expect to receive from others? These concepts are at the heart of their social-emotional wellness. They contribute to a child's self-confidence and empathy, her ability to develop meaningful and lasting friendships and partnerships, and her sense of importance and value to those around her. Children's social-emotional development influences all other areas of development. Different domains of development: cognitive, motor, and language development are all greatly affected by how a child feels about herself and how she is able to express ideas and emotions. Professionals sometimes define healthy social-emotional development in young children as early childhood mental health. Healthy social-emotional development includes the ability to be socially competent which involves many elements. The ability to regulate emotions in terms of expressing their own and in turn be able to understand other persons' feelings is the key to develop emotional maturity. Children who have the ability to explore and engage with the environment and form sustainable positive relationships are socially competent children. Children with well-developed social- emotional skills are more confident with pronounced skills at expressing their ideas and feelings. They can empathize better with others; manage their feelings of frustration and disappointment better. There is a positive correlation between school success and social emotional competence of children.

Relevance Of Social-Emotional Competence For Well Being Of Children

During the past two decades, a convincing body of evidence has accumulated to indicate that unless children achieve minimal social competence by about the age of 6 years, they have a high probability of being at risk into adulthood in several ways (Ladd, 2000; Parker & Asher, 1987). (Ladd &Profilet, 1996; McClellan & Kinsey, 1999; Parker & Asher, 1987; Rogoff, 1990) suggests that a child's long-term social and emotional adaptation, academic and cognitive development, and citizenship are enhanced by frequent opportunities to strengthen social competence during childhood. Hartup (1992) notes that peer relationships in particular contribute a great deal to both social and cognitive development and to the effectiveness with which we function as adults. He states that "the single best childhood predictor of adult adaptation is not school grades, and not classroom behavior, but rather, the adequacy with which the child gets along with other children. Children who are generally disliked, who are aggressive and disruptive, who are unable to sustain close relationships with other children,

and who cannot establish a place for themselves in the peer culture are seriously at risk" (Hartup, 1992, p. 1).

The risks are many: poor mental health, dropping out of school, low achievement and other school difficulties, and poor employment history (Katz & McClellan, 1997).

Because social development begins at birth and progresses rapidly during the preschool years, it is clear that early childhood programs should include regular opportunities for spontaneous child-initiated social play. Berk and Winsler (1995) suggest that it is through symbolic/pretend play that young children are most likely to develop both socially and intellectually. Thus, periodic assessment of children's progress in the acquisition of social competence is appropriate. Functioning over a period of at least three or four weeks is required. How children act toward and are treated by their classmates (cooperatively or aggressively, helpfully or demandingly, etc.) appears to have a substantial impact on the relationships they develop (Ladd, 2000). However, healthy social development does not require that a child be a "social butterfly." The most important index to note is the quality rather than the quantity of a child's friendships. Children (even rejected children) who develop a close friend increase the degree to which they start liking the school over time (Ladd, 1999). There is evidence (Rothbart & Bates, 1998; Kagan, 1992) that some children are simply shyer or more inhibited than others, and it may be counterproductive to push such children into social relations that make them uncomfortable (Katz & McClellan, 1997). Furthermore, unless that shyness is severe enough to prevent a child from enjoying most of the "good things of life," such as birthday parties, picnics, and family outings, it is reasonable to assume that, when handled sensitively, the shyness will be spontaneously outgrown. Early childhood is a period of both great opportunity and vulnerability. Early childhood experiences set the stage for later health, wellbeing and learning. In the past, most of the focus was on building young children's academic skills in an effort to ensure they were prepared for school. However, in recent years a growing body of research has demonstrated the strong link between young children's social-emotional competence and their cognitive development, language skills, mental health and school success.

Social, emotional and cognitive competencies serve as a critical foundation for children's well-being and as protective factors for children growing up in adverse circumstances. These competencies are related to a reduced risk for academic, behavioral, mental health, and substance use problems.

However, children experiencing adversity, such as poverty, family stresses, and domestic violence, also tend to emerge from childhood with lower levels of social, emotional and cognitive competence. Our research utilizes a bio ecological, or whole child, approach to examine the influences of neurobiological stress responses, self-regulation, parenting, family relationships, neighborhood, and economic disadvantage on children's social, emotional and cognitive well-being.

Play is a central context for social and emotional development in early childhood.

Social-Emotional Development Domains

The social-emotional development domain consists of the following three strands:

1. *Self*, which includes self-awareness and self-regulation, social and emotional understanding, empathy and caring, and initiative in learning
2. *Social Interaction*, which focuses on interactions with familiar adults, interactions with peers, group participation, and cooperation and responsibility
3. *Relationships*, which addresses attachments to parents, close relationships with teachers and caregivers, and friendships

Role Of Parents And Teachers

Studies have been of crucial significance in the domains of social-emotional development. This aspect of development is the foundation for all other domains. An emotionally supportive environment during early years is of utmost importance for the child to develop love for learning which is important for school success. “As young children develop their early emotional experiences literally become embedded in the architecture of their brain” (National Scientific Council on the developing child).

Key Social and emotional skills children need:

- Confidence
- Capacity to develop good relationships with peers and adults
- Concentration and persistence on challenging tasks
- Ability to effectively communicate emotions
- Ability to listen to instructions and be attentive
- Ability to solve social problems

It is important for the overall development of children that parents be present enough to support them, and this support fosters confidence and growth in many areas.

Just being physically present is not enough. Parents that may be nearby but that are not emotionally invested or responsive tend to raise children that are more distressed and less engaged with their play or activities. A study investigating the connection between parent's investment and children's competence suggests that the emotional involvement of parents really does matter and affects the outcome of their child's emotional competence and regulation (Volling, 458). Parents should keep this in mind when considering the quality of the time they spend with their children, because if they do not invest enough of their time and commitment into pouring emotionally into their child, the child will struggle to learn how to regulate his emotions and interact with others appropriately. In studying the outcomes of Ainsworth's Strange Situation experiments, L. Alan Sroufe found that the style of early attachment relationships predicts later emotional development of children. Sroufe asserts that, “Such variations [of relationship quality] are not reflections of genetically based traits of the infant but of the history of interaction with the parent” (188). This suggests that attachment styles are not inborn but are driven by how parents interact with their infant from births.

An important factor in the emotional development of children is how warm caregivers are, and studies have been done to find the effects of depressed mothers on the emotional development

of children. Depressed mothers have maladaptive thoughts, attitudes, and behaviors, and these, along with being in a similarly stressful environment as the mother, put a child at risk of developing his own emotional problems (Sroufe 2004). The fact that depressed mothers are likely to be indifferent towards their children, put them in less social situations, and generally provide less stimulation for their children, puts the children at a disadvantage for achieving normal emotional development. A key aspect of emotional development in children is learning how to regulate emotions. Children see how their parents display emotions and interact with other people, and they imitate what they see their parents do to regulate emotions (Sheffield Morris et. al 2007). A child's temperament also plays a role in their emotion regulation; guided by the parenting style they receive (Belsky et al). For example, children more prone to negative emotions or episodes of anger are deeply affected by hostile and neglectful parenting, often leading to even more behavioral problems. Difficult temperaments can become a bidirectional problem that evokes even more negative emotions from the parent if not monitored. Parents should be aware that not only do their own emotions and parenting style affect the emotional outcomes of their children, but if they are not aware of how their children's tempers affect them, they could fall into a spiral of ineffective and indifferent parenting which further contributes to negative behaviors from the children. Furthermore, how parents address the emotions of their children and respond to them affects how expressive the children feel they can be. Reacting with criticism or dismissing the sadness or anger of a child communicates that their emotions are not valid or appropriate, which can cause children to be even more prone to those negative emotions and less able to cope with stress (Siegler et. al). Instead, guiding children's emotions and helping them find ways to express themselves in a healthy manner helps them continue regulating their responses to challenges and even aids their academic and social competence. This sort of emotion coaching greatly helps in reducing future problem behavior in children.

