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Table of contents:

Implications of Emotion Regulation on Young Children's Emotional Wellbeing and Educational Achievement	Dr Snezhana Djambazova-Popordanoska	Deakin University, Melbourne, Australia
Dignity of Writing in this Digital World	Ahmed Al-Naser	University of Basra, Iraq
Continues Measurement and Evaluation of Students' Performance within a Semester for Quality Learning Process in Ishik University	Ahmet Demir	Ishik University, Iraq
The mediating role of self-regulation in the relationships between pre-service teachers' self-efficacy, task value and active procrastination	Ali Abdullahi Taura Maria Chong Abdullah Samsilah Roslan Zoharah Omar	Universiti Putra Malaysia, Malaysia
Education and Income Distribution: A Path Analysis Framework	Danuvas Sagarik	Rangsit University, Thailand
The professionalization of university teachers and development	Greg Shaw	Charles Darwin University, Australia
The Möbius strip - An intuitive approach to advanced mathematics	Rattanasak Hama	KMITL, Thailand
The Problems of Implementation of Educational Reform Initiatives after Brown and Their Impact on African American Children and Their Community	Richard C. Hunter	University of Illinois at Urbana-Champaign, USA
Poverty alleviation through 21st Century Education for Sustainable Development	Anuradha Khoda	University of Nairobi, Kenya
The Effect of Literacy Approaches on Socio-Economic Life of Migrant fishermen in fishing communities in Lagos State	Egbichi Blessing Anyikwa	University of Lagos, Nigeria
A Study on Applying the Polymer Resin in Ornament Design	Hsiao-Ting Chiu	Tatung University, Taiwan
Dealing with Change: Benefits and implications for education in Zambia	Mukuka Lydia Mulenga-Hagane	University of Zambia, Zambia
Educational leadership for Parental and Community Involvement at the Secondary Schooling Level	Dr. Ajeevsingh Bhola Nathalie Congo-Poottaren Bibi Swalehah Beebeejaun-Roojee	Mauritius Institute of Education, Mauritius
University teaching in China and Australia: A personal, critically comparative, narrative inquiry	Shuling Li	Shaanxi University of Science and Technology, People's Republic of China
'Degendering' education - Gender play in Indian schools and mechanisms to 'neutralise' biases in an Indian context	Sweta Narayanan	EZ Vidya Private Limited, India

Index of authors:

Abdullah, Maria Chong	140
Ajeevsingh Bhola, Ajeevsingh	70
Al-Naser, Ahmed	47
Anyikwa, Egbichi Blessing	125
Beebeejaun-Roojee, Bibi Swalehah	70
Chiu, Hsiao-Ting	5
Congo-Poottaren, Nathalie	70
Demir, Ahmet	14
Djambazova-Popordanoska, Snezhana	90
Hama, Rattanasak	153
Hunter, Richard C.	166
Khoda, Anuradha	109
Li, Shuling	205
Mulenga-Hagane, Mukuka Lydia	22
Narayanan, Sweta	28
Omar, Zoharah	140
Roslan, Samsilah	140
Sagarik, Danuvas	55
Shaw, Greg	194
Taura, Ali Abdullahi	140

A Study on Applying the Polymer Resin in Ornament Design

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Abstract

In recent years, people emphasizing on the overall styling and trendy fashion has gone beyond just the clothes, hairstyle or color makeup, while ornament styling continues to play a very important role in overall styling, and a key in styling scenario.

Yet with world previous metal price remaining high, and gold-smithing mold wearing fast, and as the wax mold is poised to replace the metal core, but it takes longer in wax engraving, a viable alternative has been inspired from the dental molding technology to explore producing ornaments using varied nature of the high polymer resin, where the two materials of polymer clay and resin clay have been specifically chosen for combining into a hardened resin for processing into faux coral, turquoise ornaments that create a color, coordination and balance, and also instill varied “hardness”, “authenticity”, “lustrousness” visual perceptions, highlighting an innovative feasibility in ornament making. The study, adopting the experiment method for conducting the research, has concluded a research finding that the three emotional perceptions of “hardness”, “authenticity” and “lustrousness” are mainly attributed to the effect of the clay, and it is, in turn, learned through the experiment process that the shaping process time of the resin clay is shorter than the polymer clay, the resin clay has a higher “hardness” than the polymer clay, and the authenticity” and “lustrousness” manifested in polymer clay is superior than that of the resin clay.

By focusing on production conceptualization to ornament creation, the study has taken into account the subsequent development technology and also take into consideration product development and production, which enables the research to be more practical and also offers economic value and industry contribution, as it combines theory and practical aspects of the implementation, in anticipation that it will one day become a mainstream in trendy ornament design.

Keywords: Polymer resin, polymer clay, resin clay, UV light

Part One. Introduction

I. Research background and motive

In recent years, people emphasizing on the overall styling and trendy fashion has gone beyond just the clothes, hairstyle or color makeup, while ornament styling continues to play a very important role in overall styling, and a key in styling scenario. Yet with world previous metal price remaining high, and gold-smithing mold wearing fast, and as the wax mold is poised to replace the metal core, but it takes longer in wax engraving, a viable alternative has been inspired from the dental molding technology to explore producing ornaments using varied nature of the high polymer resin with UV light for making jewelry mold, in a bid to explore producing ornaments using high molecular resin of varied nature, and to showcase the feasibility of innovative ornament creation. Exploring varied material fabrics for producing ornaments has aspired the research motive.

II. Research objectives

Based on the research background and motive, the study has formulated its objectives as follows:

- I. To analyze the characteristics of the two materials – the polymer clay and the resin clay.
- II. The polymer clay and the resin clay materials have been chosen in the application of creating ornaments, by deploying hardening resin, UV light in the production process, through which to process the design into pendants, bracelets, earrings and rings that can be coordinated to the apparel in an overall design for creating color, coordination, balance, and to instill varied visual perceptions of “hardness”, “authenticity”, and “lustrousness”, showcasing the feasibility of applying high molecular resin in ornament creation, where ensembles coordinated with varied materials are poised to create different perceptions to the user.