In addition to being able to express their own emotions, it is important in social situations for children to be able to identify and deal with the emotions of those around them. Parents model for their children how to comfort someone who is crying or smile at someone who is smiling, but other parental behaviors also influence how their children learn to understand the emotions of others. It has been found that the interaction between parents affects a child's emotional and social development, and marital conflict contributes to problems in these developmental areas (Sheffield Morris et al.2007).

Safe, caring, participating and responsive homes and school support the development of a socially-emotionally healthy child. Positive home environments lead to a happy child who is independent and willing to take responsibilities and is a keen learner. It is deemed important that the child develops a sense of trust and resolves the developmental conflicts positively (Erik Erikson 1950). This makes the child feel connected to and belonging to the environment. Physical safety from verbal or physical threats/ teasing is of utmost importance for the healthy development of the child. Emotional safety is the result of internal sense of being safe which can be achieved if the child receives a warm and caring parenting. Consistency in discipline and a predictable routine are of great significance in making children emotionally mature and competent. Research has significantly shown that children who feel connected and safe at home are better adjusted in school are less likely to be absent from school for a longer duration. Lesser chances of such children be involved in substance use, or initiate sexual activity at an early age and also report higher level of emotional well-being (Resniek, et.al 1997).

Present Study

Based on literature and enhanced interest in the realm of social and emotional skills of children, a research work was undertaken in three schools in Delhi.

The study was conducted with the following objectives:

1. Identification of children with behavior problems
2. Assessment of children on various domains of development
3. Developing resource material as interventions in social emotional domains
4. Using the developed interventions in individualized settings
5. Post-intervention assessment of children on socio-emotional and cognitive/school related tasks.

The children who were facing some challenges in the school were being referred to the school counselor, such children in the age group 6-10 years were selected. A rigorous selection procedure was adopted for the purpose. A detailed and in-depth observation of class-rooms was taken up. During the observations those children who were hyperactive, or had attention related problems or were indulging in bullying behavior were selected to comprise the sample. The observations for each child were done for a period of three months in different school settings like playground, lunch break, during different subject classes. The children so selected from three different schools belonged to class2-class5. Eighty children were finally selected. Consent was obtained from the parents by way of written consent on a consent form developed for the purpose.

All the children who were to be part of the study were administered an Attention Deficit Hyperactivity Disorder screening test. The purpose was to assess their behavior patterns in terms of hyperactivity and attention deficit.

Child behavior checklist and family inventory was administered to understand the interaction patterns of the parents and an understanding into the family dynamics.

Individualized interventions were developed for children to enhance their social and emotional competencies.

Based on research studies and available literature, the following social and emotional domains were identified for interventions:

- Management of Self
- Social Skills
- Interpersonal Relationships

Management of Self included emotional awareness, emotional self-control and regulation, resilience and self-motivation.

Social skills like social awareness, empathy and interpersonal competencies were considered for enhancing the social skills.

Interpersonal relations like forming friendships, conflict resolution, forming social bonds were used to strengthen the relationships.

These competencies were then reinforced by way of different strategies.

Strategies Developed For Enhancing The Social Emotional Skills

Any scientific enquiry needs to operationalize and define the key concepts. In the paper I would like to use the term emotional well-being from the perspective of positive psychology as an individual child's ability to enjoy life, be happy and well-adjusted in different social settings. Emotional well-being is not the absence of emotions but the ability to understand the value of your emotion and use them to move your life forward in positive direction. A well-being is a state that describes the happiness, confidence, contentment and ability of the child to use his/her potential in a productive manner in academic as well as in interpersonal relations. It is important to address the increasingly complex situations children face regarding academics, social relationships, citizenship, and health. Therefore, skills must be developed for negotiating diverse contexts and handling challenges at each developmental level (Weissberg & Greenberg, 1998).

Planned, ongoing, systematic, and coordinated social and emotional learning needs instruction to begin in preschool and continue through high school. The importance being assigned to this aspect of child's personality trait (I wish to address social emotional well-being as an important personality trait because once the child masters the various skills enhancing the social emotional maturity these skills become an integral part of the child's personality) in the western world is evident from the fact that there are a large number of researches funded by many government organizations in order to promote emotional well-being and consequently better performance in different spheres by the child. There is no dearth of workshops and training sessions for parents, teachers and other child care professionals empowering them to be able to strengthen children's skills at managing interpersonal relationships, their emotions and stresses.

The methods used in the study were:

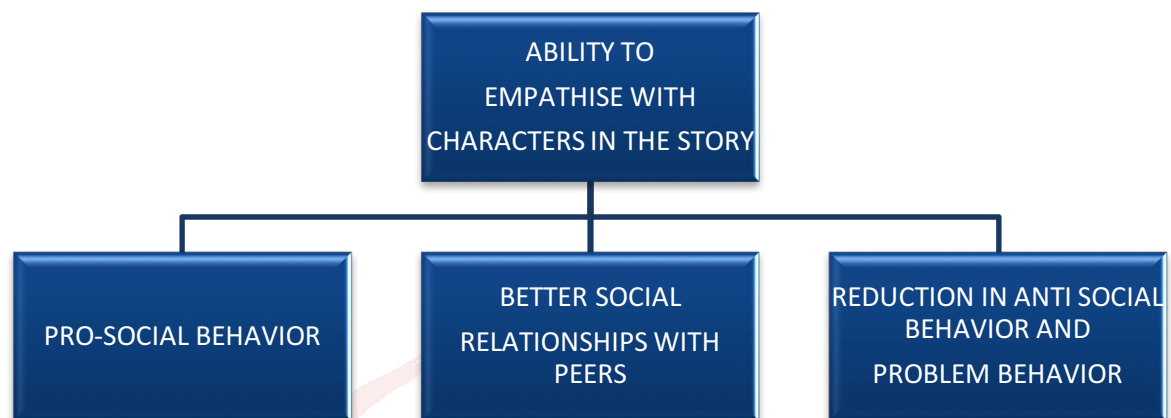
1. Identification and Naming the moods/emotions: mood cards and flash cards showing different emotions were used
2. Concentration enhancing games : few games were developed which were helpful in increasing the child's ability to pay attention for longer periods.
3. Strengthen the potentials of children
4. Motivation techniques by way of activities
5. Flash cards and other activities for reinforcing positive behaviors in class rooms: flash cards displaying pro-social behavior in the classroom
6. Bibliotherapy is the use of literature for therapeutic purpose. Story telling sessions were organized for the children with the view to help them learn to empathize, and develop socially appropriate behavior and emotional skills. (Sapra, R. 2015).

It is beyond the scope of present paper to discuss the strategies in detail.

The diagrammatic representation of the benefits of storytelling is appended in the paper. These were some of the methods used during research.



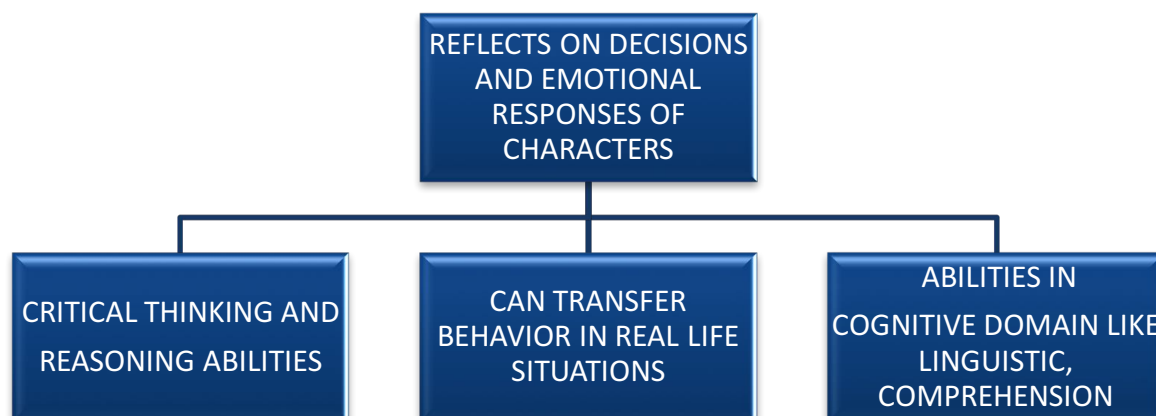
Sapra 2011



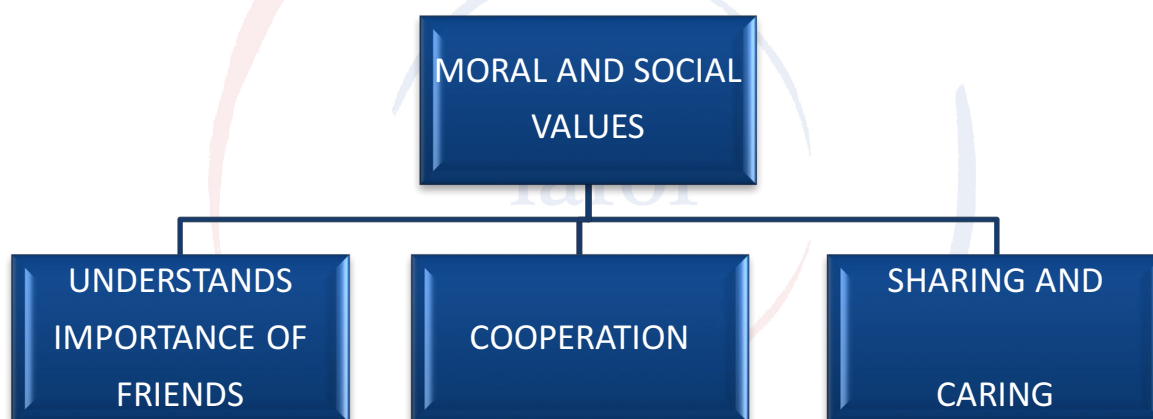
Sapra 2011



Sapra 2011



Sapra 2011



Sapra 2011

Results And Discussions

The children who were selected for the study were exposed to the developed interventions twice in a week and each session lasting for 40-45 minutes for the first two months. In the next two months it was increased to four times in a week. Total exposure to interventions was for four months. after a period of three months of exposure to interventions a post test on social competence scale , ADHD screening test and academic performance was assessed in order to find the effectiveness and sustainability of the activities developed for enhancing SE skills of children.

There was a significant decrease in aggressive and other anti-social behavior. The children displayed increased attention and concentration for the task at hand. The academic performance had shown significant improvement and the school grades were compared to their earlier grades before interventions in order to establish if academic performance had any significant

improvement. Parents and teachers both had corroborated the improvement in the behavior and school performance.

The various dimensions of social behavior as assessed by the social competence scale had shown a significant change. The decrease in impulsive and aggressive behavior was significant at 0.001 level of confidence. An increased sense of well-being was also observed in children.



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The Proposed Teaching Excellence Framework (TEF): A Formula for Teaching Excellence

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Introduction

The key aim of the November 2015 consultation paper '*Fulfilling our potential: Teaching Excellence, Social Mobility and Student Choice*' ('the green paper'), presented to Parliament by Jo Johnson, the Secretary of State for Business, Innovation & Skills, is to introduce a Teaching Excellence Framework (TEF) to higher education institutions. The TEF is designed to raise teaching standards, reduce the burden of self-regulation on the sector and, in doing so, offers better value for money to students, who, following recent statutory reforms on tuition fees, are now fully funding their education.

The problem, the government identifies, is that employers have raised concerns about the skills and '*job-readiness*' of many graduates, due to institutions viewing teaching as being the '*poor cousin*' to academic research. For those providers who meet and surpass the proposed threshold, there will be '*reputational and financial incentives*'; and for students, there are promises of wider participation of people from '*disadvantaged backgrounds*', and greater competition from '*new high quality providers*' who will be placed to take advantage of a '*faster route to becoming a university*'.

The government argue that universities may be guilty of '*degree inflation*' – which artificially increases the number of students achieving higher degree classification awards, supposedly to improve the reputation of the institution – but this, quite rightly, carries '*reputational risks*', as employers face the challenge of differentiating between applicants, and students worry that they are not being fairly rewarded for their efforts. To remedy this, the TEF should provide consistency in degree standards and awards.

The authors identify, from these aims, that, regardless of any other tangential benefits, the TEF has three main features:

- (i) To encourage students from disadvantaged backgrounds, who would otherwise not have done so, to enter higher education;
- (ii) To improve the employability of these, and other, students; and
- (iii) To allow institutions, who achieve this main task, to charge higher tuition fees.

It might be argued that the key aim of TEF is to merely raise teaching standards, but this cannot be true if it simply taken in isolation. The government plainly seeks to ensure that higher education is linked to employability and that employability should not be the preserve of the elite. The **financial incentive** is interesting, because it adds an objectively-assessed yardstick across all institutions – after all, a student will expect value for money and is unlikely to select a failing university simply because it offers cheaper fees, nor will a successful institution elect to keep fees low if it is allowed to raise them – which means that any assessment of a university's teaching '*excellence*' must carry an element of objective valuation. The government's encouragement of **widening participation** must indicate that the average student from a disadvantaged background has much to offer the commercial sector. The lean towards **employability** as a key factor for teaching success shows that many current graduates are leaving university with plenty of knowledge, but lack the means to transfer that knowledge into productivity. For these reasons, perhaps, this initiative has been launched by the Secretary of State for Business, Innovation and Skills, rather than by the Secretary of State for Education.

Therefore, the challenge is three-fold:

- (i) Providers must agree on the key skill(s) which enhance student employability;
- (ii) Providers must then establish undergraduate degree teaching excellence, or ‘best practice’, across all subjects, to elicit and enhance these skills; and
- (iii) Providers must acknowledge that the current model is flawed; that widening participation students have much to offer, and that the new teaching strategy should seek to appreciate and enhance these unique attributes.

This challenge is not trifling. A major hurdle needing to be crossed is for providers to agree on the purpose of higher education and its correlative assessment strategy. Some institutions may argue that taught subject matter should be expansive (‘for completeness’) with assessments geared towards content or rules-based outcomes, while others may say that assessments should be geared towards developing a student’s transferable skills, leaving taught content to be minimally disseminated, within narrow and arbitrarily-drawn parameters. The authors take the latter view, since the main concern of the government is not to ensure that graduates leave university with copious amounts of knowledge, unusable in the marketplace, but to ensure that graduates are properly equipped with a practical, useful education, to rise to any challenge they face in their postgraduate work lives.