Part Two. Archival review

I. Polymer resin

There are six varieties of high molecular resin, which are (1) epoxy acrylates (2) polyester acrylates (3) polyurethane acrylates (4) polycarbonate acrylates (5) polyether acrylates (6) polymite acrylates, while the resin used in dental molds produced for orthodontics in dentistry is a form of “photopolymerized” resin, referring to the epoxy acrylate, meaning that it is normally like a clay, but hardens when exposed to the UV light, and the polymerization effect of the polymerized resin is triggered by a CP accelerant, where the most sensitive light source for the light accelerant reaction falls in the range of between 460nm and 480nm.

II. Polymer clay

The soft clay is synthesized using special polymer material, and is thus referred to as the polymer clay, which is a heat malleable material, as the completed work can be hardened using an electric oven (or the household oven) at a low temperature (at 130 degrees Celsius) for heating over 10 to 15 minutes. The soft clay is characterized with extendability and malleability than general oil clay, paper mache, starch, resin clay, thus can be used to create exquisite, delicate, lustrous, colorful work-of-art. The material is grease-based, non-toxic, non-irritating, and does not dry up indoors, create

mildew, does not stick to the hand, and the completed product does not discolor, change shape, and can be stored for an extended period of time. After drying, the completed product does not deform, is resistant to insect bites, does not damage, does not create mildew, and is water resistant, and can be preserved permanently. It can be mixed with color dyes: when mixing two color series of the clay, it creates a different color. It can be bonded with metal, wood, glass and a host of other materials with a temperature resistant rating of 150 degrees Celsius or higher. The drying method entails setting the temperature of an electric oven to 130 degrees Celsius, with the timer set to 12 to 15 minutes (for a work with approx. 1cm in thickness), but do not exceed 160 degrees Celsius over 30 minutes to avoid creating partial yellowing or cracking signs, whereas when the temperature is lower than 100 degrees Celsius, it does not harden completely, and the work is prone to fracture and crack.

As general ovens give out varied heat according to different brands or the precision levels of the heating controller, thus beginners are best to first test out a small piece of the clay to grasp the oven temperature when trying to dry for the first time, where the drying time can be extended for larger work (but do not raise the temperature), or the drying time can be reduced for smaller work). It is best to adopt the rotation fan oven (with a rotation fan for air circulation in the oven), as it produces the best effect for an even temperature distribution. Do not use an electromagnetic oven or a microwave oven (because it is prone to burn the clay for how it is difficult to control the temperature). If an oven does not have a timer device, lay a tin foil on the oven tray before placing the work, and cover it with a tin foil on top, but leave the oven door half closed to avoid charring. Once the work is dried, let cool before removing it.

III. Resin clay

As the resin clay is derived from the dough clay, the dough clay is once blended using pastry and white glue, which results in the completed product being heavy and also prone to be eaten by insects, and which is later improved upon to rid of the shortcoming of insect bites. The resin clay does not need to undergo curing, and only needs to let dry by putting it in a well-ventilated spot. Once dried, the completed product made of resin clay has a slight sheen, and also has a translucent feel, while its firm texture, easy to dry and less breakable make it ideally malleable. As bright colors applied onto the resin clay tend to get a little darker once dried, it is therefore best to blend a small amount of white clay first. The white glue is used to bond where pieces of the resin clay are joined, and an unsealed clay needed to be covered with a wet cloth or wrapped with cellophane wrap, and if the clay appears a little dry, a remedy is perhaps to add a small amount of white glue in it.

IV. UV light

The UV light is of a gas-discharged light, with gas-discharged lights subdivided into arc discharge and glow discharge, and the UV light often used in the UV solidification is of the arc-discharged light, with its working theory being: a given quantity of highly pure hydrargyrum (mercury) is added to the vacuum quartz tube for creating ionic discharge through the voltage differential (voltage drop)

supplied by the electrodes at two ends, and which in turn generates the ultraviolet radiation. The UV light's power needs to satisfy the demand (which is generally at 80~120W/cm); the UV light's maximum operating life cycle may not exceed 1,200h, and is generally recommended to use the 1,000 hr ones; the UV light is replaced once every 500h, and at each maintenance the two UV lights can be used alternately, with one operating on the 500h one, and the other operating on a 500~500h light tube; the light tube needs to be cleaned is rotated counterclockwise by one-quarter circumference before use. The ultraviolet light, derived from the English TEL (13 40 117 4352), where the industrial UV light source's spectrum range is between 200nm~450nm, with 365nm being the center. By varied wavelengths, they come in UV-A, UV-B and UV-C, which have intended purposes. Within the industrial UV wavelengths of between 200 and 450nm, we divide them into four columns: UVA: 320-390nm, UVB: 280-320nm, and UVC: 280nm. For the general UV solidifying materials below, the solidification occurring instantaneously needs to be coordinated with the correct UV wavelength of the light source to pair with the raw material UV hardening resin's hardening, which is more than tied to the UV power timing factor, and also that at a lower temperature, the light solidification slows down, and when at a high humidity, as the solidification slows sometimes adding a 1% benzoin or photosensitivity accelerant, the drying speed can be brought up by nearly twofold. The UV luminosity => the light tube's output strength, where a well-coordination of the three factors of reflector design, exposure distance, and coating membrane thickness provide the "UV light", which is used to reflect on the UV material and harden the UV material, and in turn to achieve the product's specified requirements, a process where we refer the "UV light" as the adequate "hardening conditions", thus when the conditions do not match, no solidification will take place regardless however much the UV energy is.

Part Three. Research methodology

I. Research method

- (I) The research first analyzes the characteristics of the two types of resin, the polymer clay and the resin clay, by referencing to archival data.
- (II) The study has utilized different types of clay, combining resin hardening and UV light, to conduct the experiment, with which to derive the optimal creative method and result.