The authors assert that they have identified a formula which addresses the three main aims of the TEF, and seeks to answer crucial questions in Part A, chapters 1-4 of the green paper, entitled: ‘*Teaching Excellence, Quality and Social Mobility*’. The authors argue the following:

- (i) That the key transferable skill, which leads to enhanced student employability, is that of **critical reasoning** - the ability to apply subjectively derived (qualitative) logical argument to solve problems, supported by objectively researched (quantitative) authority - which provides legitimacy to the answer;
- (ii) That the development of the critical reasoning skill does not favour those who come from a traditional educational background, and rewards students from all walks of life who bring to their degree studies a wealth of valuable **life experience** derived from a variety of diverse sources;
- (iii) That the critical reasoning skill is possible to be **objectively assessed**, utilising a universally adopted checklist.

In this paper, the authors’ have formulated a simple three-part checklist, which subdivides the essential elements of the critical reasoning skill into its composite parts, for use in assessments. This checklist, when applied by the assessor, has two main purposes: (i) to ensure that the student has achieved the appropriate grade for the assessment; and (ii) to ensure consistency and maintenance of quality in the assessment method. This checklist not only raises teaching standards (Berger & Wild, 2015a), but, as the authors have found also increases student academic performance (Berger & Wild, 2015b), on undergraduate degree programmes, in-line with the government’s proposals. Cambridge University’s consultation response to the TEF proposal, agrees with the authors’ stance of the significance and importance of developing

students critical reasoning skills, recognising *‘The core research skills of evidence assessment, problem-solving, creativity, teamwork and critical thinking are those that employers of our undergraduates value, and not necessarily subject - specific knowledge or technical ability’* and that *‘The ‘long-reach’ aim of universities is to help students grow into thoughtful and critical citizens’*, but that this aim should not merely enable them to become *‘earners and consumers’*. The authors, in this paper, argue that the TEF’s aim to improve student employability should be through the development of critical reasoning skills, and does not adversely interfere with Cambridge University’s long reach aims. This paper serves to define this key skill and explain the way in which it might be objectively charted and assessed.

Critical reasoning

‘Critical reasoning’ means constructing unique answers, supported by authority. It is the ability to recognise and identify key issues in any problem scenario, and then solve the problem using logic, common sense, experience and knowledge. This will not entail giving answers based on some sort of abstract gut feeling, but will be an expert opinion based on an appreciation of the ‘best’ thinking – subjectively and objectively derived - available. When we say ‘subjectively’ derived, we mean that the student must derive his own hypothesis from his own derived thought processes; and when we say ‘objectively’ derived, we say that the answer must have legitimate force from external authority, or *‘authority without an author’*, as Van Roermund (2000), puts it. The combination of these two elements allows a student to deliver a unique answer with the support of, or criticism of, the best other thinkers in any particular field. Of course, these states are not mutually exclusive – external knowledge informs our inner beliefs, and even the most extensive evidence requires a ‘leap of faith’ for us to accept that even the most empirical of data is true – but unless a student embraces these two paradigms in equal measure, the student has not produced a first class answer. More importantly though, in the business world, employers and customers will not pay a graduate for mere knowledge, but will require critical reasoning as a matter of course.

What we can say then, is that all critical reasoning is a combination of qualitative and quantitative study. This may sound simple and trite, but it is a state of affairs which may not be universally recognised or accepted among institutions. In the Green Paper, we can see that at pages 23 and 33, the government itself has seen fit to reference these two key states, to ‘prove’ their hypothesis of ‘teaching excellence’:

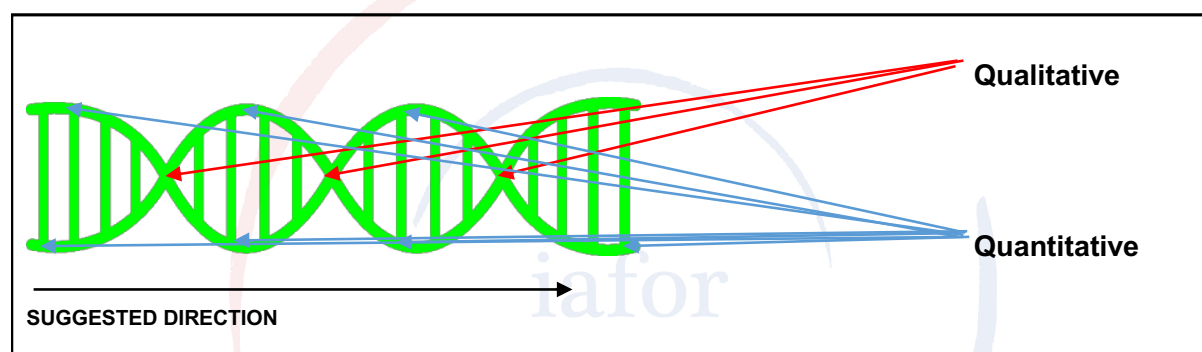
At page 23: *‘As there is no single measure of teaching excellence, whether the approach for year two and beyond of TEF should be to develop a set of common metrics in order to measure aspects of teaching excellence. This would be combined with a qualitative element: providers would submit additional evidence of their case for excellence, including the amount and quality of student study, their contribution to social mobility and how they encourage and reward excellent teachers’.*

At page 33: *‘To measure performance against [these aspects] of excellence we propose to use a set of common metrics derived from national datasets, alongside qualitative and quantitative evidence submitted by the institution’.*

In these contexts, qualitative evidence is anecdotal, meaning that it is based on subjective experiences, not being empirically tested or combined in any formal way with other like-for-like evidence to derive a quantitative study. However, as we can appreciate, the more similar qualitative evidence is gathered, the more quantitative it becomes. Likewise, even if a huge quantity of evidence is gathered, a qualitative hypothesis must be derived in order to give the evidence context and to decide its accuracy and validity. Therefore, we can say that qualitative and quantitative states are not mutually exclusive, but are necessary to give each other resonance. It is the symbiosis between these two paradigms which provides ‘best’ answers to problems, even if not completely ‘right’ answers.

Without wishing to be too abstract about this, a good answer is one which follows the double-helix framework for assessments:

Fig. 1



As we can see from this diagram, qualitative and quantitative study is dependent on, and feeds, each other. If either state is missing or unequally represented, the assessment is either too quantitative (‘too descriptive’), or too qualitative (‘unsupported by evidence’).

By developing the diagram in a double-helix motif, we can see that the process of critical reasoning is an ongoing process without beginning or end, and we can see that qualitative arguments are informed by quantitative knowledge. The corollary, of course, is that quantitative knowledge is set strict parameters by the quality of the context of the initially constructed argument. Lastly, we can see that there are no definitively ‘right’ answers in academic problem scenarios, as in real life, but that it is the ongoing attempt at the construction of logically sound arguments, supported by authority, which provides ‘good’ answers. In the legal context, Dworkin (1978) supports the notion that there are no ‘right’ answers in legal assessments, and the authors in this paper accept that this stance carries over to assessments and problems in cognate disciplines in the social sciences sphere, and even beyond.

If we were to take the left of the diagram as a starting point (there is no difference which end is designated the ‘start’), we can see that each crossed ‘qualitative’ point takes us to a new and deeper ‘truth’. The further along the double-helix structure the student moves, the deeper the answer provided, until eventually a completely unique answer is formulated. It is for THIS reason that this technique favours no demographic of student, regardless of their background, as varied life experiences will produce uniqueness. Qualitative answers are derived from all

sources available to the student – not just those taught quantitatively in schools or further education courses – and are authentic to the student. These constructed answers are at the very heart of critical reasoning.