II. Research process flow
As depicted in Fig. 3-1 below:

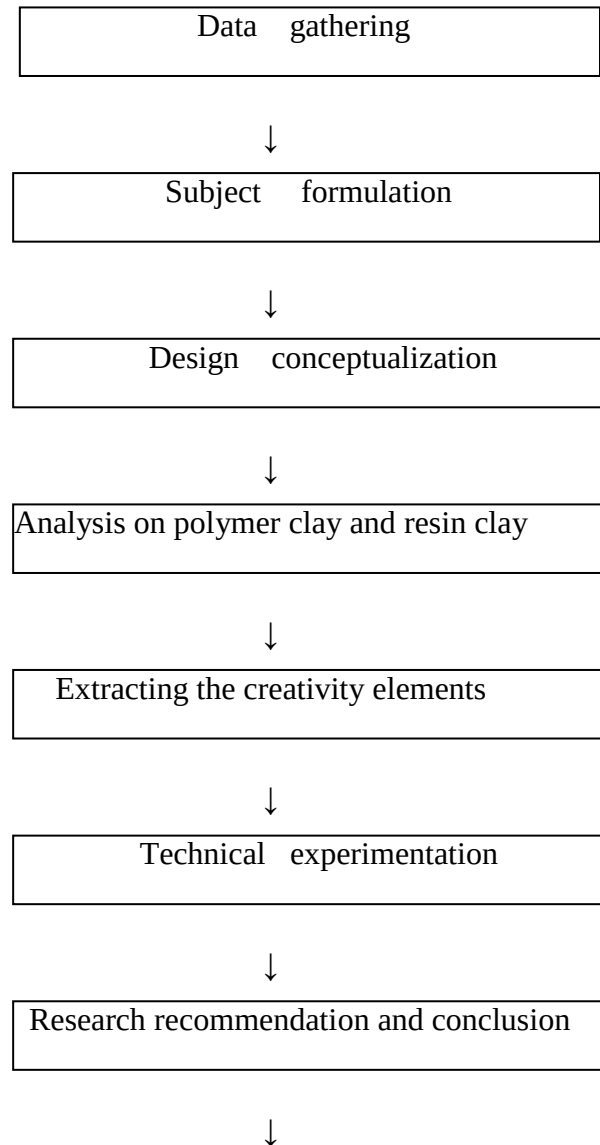


Fig. 3-1 Research process flow

Part Four. Research finding and discussion

I. Research finding

(I) Raw material application



Fig. (4-1) The UV light



Fig. (4-2) The photopolymerizable resin

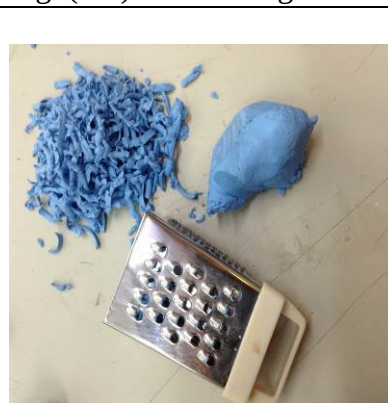


Fig. (4-3) The polymer clay



Fig. (4-4) resin clay



Fig. (4-5) hard resin

(II) Creative technical experiment



Fig. (4-6) 1. The clay and the photopolymerizable resin



Fig. (4-7) 2. Kneading the clay



Fig. (4-8) 3. Blending patterns in the clay



Fig. (4-9) 4. Coating it with polymerizable resin



Fig. (4-10) 5. Exposing the clay under the UV light to create the polymerization effect



Fig. (4-11) 6. The completed product

III. Creative design of the work



Fig. (4-11) Creation one: A coral ring



Fig. (4-12) Creation two: A turquoise pendant



Fig. (4-13) Creation three: The rhodonite



Fig. (4-14) Creation four: The overall styling of rhodonite

Part Five. Conclusion and recommendation

I. Conclusion

The study, adopting the experiment method for conducting the research, has concluded a research finding that the three emotional perceptions of “hardness”, “authenticity” and “lustrousness” are mainly attributed to the effect of the clay, and it is, in turn, learned through the experiment process that the shaping process time of the resin clay is shorter than the polymer clay, the resin clay has a higher “hardness” than the polymer clay, and the authenticity” and “lustrousness” manifested in polymer clay is superior than that of the resin clay. Utilizing the polymer clay and resin clay’s characteristics for producing into a host of ornaments, such as pendants, brooches, necklaces, bracelets, offers varietal changes and economic gain, rendering it indeed feasible in the overall styling; by taking into consideration of the subsequent development technology and taking into account the product development and production, it enable the study to be more practical and also offers economic value and industry contribution, as it further combines the theory and practical implementation, in anticipation that one day it will become a mainstream in ornament design.

II. Recommendation

As the research may be bound by certain limitation and deficiency on research subject and scope for the lack of time, manpower, resources among other

reasons, it is therefore recommended that subsequent researchers may add more resin experimentation and also conduct detailed analysis, which will help to avoid the deficiency of broaching from a narrow aspect of the analysis, by which to conduct analysis, comparison, offering the industry operators with more information as references in production.

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Continues Measurement and Evaluation of Students' Performance within a Semester for Quality Learning Process in Ishik University

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Abstract

The purpose of this paper is to solve a problem of assessment that is held in Ishik University for years. Generally students do not know on which criteria they have been assessed which means assessment is variable dependent on lecturer and from this point of problem, students might not be satisfied of their final marks which show their motivation and success. Interim assessment is applied on 3rd grade students at a qualitative lecture which is called "Production Management" and is held by the author. Then grades are compared to the current system's grades. Finally the changes are observed and defined at the end of final marks are announced.

Introduction

Assessment quality is important as well as assessment accuracy. Therefore, assessments are performed to measure students' knowledge level at the end of a semester. But some questions occur at this point as how much we could keep students motivated to learn better? How could be the mean of students' passing grades increased? Although they know there is going to be held two examinations within one semester, do they make enough effort to achieve success at their grades?

It is foreseen that measuring students' performances as %70-80 percent by two examinations called midterm and final and %10-20 percent "non-systematic" lecturer evaluation is a missing assessment or measurement of knowledge for a quality learning process. Therefore, an assessment and evaluation process which continues for a semester would have a positive impact on students' success and motivate them for along a term. On the other hand, this experiment allows researcher to automatize the performance measurement process and by this way a student becomes able to calculate his/her grade by any time of the semester. Student can calculate his/her grade by considering his/her recorded activities.

In this experiment, special documents, which are prepared for recording, help lecturer or assistant of lecturer to record students' activities on a paper and measure students' performance for along a semester by some measurement standards.