The authors ‘refined flipped classroom’ model

The traditional flipped classroom model, originally developed by Bergmann & Sams in 2008, saves time and expense (Tucker 2012) and promotes flexibility in educational delivery, by reversing the contact time/homework course delivery elements to allow students to receive part of their course at home through online lectures, and then has them come in to class to develop their learning. In the modern technological age, this has been seen as a huge advance, and has been proved to be a highly effective way to increase student engagement in a wide range of subjects from mathematics (Moore et al, 2014) and pharmacology (Pierce & Fox, 2012), to multimedia studies (Enfield, 2013).

However, as the authors have asserted (Berger & Wild, 2016a), by further developing the model to allow a revolutionary new ‘skills based lecture’ (SBL) element, a refined flipped classroom model can be used to improve the qualitative aspect of students’ argument construction skills, while the traditional part of the model, the ‘knowledge based lecture’ (KBL) element, is left to develop quantitative knowledge and learning. By combining the SBL, the KBL and a workshop small-class workshop element, the student is better equipped to construct subjective arguments supported by objective authority – thereby developing the key critical reasoning skill.

The format is as follows:

- (i) Skills based lecture (**Contact - Qualitative**)
- (ii) Knowledge based lecture (**At home - Quantitative**)
- (iii) Workshop (**Contact - Qualitative/Quantitative**)

In essence, this method teaches students *how* to think, rather than *what* to think - which the authors assert is in-line with the TEF’s main aims.

By proposing that all course delivery is formatted this way, it will be a simpler method to chart teaching excellence by providing all institutions with a consistent foundation. The authors assert that without consistency in educational aims, course delivery and assessment strategy, it will be impossible to ascertain whether the TEF has had any impact, or whether the aims have been met. This is not to say that there will be no academic freedom for each institution to deliver courses in what they believe is the most effective way, but that this freedom should be set within the wide parameters proposed by the authors. Without at least *some* objectively-set framework, the ‘teaching excellence’ accolade will be based on metrics containing institutionally subjective – and therefore uncertain, fraught with risks of accusations of unfairness and/or inaccuracy – elements within each category. To ensure consistency in teaching methods, these must be also aligned with a correlative assessment strategy to promote effective development of the key critical reasoning skill.

Assessment strategy

Creating a universal assessment strategy under the aims of TEF does more than simply establish a consistent framework to test best practice; it provides an opportunity to enhance the critical reasoning skill. The authors argue that the best approach is to use authentic assessment techniques for all assessments, together with their intrinsically combined formative and summative elements.

Formative assessments are those which allow students to improve their performance, by providing feedback mid and post assessment, between the assessor and the student. Summative assessments are those which give a final mark. Traditional 'one-shot' paper based assessments, while pragmatically used to enable assessors to mark *en masse*, are mainly summative in nature, with the only formative element existing as feedback comments. These comments do not allow the student to improve their grade mid-assessment, and are only useful, on the most superficial level, for future assessments. Conversely, formative assessments allow a student to develop an argument further from the point they started at – at whichever point they started at. As long as the assessor is trained to elicit the correct answers, a student has the opportunity to demonstrate that they have considered deeply the key issues of the subject matter. For this reason, mid-assessment formative techniques are the best way to identify, develop and enhance the key critical reasoning skill.

For this reason, multiple choice question (MCQ) and short answer tests are certainly not best placed to adequately test critical reasoning skills. Written exams and coursework are also not as effective as authentic assessments, while oral assessments are only useful as long as the assessor is adequately trained to ask the right questions, mid-assessment.

Authentic assessment

Authentic assessments are aligned with workplace activities, as opposed to the more artificial, largely exclusively summative and austere, nature of traditional university assessment methods. It is a method that presents a task for students to perform and a way to measure their performance on the task. It tests a student's ability to solve hypothetical problems, which then assesses how effectively a student solves a real world problem, and requires students to apply a broad range of knowledge and skills. Doing more than simply avoiding the saturnine, authentic assessments improve students' academic performance (Berger & Wild, 2015b) and employability rates, (Berger & Wild, 2016b) by developing critical reasoning skills through formative mid-assessment communication in a way which is less effective or impossible in traditional 'one-shot' paper-based exams or coursework.

We argue that authentic assessment provides an unparalleled opportunity to delve deeper into the psyche of the student, to explore areas of social, political, economic, or other, interest which may not have been apparent from the outset. This two-way communicative strategy allows students to improve or lower their grade mid-assessment as the lines of enquiry are developed.

Assessors will no longer be able to rely on 'model answers' or 'marking bulletpoints', as no guidance will exist at the heart of the assessment, beyond that of the attempted balance between the qualitative and quantitative elements of the problem (if model answers to past questions

were provided, this might increase the quantitative aspect of the learning process, but not the qualitative). Authentic assessment is normally a two-way communication scenario, which means that students are able to respond to their assessor mid-assessment and make tweaks and minor adjustments to their performance as they familiarise themselves with their assessor's demands, personality and character traits. This means that the assessment is within a constant formative framework with a summative assessment at the end, followed by further formative assessment when post-assessment feedback is provided.

A traditional paper-based assessment has only one formative aspect – the feedback at the end – which as Montgomery (2002) notes *'are done after rather than before the writing, so they cannot serve as guidelines, compromising the value of writing comments at all'*. Equally, this mode of assessment is primarily used in a summative way *'to differentiate between students and rank them according to their achievement'* (Gulikes et al, 2004) – the testing culture - and, as such, does not sit easily with current educational goals which focus to a greater extent on the development of *'competent students and future employees'* as opposed to solely on the acquisition of knowledge (Gulikes et al, 2004).

The checklist

In order to ensure that assessors are trained to ask the right questions, mid assessment, the authors assert that a simple three-part checklist may be utilised. This checklist can be used in any discipline which values critical reasoning skills, but an example provided has been specifically developed for use in humanities and social sciences subjects, such as law, politics, economics, business and criminology.

Essentially, the test echoes and subdivides the critical reasoning skill into its composite parts:

- (i) Has the student constructed a qualitative argument which encapsulates the key issue(s) of the subject matter?
- (ii) Has the student appreciated the qualitative and quantitative aspects of the key issue(s)?
- (iii) Has the student used quantitative evidence to support his answer?

For example, in a legal assessment, the three parts would be subdivided as follows:

- (i) Has the student constructed an argument? (**Qualitative**)
- (ii) Has the student considered the guiding master principles of the common law – justice, fairness and the common good, and, in doing so, has the student sought to balance the rights of the individuals against the welfare of society as a whole? (**Qualitative/Quantitative**)
- (iii) Has the student supported their answer with legitimate authority? (**Quantitative**)

In other disciplines, Question (ii) will alter to take into account different factors. In law, as with economics, politics, and other humanities/social sciences, the factors which might be considered are political, social and economic, but this is not to say that they will be definitive in other subjects, such as those in science, technology, engineering and mathematics (STEM) - but the general structure of the qualitative and quantitative question elements holds true.

Once uniformity in practice has been achieved through implementation of the checklist, best practice can be charted. Without any checklist at all, universities will have to rely on a number of subjective ‘metrics’ to ascertain best practice. This is fraught with problems, as it means that the TEF will not level the playing field, even though the institutional financial incentives for success would require it to do so. It also means that the TEF objectives will have no guarantee of working, nor can the overall success of the TEF be ascertained against its main objectives.