Normally, as a grade policy of Ishik University, %40-60 prefinal (that "may" include only midterm or extra activities, too) and %40-60 of final examination forms the passing grade of a student is defined in the "student handbook". However, in this experiment, grading ratios are set as %30 midterm, %30 extra activities that is distributed equally as %7.5 "attendance of a student", %7.5 "class participation" that contributes one plus per each respond in class and standard as a beginning is 5 times pluses are enough to deserve %7.5, then %7.5 "home assignment" that contributes a plus if a student completes his/her task and sum of assignments are %7.5 of passing grade, and finally %7.5 is "quiz" which is commonly done to measure chapter knowledge of a student at the end of each chapter. Final examination contributes %40 points to a student. Final exam ratio cannot become less than %40 according to the regulation of the Higher Education.

The primary objective of this experiment is to keep students motivated for along a semester to higher their performances. Secondly, by assessing students' knowledge and performance every time in a semester, all activities of a student will be recorded on special documentations and passing grade is foreseen to show the performance of all semester and not only two exams. On the other hand, this provides a systematic record for along an education term. Finally, this process is expected to higher the quality of assessment, and success of students overall as grade.

Experiment output is defined in way of evaluating passing grades of students. Passing grades are evaluated by comparing with the control group's average and expected to get better results.

Literature Review

Assessment is harvest of students periodically. According to (Ramsden 2003, p. 177), regardless of the assertions and their interpretation, assessment cannot be understood in isolation from

learning. However, the relationship between assessment and learning is often problematic, given that “assessment is about several things at once”. From this point of view, few summative assessments might not be enough for a quality measurement of students’ knowledge. For example; if there is only two assessment examination during a semester and a student couldn’t perform one of them because of his/her health problems, one must question if this student’s grade is real or not. Knight and Yorke (2003); Taras (2005); Yorke (2007) supports this idea as saying “some assessments in higher education are designed to be both summative and formative.

Heywood (2000), claimed that the concept of coursework (continues assessment) was used in United Kingdom and Ireland before the terms formative and summative assessment were part of the vocabulary of assessment. On the other hand, continues assessment practices encourage students to learn on an ongoing basis says Trotter (2006). However, Isakson (2007) claims that continues assessment enables the provision of feedback to students on their learning.

In contrast, what is applied in this research is a kind of “continues assessment”. Miller and Collaborators (1998) uses “continues assessment” term to express the use of tests over a learning unit and the accumulation of the results in the final grade (p. 34). So it can be said that assessment which is performed continuously and accumulatively may be a useful assessment type.

In literature, -interim- assessment is used like “the assessments that fall between formative and summative assessment, including the medium-scale, medium-cycle assessments currently in wide use” (Perie et al., 2007, p. 1). Martineau and Dean (2010, p. 142), defends that “interim assessment” will help to achieve a “balanced assessment and accountability system to include appropriate uses of assessment data for accountability”.

According to Chilliers and Collaborators (2010, p.2), “the impact of assessment on student learning is generally held to be profound”. However, Elton and Laurillard (1979) stated that “the quickest way to change student learning is to change the assessment system” and impressed the importance of assessment technique in these words. From this point of view, an effective way of assessment can change the quality learning level of students.

Summative assessment and formative assessment technique may be blended in order to achieve a better assessment. As Bennett (2011) suggested that as summative assessment is preliminarily serves as learning assessment, they can fulfill secondary formative function to support assessment of learning. Brookhart (2010) made a strong case for the mixing of summative and formative assessments when both types of assessment are clearly linked to instructional goals and practice.

Methodology

Participants. The research applied on 86 students from ‘Ishik University’ of Erbil. Students are from the third class of business and management department. Experiment is performed regarding to the GPA levels (which are between 2.00 and 3.00) of third grade students. There are 38 students are the experiment group while remaining are the control group. Demographically, %8 of the students are Turkish, %10 of the students are Arab, %2 of the students are Turkmen, and remaining %80 of the students are belonging to the Kurdish

nationality. Furthermore, they are all the students of Production Management lecture which is taught at Business and Management Department.

Measuring procedure.

Observation continued during the 2013-2014 educational year first semester. Measurements are performed periodically.

Students are assessed at the end of each chapter verbally for participation in the class. Students, who answered to a question correctly, deserved a plus for concerning class. Five times plus meant 100 marks and which grades student 7.5 out of 7.5. That means each plus means 20 point which contributes 1.5 point to a student.

Quiz marks also contributes totally 7.5 to a student. In case a student gets 100 point in average of quiz exams, deserves 7.5 more. However, home assignments are given to the students and evaluated by each. Total number of home assignments forms 100 point and contributes 7.5 marks to a student. Furthermore, attendance is also measured in this class. Before, students were complaining about obligatory attendance to the classes in Ishik University but by this way, it became a motivation for students to attend to the classes because 100 percent of attendance meant 7.5 marks.

Finally, students are assessed within a semester to keep them motivated for learning. On the other hand, percentage of midterm and final also decreased to assess students more often.

Analysis and Results

Here are the data analyses of midterm, final, and passing grades of Production Management subject to see if there is difference at the means of marks and groups. Then we will check if the difference (if exists) is significant or not. First of all, T-test analysis is performed to observe whether the mean of “experiment group” or the “control group” is higher.

Group Statistics					
Groups		N	Mean	Std. Deviation	Std. Error Mean
Midterm_Grades	Experiment	38	54,3947	13,23088	2,14633
	Control	48	35,5833	17,07908	2,46515
Final_Grades	Experiment	38	67,2105	14,82539	2,40500
	Control	48	48,7500	25,11633	3,62523
Passing_Grades	Experiment	38	62,1579	10,24174	1,66143
	Control	48	47,1250	18,92159	2,73110

Table 1: Group Statistics of t-test

From the mean section of the table above, it can be easily seen that mean of experiment group at midterm grades are higher (54,39) than the control group (35,58). Furthermore, means of final and passing grades of experiment group are also higher than the control group. This

means that the experiment group seems to be more successful than control group. But still we don't know if this success has occurred coincidentally or it is really correlatively higher. To understand this, it is needed to check Independent-Sample Test below.

Independent Samples Test								
		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
Midterm_Grades	Equal variances assumed	5,588	84	,000	18,81140	3,36613	12,11749	25,50531
	Equal variances not assumed	5,755	83,971	,000	18,81140	3,26860	12,31141	25,31140
Final_Grades	Equal variances assumed	4,009	84	,000	18,46053	4,60506	9,30285	27,61820
	Equal variances not assumed	4,243	78,227	,000	18,46053	4,35044	9,79987	27,12118
Passing_Grades	Equal variances assumed	4,409	84	,000	15,03289	3,40933	8,25306	21,81273
	Equal variances not assumed	4,703	75,150	,000	15,03289	3,19675	8,66484	21,40095

Table 2: Independent Sample Test

On Independent-Sample Test, we need to look at on sig. (2-tailed) bar of midterm, final, and passing grades. In case $P < 0.005$, then it can be understood that concerning relation is significant and not coincidentally. It is seen for midterm grades $P (,000)$, for final grades $P (,000)$, and for passing grades $P (,000)$ are less than $p < 0.05$ and this test shows the mean difference between experiment and control group is significant.

Finally, correlation test is performed between groups and marks to check whether there is a correlation at marks difference based on two different groups.

Correlations					
		Groups	Passing_Grades	Final_Grades	Midterm_Grades
Groups	Pearson Correlation	1	-,434**	-,401**	-,521**
	Sig. (2-tailed)		,000	,000	,000
	N	86	86	86	86
Passing_Grades	Pearson Correlation	-,434**	1	,915**	,805**
	Sig. (2-tailed)	,000		,000	,000
	N	86	86	86	86
Final_Grades	Pearson Correlation	-,401**	,915**	1	,580**
	Sig. (2-tailed)	,000	,000		,000
	N	86	86	86	86
Midterm_Grades	Pearson Correlation	-,521**	,805**	,580**	1
	Sig. (2-tailed)	,000	,000	,000	
	N	86	86	86	86

** . Correlation is significant at the 0.01 level (2-tailed).

Table 3: Correlation table

Results of correlation test shows that there is negative correlation between two groups (-, 434) for passing grades, (-, 401) for final grades, and (-, 521) for passing grades. Number 1 represents experiment group and number 2 represents control group. From this point of view, negative correlation shows that the marks are decreasing while number 1 increases up to number 2. Second test also has also shown that experiment group is more successful than control group. As a first result, midterm examination results show that experiment group is more successful than experiment group at midterm, final and passing grades.

Feedbacks by Answering 7 Questions

After final examination, a questionnaire is applied to the 23 “randomly selected” experiment group students to understand about their ideas whether they were overall motivated during a semester or not. Here below there are the questions and overall responds and feedbacks of students.

Question 1: Were you motivated to participate in the class in new assessment system?

Answers: Answers to this question was brightly yes. Majority (19 students) think that increasing their marks motivate them to participate in the class. Furthermore, they think they learn in this way much more. On the other hand, minority (4 Students) think this assessment style dint motivate them to participate in the class because they don’t like to talk in the class.

Question 2: Were you more motivated to come to the class in this system? Why?

Answers: Feedbacks have shown sharply (all of the students) that the students were motivated to come to the class. Majority expressed that they found it useful to give marks to motivate students to come to the class. Many students expressed that anymore they don’t have a question “Why is it obligatory to attend %80 of the all classes within a semester” as they had before this class.

Question 3: Were you motivated to study in order to answer questions in the class?

Answers: Majority of the participants (21 students) expressed that by this way they study at home and learn more to answer in the class. Furthermore, they specified that they are noting questions in the class and making it easy to study for the midterm and final examination because lecturer already asks the main important parts of the chapter. However, they think they can express their opinions better verbally rather than paper based. On the other hand, two students student expressed that because of their lack of English, they don’t like and are not motivated by participating in the class.

Question 4: Were home assignments motivating you to learn?

Answers: Majority of the feedbacks (22 students) expressed that they were motivated to study more and consequently they have learned better. Investigating from the internet made them happy and they express they have learned more than the class.

Question 5: What do you think about quizzes done after each chapter?

Answers: Majority of the feedbacks (23 students) expressed that by quizzes, they study for the midterm and final examinations easily by gathering the questions. They claim that they more easily estimate the questions of the midterm and finals and they are affording less time for concerning big exams.

Question 6: Overall, compare the current assessment system and the assessment system that is applied at Production Management lecture from the motivation, learning and success point of view.

Answers: they express that apparently this assessment style affected the results positively. They believe that in this system, they are more motivated rather than current marking system. On the other hand, 3 students think that %40 of final weight is not enough. Overall, students are positive about each three point of view.

Question 7: Do you think this assessment style must be applied for all qualitative subjects?

Answers: 18 students responded to this question as yes. They express that this assessment help to the students at learning, motivation, and grading. However, students expressed that this style forces students to study in a very nice way. By this way, they know they will get merit of what they are doing and this motivates them to study, come to the class, and participation.

Discussion and Conclusion

Students, who are evaluated more often, succeeded to pass with more grades than control group. Author observed that in the class, students (experiment group) were more attentive than other group (control group). This show that students, which are evaluated at new assessment system, were more motivated to attend and participate in the class. Students were complaining about obligatory attendance in the University before they were awarded by marks in case they attend to the class. By this way, students motivated to come to the class more often.

Asking questions in the class made students learn the chapter in contrast and repeat what they have learned. By this way, even the student, who didn't study, learned something from another student by coming to the class. Home assignments also help students to study and directs them what to study.

Overall, experimental study worked and students either got high marks or motivated during a semester. On the other hand, it doesn't mean that this study will work for quantitative subjects also. It worked for Production Management subject. After a step, it may be applied for all of the qualitative subjects and results might be reanalyzed. On the other hand, it can be seen in this study that marks are main motivation for the experiment group students.

Finally, author offers to the administrative of the University to apply this style of assessment to all of the qualitative subjects at least one semester as a trial and analyze. If feedbacks become positive as majority, new assessment style of the University might higher the quality of the education on some major field of studies by motivating students for learning.