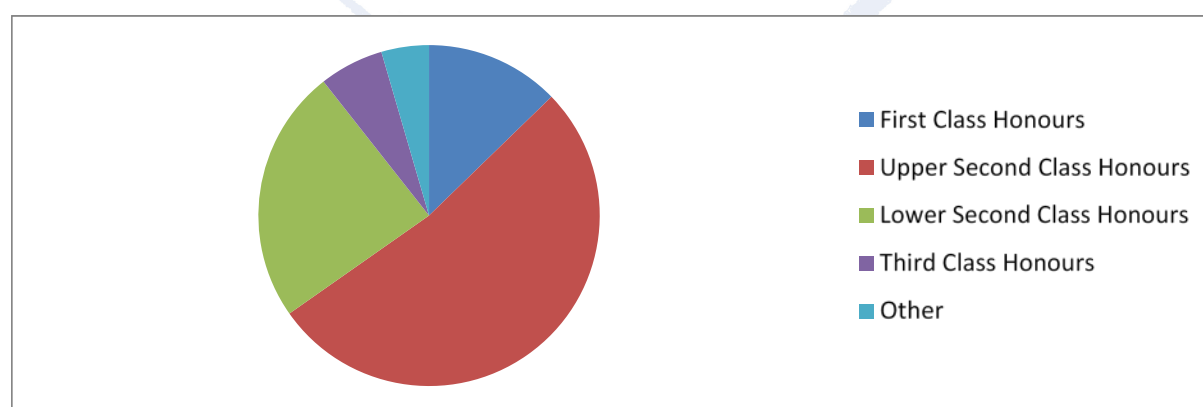
Authentic Assessment in Extra and Co-Curricular Activities (ECCAs)

The authors have developed a range of extra and co-curricular activities (ECCAs), including, among others, Mooting; War of Words (WoW); Mock trials; Debating; and Mediation. Each course incorporates formative and summative authentic assessment methods and is delivered in at least three separate assessment stages and involves an element of public speaking. ECCAs have traditionally been used to merely increase student engagement, but as the authors have found, they also can be used to augment academic degree education (Berger & Wild, 2015b) and improve employability (Berger & Wild, 2016b), as long as they are run by trained educators (rather than as the traditional student-led club or society), and accredited separately to the degree, by way of a Certificate or Diploma in Professional Development.

It is this formative-rich, authentically assessed environment which improves student performance in not just ECCAs, but on the academic degree, and beyond, in terms of their employability. The student is made to, in effect, students constantly review their performance and enter a mind-set which tests ‘wicked’ competencies such as flexibility, confidence, critical reasoning, psychological evaluation skills, and response skills. Interestingly, these are also all skills which help the student who is studying for a paper-based assessment (Knight 2007).

Fig. 2

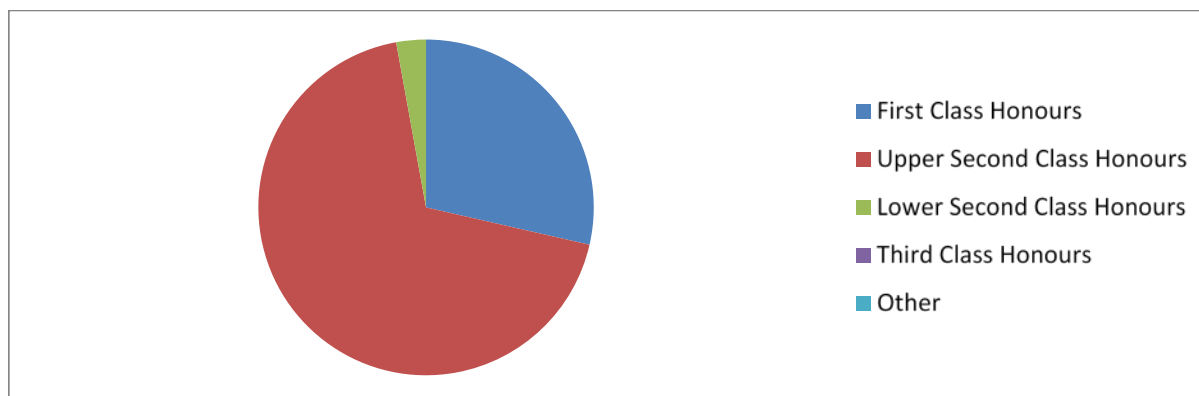
Academic Performance of the entire cohort (2014/15):



Source: Own University's academic registry

Fig. 3

Academic Performance of the ECCA engaged cohort (2014/15):



Source: Own University's academic registry

As may be noted from Fig. 2, 65.2% of the entire cohort graduated with a good honours degree (defined as being either a first class honours or upper second class honours degree). A further 24.2% achieved a lower second class honours degree, with a further 10.6% either achieving another exit award or choosing to resist the following year. By comparison Fig. 3 illustrates that 97.2% of the student cohort which engaged with ECCAs during their academic studies achieved a good honours degree. A further 2.8% achieved lower second class honours, with no-one receiving either a third class honours degree.

Based on this data, the authors assert that there is a direct and positive correlation between exposure to authentic assessment techniques, and the improved academic performance of students engaged in ECCAs.

Improvement in academic performance

Students' improved student academic performance, with the utilisation of the authors' refined flipped-classroom model, has been demonstrated by the authors (Berger & Wild, 2015a). In their study, a level 4 pilot module – Constitutional & Administrative Law - was used to test the model, and the results were clear: The traditional flipped-classroom model improved the level of student academic performance from that of the traditional mode of delivery – the last year in which it was used by the authors was on the student cohort whose year of entry was 2010-11 (it should be noted that the university's recommended benchmark fail rate for all level 4 modules is 20%). In the inaugural year of the adoption of the refined flipped classroom model in this pilot module, the university met this benchmark for the first time in recent history.

The authors' refined flipped-classroom model further improved the level of student academic performance from that of the traditional flipped classroom model - the last year in which it was used by the authors was on the student cohort whose year of entry was 2013-14. It was also established that any of the results were not the product of a more or less 'able' cohort, since the Undergraduate Courses at University and College (UCAS) entry tariff rate for each cohort was found to be at the same 340 point level for all three entrance years of the study.

Fig. 4

Year of entry	UCAS entry tariff rate	Traditional teaching model	Traditional flipped-classroom model	Refined flipped-classroom model	Pilot module pass rate (%)
2010-11	340	✓	x	x	68
2013-14	340	x	✓	x	78
2014-15	340	x	x	✓	83*

* The university benchmark fail rate for this module, is set at 20%.

Source: Own University's academic registry

Conclusion

As has been argued in this paper, the proposed Teaching Excellence Framework (TEF) is a commendable idea, insofar as the need to make students from a wide range of backgrounds employable, makes good business sense. However, without identifying the key skill(s) which increase employability, nor the means by which to objectively chart whether these skills have been developed or enhanced, the TEF does not provide the 'framework' of 'teaching excellence' that it promises.

The authors have also established, through academic results of a 'pilot module', that their 'refined flipped-classroom model' enhances critical reasoning skills, which thereby improves student academic performance.

Lastly, the authors assert that by developing the critical reasoning skill in this expressly qualitative/quantitative manner, students from all walks of life, including widening participation students from disadvantaged backgrounds, will enter and succeed in assessments without demographic disadvantage.

For these reasons, this paper addresses the key issues of the proposed TEF to higher education institutions, as encapsulated within Part A, chapters 1-4 of the green paper, entitled: *'Teaching Excellence, Quality and Social Mobility'*.

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Social Media in Sport Coaching: Knowledge, Attitude and Use of Information and Communication Technology in Service Delivery among Tertiary Institution Coaches in Southwest, Nigeria

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Abstract

Social media is undoubtedly making significant impact across the globe. Interconnectivity and social links are gaining ground every day. Apart from chatting for entertainment, social media is being used for educational and professional development. It is not clear if coaches in tertiary institutions have started using social media for their service delivery. This study therefore examined their knowledge, attitude and use of information and communication technology in sport coaching. Four research questions guided this study and 250 coaches in tertiary institutions in South West Nigeria participated in the study. It adopted survey design making use of questionnaire as an instrument for data collection with reliability coefficient of 0.79. In addition, focus group discussion was used to elicit responses from the participants. Data collected were subjected to analysis using descriptive and inferential statistics of t-test and ANOVA at 0.05 level of significance. The results of the study showed a diverse response of the coaches regarding the usability of ICT for the coaching athletes ($t=1.65$, $p>0.05$). There was a significant difference between respondents' knowledge and their attitudes to Social Media in sport coaching $F_{cal.}=2.468$, $Df=248$, $p>0.05$). It was revealed that the coaches in southwest Nigeria had a positive attitude to the use of ICT for coaching (83.1%) in tertiary institutions and majority ((78.2%) use ICT for sport coaching. Coaches to inculcate in athletes moral behavior that will impact on their attitude to social media and sport coaching while institutions, government and sport philanthropists should develop spirit of investment in sport

Keywords: Social media, Coach, Information and communication technology, Southwest Nigeria, Service delivery.

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The entire universe had been transformed to a global village through Information and Communication Technology (ICT). Countries all over the world are at different stages of integrating ICT to everyday practices including learning, teaching and coaching. There is urgent need for developing countries to liberate teacher and coaches from old media and methods of teaching and learning by embracing new method of technology (Ajayi, 2002). Teaching, learning and coaching world over had gone beyond the teacher standing in front of a group of students disseminating information to them without their adequate participation and contributions. With the aid of ICT, teachers and coaches can take their students and athletes beyond the usual classroom setting, ensure their adequate participation in teaching-learning process and create a virtual environment for them to explore and experiment.

Coaching is a useful way of developing people's skills and abilities, and of boosting performance. It can also help deal with issues and challenges before they become major problems. A coaching session will typically take place as a conversation between the coach and the person being coached, and it focuses on helping the coachee discover answers for themselves. After all, people are much more likely to engage with solutions that they have come up with themselves, rather than those that are forced upon them. Most formal and professional coaching is carried out by qualified people who work with clients to improve their effectiveness and performance, and help them achieve their full potential. Coaches can be hired by coaches, or by their organizations. Coaching on this basis works best when everyone clearly understands the reason for hiring a coach, and when they jointly set the expectations for what they want to achieve through coaching (Lachance, 2009).

The most important piece of equipment that lies at the heart of the whole ICT process is the computer. According to Kornfeind, (2011), the computer and the software that it runs is an essential element in the new societal paradigm and it is a key to success for the modern sports administrator. It is the piece of equipment that allows the sports coaches to maximize the return on scarce resources whether this is people, facilities and equipment or finances (Over, & Sharp, 2008). In turn, it is also perhaps the single most important tool to insure the extended reach of sport and recreational programming and with it, the whole idea of inclusion in these activities of the greatest number of participants.

Information and Communication Technology (ICT) plays an increasingly important role in the gradation of the coaching profession. Our empirical research targets this area, specifically, questions about the knowledge, attitude and use of ICT in sport coaching. The empirical research method was to analyze the specific forms and methods of use of information technology (video channels, social networks, electronic databases, websites, computer programs, smart phones, etc.) in formal training of coaches. Coaches do not use ICT in their direct coaching too often during training or a match, while particularly at the top level usually work on a computer with video.

Buckley & Anderson (2006) begins with the assumption that all game participation represents an opportunity for learning. People can learn many complicated behaviours, attitudes, expectations, beliefs and perceptual schemata through observation and

participation in social media. Game play situations are called learning encounters and the learning that takes place is influenced by the interaction of person (e.g., attitudes, goals, emotions, traits) and situation variables. These learning encounters influence both the subsequent internal state of the player (their arousal, emotions and cognitions) and also their appraisal of the environment and thus subsequent decisions and behavior. Enough research has been carried out that several reviews of the literature on violent video games and behavior have been conducted (Anderson & Bushman, 2001; Dill & Dill, 1998; Griffiths, 1999; Sherry, 2001) and found that learning through video and computer games has a lot of advantages which could be exploited by coaches to improve performance of their athletes.

Various ICT facilities are used in teaching learning-process. Some facilities that had been identified by Bryers (2004), Bandele (2006) and Ajayi (2007) include radio, television, optical fibres, computer, digital multimedia, satellite equipment, internet, overhead projector, slides, fax among others. It is essential to understand that ICT is divided into three major groups of information technology, communication technology and networking technology. The third group belongs to the social media which is the main concern of this paper and it appears that coaches have insufficient knowledge and right attitude to the effective use of social media for coaching in Nigerian higher institutions.

The use of ICT offers wide array of choices and innovative ways that is mostly absent in the traditional classroom settings (Bahurudin, et. al., 2001). The new Information and Communication Technology is having revolutionary impact on educational methodology and coaching globally among which are using performance analysis software and hardware, using ICT to record and analyse performance, using ICT to track participation, involvement and improvement in physical activity as well as access to select and interpret information (Ololube, 2006). To this end, Nigerian coaches cannot afford to lag behind to adapt to the new era of technology for the effectiveness of their profession. Bandele (2006) indicates that computer application in the classroom can take various forms such as Computer Aided Instruction (CAI), Computer Assisted Learning (CAL) and Computer Managed Learning (CML), simulations, tutorials, drill and practice and demonstrations. It must be emphasized that effective use of any of the methods will greatly depend on the knowledge and attitude of the coach.

The importance of ICT in coaching is numerous. Apart from the fact that ICT enhances unrestricted access to coaches to information and development in various sports, it provides coaches with efficient and effective tools to take care of individual athletes' individual differences (Olorundare, 2006). It also makes learning interesting, easier and creates fun.

In education much research is done about the attitude and behaviour of teachers with regard to the use of ICT in education (Kral, 2004; Ingenluyff, et al, 2005; Weistra, 2005) but not about the knowledge that coaches have about coaching with ICT. Nowadays knowledge is an important asset in organizations, especially in those organizations that are in an important change process such as higher institutions. By many authors (Hislop 2005, Davenport 2000, Sulanski 2003), the current society is described as a knowledge

society where there is a growing need for knowledge workers and knowledge-intensive organizations. Knowledge to Davenport (2002) “is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knower. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices and norms. According to Brown (2005) the key to survival in changing times is learning to learn and to share knowledge. Fullan (2001) states the irony in life: “Schools are in the business of teaching, yet they are terrible at learning from each other”.

Attitude is “a learned evaluative response, directed at specific objects, which is relatively enduring and influences behaviour in a generally motivating way” (Lippa 1990). Davis, Bagozzi and Warshaw cited in Weistra (2005) describe attitude as an individual’s positive or negative feelings about performing the target behaviour. Today, coaches have to adopt new skills to learn how to implement ICT in coaching According to Fullan (2001) people can react enthusiastic, disappointed or even hostile to change and experience two kinds of problems when they don’t feel happy; the social-psychological fear of change, and the lack of technical know-how or skills to make the change work. Fullan argues that changing the context in coaching will also change behaviour of the coaches and the willingness to learn new skills. For this reason, questions are asked with regard to the attitude of coaches and their involvement in this change process. The use of ICT by coaches depends on how they judge the importance of functions of ICT in their chosen career. Schoonenboom et al, (2004), in a survey among teachers in higher education in the Netherlands, showed that teachers find administrative and organizational functions important. Teachers in 2003 attached little value to communication and course information, to the functions of collaborative group work, to the offering of material and assignments by means of ICT and the use of a discussion board.