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Dealing with Change: Benefits and implications for education in Zambia

By Mukuka Lydia Mulenga-Hagane, Mwansa Mukalula-Kalumbi and Daka, Harrison

Whilst government has developed plans consistent with the goals of using education as a means of development through the vision 2030 and the 6th National Development Plan, there are still inequalities in form of a lack of differentiated system of knowledge distribution and subsequent changes that may work against the development. This is because the change that has come with political transition is not entirely focussing on teaching and learning. There have been changes at junior secondary level or upper basic education level, that may have a negative impact on attaining development. The importance of a country attaining basic education are immense (UNAIDS, 2011; CSO, 2010; Carmody, 2004). In addition, basic schools are important as they shape the upper secondary education tier. Perhaps for this reason, in Zambia, every political party that comes to power changes this important part of education sector in line with their manifestos. Educators, parents and the communities often wake up to political pronouncements marking their and the learners' fate. This paper sets out to consider benefits of educational reform at basic education level in Zambia. It further examines the implications of these changes.

Historical Perspective

Zambia is a landlocked country covering an area of 752,612 square kilometers (about 2.5% of Africa)(CSO, 2010). The country is situated on the great plateau of South Central Africa. Zambia is one of the poorest countries in the world and is home to 6 million children under the age of 18 of which 4 million children are of the primary school age 7-14 (UNICEF, 2011). The majority of the population is in the rural areas where infrastructure is scarce and if any is in a dilapidated state (MOE, 2008, Mulenga, 2011; CSPR, 2010; CSO, 2007).

Currently, the pre-education system is undergoing reform from the organised two levels namely, basic education running from 1-9, translated into 7 years of primary education and 2 years of junior secondary. The other level was the high school, running from 10-12 and secondary education running from 8 to 12. Secondary education is usually a common trend in private and missionary schools. In addition, the Ministry of Education officially recognizes two alternative approaches to primary or basic schooling which are community schools and interactive radio centres(MOE, 2010). The basis of the current reform in education, though not explicitly stated is the 1977 education reforms. The current government seems to be going back in history and trying to implement the contents of the 1977 reforms disregarding the current social economic context of the population at the moment. In the new reforms, grades 8 and 9 have been moved to formerly high schools, this is a reversion to secondary school system.

The now abandoned system called Basic education was adopted in 2002. The previous government started by first upgrading lower basic schools(grades 1-4) to full basic status(1-9) and then removing grades 8 and 9 from secondary schools and relocating them to basic schools. This meant that basic schools had their own distinctive structures although they still

shared challenges of inadequate infrastructure, institutional and human capacity including a critical shortage of teachers especially in rural areas (MOE, 2010).

In 2011, with the coming to power of a new government, came radical pronouncements, one of them included, condemnation of basic schools. In their manifesto, they state they would phase out basic education within three years in to office and introduce a distinct primary, secondary and tertiary education system (PF Manifesto, 2011). This is now coming to fruition. According to them, the Ministry of Education was concentrating on basic education and community schools, concepts which are unconventional and can not work. They argued that basic education and community schools are unheard of and hence unconventional. Some people feel that the later just help condemn Zambia's poor children to fate and a cycle of illiteracy, poverty and backwardness.

Although it can be agreed that Zambia must anchor her education system on kindergarten, primary, secondary, college and university basic and community schools have improved access to education to the majority of rural and peri urban children who are poor (MOE, 2010). But it is clear why this was so because it was critical for the Ministry of Education to address the basic needs in education especially from 2007 since the country had a deficit of over 2 million school places, and by 2010 places for 1.6 million learners had been created (MOE, 2010).

Now there is another change, which is meant to take away these gains. It is this continuous change that may be problematic to the base of education sector. What may be the real motives of such changes? What are the long term effects on basic education? Zambia's education system is still in transition and it will not stabilise for as long as the system succumbs to political transitions.

Perceived Benefits

Plato developed his concept of educational policy in his two largest works, Republic and the Laws. According to him, an ideal state must among other ideals embody justice (Hummel, 1994), a concept which seems to be lacking in our education system. An education system should be hinged on justice, especially for the poor who in many instances do not fight for fairness but to be a part of a system which they themselves do not perceive as unfair and are not likely to benefit from. This next segment critiques the perceived benefits of the current changes to the education sector.

Infrastructure

When basic schools were created in 2002, there were many misgivings especially that the newly converted primary schools did not have laboratories and other rooms for practical subjects, over the years, some schools have been doing practicals at a high school, one such school is Kabulonga Basic School in Lusaka. Other schools in rural areas have not been this lucky because of lack of proximity to secondary schools especially that the country has more basic schools (8,359) than secondary schools (663) (MOE, 2012). One school of thought supports this move hoping that taking the 8 and 9th graders back to secondary schools will improve on quality. High schools, it has been argued, have infrastructure as well as other resources that most grade 8s and 9s in many schools are not accessing.

Issues of Quality

Although issues of quality in education have been issues of debate, West-Burnham (2006) argues that quality is judged to an extent as it relates to the ideal. From his argument, it can be

deduced that issues of quality are contextual, however, generally, they are related to the input as well as the out in education provision. In Zambia, it has been argued that the quality of basic education graduates has declined since the introduction of basic schools. Further, Examinations Council of Zambia has pointed out that teachers are said to be inadequately trained and this has impacted on the quality of results as a result, graduates can hardly read or write(ECZ, 2012). And the blame has always been on the inefficiencies of Basic Schools that have been condemned for producing half baked learners.

It has been observed that basic schools lack laboratories for experiments and lack technical laboratories for experimental subjects. They also lack libraries and learning and teaching materials. This move back to secondary schools is expected to have a positive impact on quality. This we should point out is a utopian way of looking at this problem as secondary schools too are over crowded without essential laboratories and other amenities that make learning worthwhile such as functional science laboratories, creative arts, sports facilities and appropriately qualified teachers (MOE 2010). Quality schools simply do not exist in the Ministry of Education, where the majority of Zambia's children go. At the moment, 90 per cent of public High Schools, 99 per cent of the Basic Schools and 100 per cent of Community Schools" have no functional science laboratories (The Post, 2010).

We therefore state that the existing basic school infrastructure be expanded and equipped to create quality. The move to relocate grades 8 and 9 will not improve quality in the already overcrowded classrooms in high schools where efficiency and quality are still questionable and where in 2009, 7% of learners repeated between grades 10 and 12 an increase from 1.5% whilst 6.4% repeated between grades 1-9 (MOE, 2010). This increase in repetition still points to how inefficient the internal formal system is.

IMPLICATIONS

Impact on Access

The Ministry of Education made headways with the expansion of infrastructure in order to accelerate the attainment of its goal of providing equitable access to quality education especially for children in under served and hard to reach areas. It was expected that by the end of the sixth national development plan which will end in 2015, the ministry would have constructed a total of 16,014 classrooms using the community mode of construction thereby creating classroom space for 440,000 pupils at basic school level(MOE, 2010). It is therefore important that this project is not abandoned in that it will serve the people that need it most especially the rural learner. At the moment, 33.19% of schools offer grades 1 to 9 and only 2.05% of the schools offer grades 10-12 where the grades 8 and 9 places have now been relocated to (MOE, 2010:10)

High Levels Of Primary School Drop Outs

One of the tenets of the current education policy 'Educating our Future' is the promotion of equity. It is stated that there be justice and fairness in the distribution of resources in education provision for groups such as the girl child, disabled and the rural child (Kelly, 1999). This in this paper should mean that rural areas have the same basic infrastructure and support as the urban counterparts to increase access and retention.

In 2009, there were 8,111 Basic Schools in Zambia, an improvement from the 5,300 basic schools in 2000 including community Schools that now accounts for about 25 percent of the basic schools in the country. Most of the basic schools are in rural areas (MOE, 2010). The sector in 2009 had 2,915 schools offering lower to Upper basic education were reported, while 2 schools only provided upper basic education. In contrast, there are 663 secondary schools in Zambia (MOE,2012) and the majority are in urban areas. Since the introduction of the free basic education policy in 2002, enrolment in basic education levels

has steadily increased(MOE, 2008). However, children from poor households, rural children and girls are the last to enroll in school and the first to drop out, and are significantly underrepresented in the upper grades of basic education as well as the secondary level (Lungwangwa et al, 1999, UNICEF, 2011). These are the groups likely to suffer with the current reversion to primary schools. For a learner in the urban set up, the change may have minor effects. This is because in urban areas, schools are often within walking distance, it will then be simply a matter of changing locations. This is sadly not the case in rural areas where learners have to walk long distances to access the nearest school. Almost 20% of the children in rural areas live more than five kilometres away from school and in some cases, distances from school can be as much as sixteen kilometres or more (Mumba, 2002).

When schools were restructured up to the level for grade nine, it was thought to increase access to junior secondary in rural areas where majority of people are and where people needed basic education more. Learners in rural communities would have a chance to learn up to the junior secondary level without uprooting them from their settings. Many parents too would not need to worry about finances to send their children to boarding schools at this stage. Sadly, now we are back to a situation where many communities will educate their children only up to the level available near them.

Impact on Access and Equity

Another implication is that schools are not being built at the same pace as the policies are changing(MOE, 2008). Government must maintain the status quo, especially for the rural areas. This argument is valid considering that in terms of location, 84.7 percent of the schools are in rural areas (MOE, 2010). In addition, these observations hinge on access and equity. Whilst we are worrying about increasing access to junior secondary, which might have a positive effect on secondary education, we are destroying the basis of this education with unfavourable policies. We are ignoring the fact that many basic schools are situated in rural areas. This means that parents without finances to secure a place in boarding schools for their children will have to withdraw their children from schools. Many students will now have to drop out at end of primary education. Therefore, if there should be change, it should be in line with increasing access by expanding basic schools into fully fledged and well equipped secondary schools.

Low Teacher Morale

Busher (2006) has concluded that when change is imposed from outside, insiders tend to feel uncomfortable or demoralised hence the need to involve them and assure them of their continued cohesion into the system and staff development. Right now this has not been done. The teachers who were teaching grades 8 and 9 do not know their fate. Basic school teachers are deployed according to the subjects they can teach, but now that their labour has been moved to secondary school, it means they will have to move too and often, this has financial , and social implications for them and their families. The system is not explaining what will happen to teachers in this new dispensation. It is therefore evident that this was not a well thought plan by the government.

CONCLUDING REMARKS

Busher (2006) advises on the need to ground change in its contexts. Right now, the government needs to ground changes in the current context. This has to be done to serve the education system from perpetually being in transition 50 years after independence. The main issue is not to improve access at primary level, as from data on

Zambia, this has been done to an extent (MOE, 2010; MOE, 2008), what is needed is to built on this and if possible expand access at grades 8 and 9 where currently the greatest need is as only 0.02% of public schools offer grade 8 and 9 only(MOE, 2010)

The reality on the ground is that under the Ministry of Education Basic Education Sub Sector Improvement Program (BESSIP), basic schools have been expanded with more classroom blocks. Also they resulted in the freeing up of classroom space in secondary schools which become high schools meaning that the high schools can now accommodate more pupils from grade 10 – 12 thereby increasing access to higher education. Now our Children have a slight improvement in access to secondary schools and higher education yet the government wants to deprive them of that.

Santos (1995) suggests that critical analysis be combined with alternatives for them to work. We are therefore suggesting that there be expansion in schools offering upper basic education and similarly, more secondary schools should be built within walking distance of learners. This is possible. This possibility should be hinged on the positives of the current state.

We argue that basic education increased access. if people want to argue about the calibre of students then the governmentt would do better to improve the quality of training to the teachers and equip these schools with the needed resources but not to scrap the program altogether.

RECOMMENDATIONS

- The government should use educative analysis in developing appropriate strategies and tactics for reform in education.
- The government should maintain the basic schools in rural areas where there are fewer secondary schools.
- Take into consideration issues of access as basic schools have been built over the years and have been creating a base for secondary education.
- The current changes are benefiting the minority in urban areas. The pass marks being one of the point of argument on the disadvantages of basic schools are arbitrary and not a measure of a students capability. Rather they reflected lack of capacity in Secondary schools. Instead, they should expand infrastructure in basic schools as well as create more classroom space at secondary level and recruit qualified teachers

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‘DEGENDERING’ EDUCATION

**Gender play in Indian schools and mechanisms to
‘neutralise’ biases in an Indian context**

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ABSTRACT

An illustration in a Grade V Indian school textbook depicts a 10-year-old boy declaring that he wants to become a pilot; another with a girl states she would like to be a nurse. What seems like a harmless depiction of future aspirations of young minds subtly conceals a longstanding bias deeply rooted in Indian society - that of specific roles attributed to members of the male and female gender (NCERT position paper 2006).