This study therefore investigated Social Media in Sport Coaching: Knowledge, Attitude and Use of Information and Communication Technology in Service Delivery among Tertiary Institution Coaches in Southwest, Nigeria.

The three research questions that guided the study are:

1. Is there any significant difference in the respondents’ attitude towards ICT coaching on the basis of gender and experience?
2. What is the level of knowledge, attitude and use of ICT among Tertiary Institutions Coaches in Southwest Nigeria?
3. Is there any significant difference in the perception of males and females coaches on the use of Social Media in coaching for service delivery?

The study adopted a descriptive research design of the survey type. The population consisted of all the coaches in the Federal Universities in Southwest Nigeria and a sample of two hundred and fifty coaches were drawn from ten universities using stratified and simple random sampling techniques. A self-designed questionnaire with correlation

coefficient of 0.72 was used to collect data for the study. Frequency counts, percentages and t-test statistics were used to analyze data collected at 0.05 level of significance.

Table 1 revealed that from the 250 respondents used in the study, 75 (30%) are females and 175 (70%) are males.

Table 1: Description of Respondents across Gender in percentages

		Frequency	Percent Valid	Percent Cum	Percent
Valid					
	Female	75	30.0		30.0
30.0					
	Male	175	70.0		70.0
100.0					
	Total	250	100.0	100.0	

Table 2: Description of Respondents coaching experiences in percentages

	Range	Frequency	Percent valid	Mean	S.D.
	Below 2 yrs	15	6.0		
	2 – 6 yrs	18	7.2		
	7 – 11 yrs	122	48.8		
	12 – 16 yrs	85	34.0		
	16 - 20yrs	20	8.0	12.34	3.51

From table 2, respondent across coaching experience was presented. The table showed that majority 207 (82.8%) of the respondents had been in the coaching job for between 7-16 years. The implication is that Social Media in sport coaching is not new to majority of the coaches

Table 3: Respondents Knowledge, Attitude and Use of to Social Media by Coaches for sport coaching in percentages

S/N	Statements	Most like me	More like me	Just like me	Not like me
1	I know what ICT is all about	46.1	33.7	12.4	7.9
2	Integrating ICT to improve sport coaching is too difficult for me	13.5	20.2	19.1	47.2
3	Using ICT to improve sport coaching is creating more problems for me as a coach	11.2	16.9	13.5	58.4
4	I use ICT tools during training for sport coaching	36.6	41.6	16.0	5.6
5	It is a very difficult task for me using ICT tools for sport coaching	47.2	29.3	20.2	3.4
6	Using ICT tools for my coaching makes the my work easier	52.8	38.2	6.7	2.2
7.	ICT will assist athletes performed better	47.2	40.4	11.2	1.1
8	It is good to use ICT tools for coaching athletes	48.3	39.3	9.0	3.4
9	I did not like using ICT tools for coaching	19.1	9.0	12.4	59.6
10	My athletes perform better if trained with ICT tools	41.6	34.8	18.0	5.6
11	Using ICT tools in sport saves time	58.4	24.7	12.4	4.5
12	Use of ICT should not be incorporated in sport	11.2	28.1	28.1	32.6
13	I felt my university should provide ICT tools for coaches and athletes use	34.8	31.5	16.9	16.9
14	I don't believe using ICT tools will produce world class athletes	12.4	16.9	6.7	64.0

From table 3, the result showed that tertiary institutions coaches in Southwest Nigeria were highly knowledgeable in ICT (79.8%). Moreover, it was revealed that the coaches in southwest Nigeria had a positive attitude to the use of ICT for coaching (83.1%) in tertiary institutions and majority ((78.2%) use ICT for sport coaching. The table also revealed that Majority 210 (84%) of the participants agreed that social media could be used for coaching and improve performance in sport.

Table 4 revealed the relationship between knowledge and attitude of respondents towards ICT in sport coaching.

Table 4: One way ANOVA Analysis showing Respondents' Knowledge and Attitudes in Sport coaching for service delivery

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1136.194	21	47.341	2.468	.000
Within Groups	4449.938	229	19.181		
Total	5586.132	250			

- Significant at 0.05

The ANOVA table shows that there is a significant difference between respondents' knowledge and their attitudes to sport coaching using Social Media with p- value (0.000) less than 0.05 significant level and also $F_{cal.}$ (2.468) greater than $F_{tab.}$. The study revealed that coaches have different perspectives about ICT in sport coaching for service delivery. This may be as a result of differences in experiences and gender. The result is similar to the views of Jegede as quoted by Awosiyan (2010) that ICT exposure among students across the country will increase proficiency in service delivery.

Table 5: Perception of Male and Female Coaches Towards use of Social Media for Sport Coaching Service Delivery

Gender	N	Mean	SD	DF	t-cal	t-crit	P
Male	175	29.07	4.27	248	1.65	1.96	0.221
Female	75	28.07	4.95				

- Significant at 0.05

Table 5 revealed the t-test analysis of the perception of male and female coaches towards the use of social media for sport coaching service delivery in Southwest Nigeria. The result on table 5 shows that calculated t-value of 1.65 is less than the t – critical value of 1.960 at 0.05 levels; of significance thereby revealing a no-significant difference in the perception of males and females coaches on the use of ICT in coaching for service delivery. Based on this finding, the result revealed that the perception of both males and females coaches is the same with respect to use of Social media in coaching.

The findings revealed and implied that both gender supports the use of ICT in order to coach effectively. This finding supports that of Ayo, Akinyemi, Adebisi and Ekong (2007) who proposed a model for e-examination in Nigeria. The findings revealed that the system has the potentials to eliminate some of the problems that are associated with the traditional methods of sport coaching whereby the coaches has to be physically present.

In summary, the study investigated Social Media in Sport Coaching: Knowledge, Attitude and Use of Information and Communication Technology for Service Delivery Among tertiary Institutions in Southwest Nigeria. The result of the study revealed that there is no significant difference between the perception of the male and female coaches concerning the use of ICT for service delivery in sport coaching. This shows that both male and female agreed that the use of ICT in sport coaching will enhance service delivery in coaching among tertiary institutions in southwest Nigeria. Moreover, it was shown from the result that there is a significant relationship between coaches' high knowledge of and attitude to the use of ICT in sport coaching.

This result showed that there will be marked improvement in sport coaching if social media is used. The study revealed that coaches have different perspectives about ICT in sport coaching for service delivery. In view of the result from this study, the preparation for tomorrow's challenges should not exclude the sport sector as improvement in this sector will bring the country to limelight among the comity of states. It is important for coaches to inculcate in athletes moral behavior that will impact on their attitude to social media and sport coaching. Our Sport men and women should be encouraged to avail themselves with the opportunity the use of social media will offer to improve them while all our institutions should develop the spirit of investment in sport in our institutions. This will facilitate the use of information and communication technology in the region. The present gap in terms of computer literacy and perception about social media should be filled by inculcating positive attitude towards technological innovation across the states of the Federation and Africa at large while funds be made available to institutions to improve the current facilities and develop new infrastructures.

In the light of this study, the opinions of coaches on the use of social media and electronic devices in sport coaching do not differ from one another across the sub-region. There is positive disposition towards the innovation. The government and other sport philanthropists across the nation should adopt this noble means of coaching of sport men and women by funding sport as it is been practiced in more technologically developed countries.

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