As this example illustrates, gender disparities in education in India exist, are a cause of serious concern and manifest in various ways. One is through enrollment and dropouts rates of boys and girls in schools. For example, the dropout rates of boys at the elementary level (Classes I to VIII) across the country between 2009 and 2010 stood at 40.59 million for boys, while it was 44.39 million for girls (Basumatary 2012).

Another means by which education contributes to gender disparities is through the perpetuation of gender biases, both via curriculum and transaction. For example, a study in Punjab showed that than 70% of Head Teachers opined that portraying gender stereotypes promoted school dropout among females (UNESCO 2004).

This can be hugely problematic as it leads to such biases being ingrained in young minds through their “impressionable” years, which then affects student achievement, their thinking, views, attitudes and behaviour through life. Ironically then, education, the goal of which is to enhance student knowledge and sensitise them to the world around, becomes the vehicle through which disparities and biases are perpetuated.

This paper will specifically investigate how gender biases have gradually pervaded the school space in India, with particular focus on how primary school curriculum can contribute to this. The paper will offer suggestions on how gender biases being perpetuated through curricular materials can be neutralised or be created with a more gender-sensitive lens, to create a more equitable learning environment for all children. The paper concludes with the idea that schools and involved stakeholders need to make **conscious** attempts towards evaluating their schools through a gender lens across a multitude of parameters and effect ways to cultivate gender sensitivity right from the early years, to lead to a more gender-sensitive and equal society in the future.

DEFINING GENDER AND RELATED TERMS

At the outset, it is important that key terms and concepts relating to gender that will be referred to throughout this paper be defined clearly for common understanding and clarity.

Gender

Gender is used to describe those characteristics of men and women that are socially determined, in contrast to those that are biologically determined (sex). The word ‘gender’ was used by Ann Oakley and others in the 1970s to emphasise that everything women and men do, and everything expected of them, with the exception of their sexually distinct functions (such as childbearing) can change, and does change, over time and according to changing and varied social, economical, political, and cultural factors (UNESCO 2000). In other words, gender is a dynamic concept subject to evolution and revision as society, roles of men and women, views and attitudes change.

The Central Board of Secondary Education (CBSE) manual defines gender as the *socially constructed roles, behaviours, activities, and attributes that a given society considers appropriate for men and women*.

This implies that people are born female or male, but learn to be girls and boys who over time grow into women and men. They are taught ‘appropriate’ behavior, attitudes, roles and interactions. This ‘learned’ behaviour is what constitutes gender identity, and determines gender roles and responsibilities (Ahmed, Aqil, Nyborg 2002). Gender roles also vary greatly from one culture to another, and within cultures.

Gender stereotypes

According to CBSE, these are simplistic generalisations about gender attributes, differences, and the roles of individuals and/or groups. Stereotypes can be positive or negative, but they rarely communicate accurate information about others. These are very widely and rigidly held in society.

Gender discrimination

Discrimination is any distinction, exclusion or restriction made on the basis of socially constructed gender roles and norms, which prevents a person from enjoying full human rights (CBSE 2013).

Gender awareness

Gender awareness is a perspective that shapes our understanding of people and society. Gender awareness implies gender as an evolving concept and adaptation to these changes as desirable.

Gender equality

CBSE defines gender equality as the equal treatment of women and men in laws and policies, and equal access to resources and services within families, communities and the society at large. Equality also includes equal opportunities, choices and outcomes for men and women. Promoting equality recognises that men and women have different roles and needs, and takes these into account in development planning (Ahmed, Aqil, Nyborg 2002).

INDEX

Context and background.....	5
 Gender Play in Schools.....	5
1.1.School Vision & Mission.....	6
1.2.Management structures.....	6
1.3.Recruitment.....	6
1.4.School infrastructure & utilities.....	6
1.5.The teaching-learning process.....	6
1.5.1. Learning material.....	6
1.5.2. Teacher transaction.....	9
1.6.Co-curricular & extra-curricular activities.....	10
1.7.Classroom seating and interaction protocols.....	10
1.8.Dress code (uniforms).....	11
 ‘Degendering’ schooling.....	11
2.1.Representation of school management and recruitment.....	11
2.2.Gender-sensitive facilities for boys and girls.....	11
2.3.A gender-sensitive curriculum.....	11
2.3.1. Learning material.....	11
2.3.2. Teacher transaction.....	14
2.4.Self-defense classes for girls.....	15
2.5.Student committees and monitoring.....	15
 Conclusion.....	15
 References.....	17
 About the author.....	18

CONTEXT & BACKGROUND

Gender bias in India is a much discussed and debated issue. Being a traditionally patriarchal society, the country has seen centuries of suppression of its girls and women (Ramachandran 2009). Men and women are ‘expected’ to exhibit traits and attitudes appropriate to their gender and conform to traditional views and assumptions of *how* men and women behave and *what* each does within the home and in society. The opportunities and freedom accessible to men and women vary greatly as well, very often a lot more restrictive for women than men.

It is for this reason that gender and development in India have come to be associated primarily with women, though it concerns both men and women. This is because of the imbalance and unequal status accorded to women in societies such as India where women do not have the same opportunities and personal freedom as men do (Ahmed, Aqil, Nyborg 2002). At the same time, families and societies have very fixed (and not healthy) notions of what men must be like, what they should do and how they must behave, which in turn influences their attitudes towards and equations with women. A number of researchers have argued that cultural beliefs and practices and regional characteristics play an important role in gender play, apart from economic disparities and social inequalities being important (Ramachandran 2009).

Reinforced right from a very young age, these expectations extend to every aspect of the lives of men and women – from their lives at home, interactions with others, personal freedom and choices, opportunities for personal development, education, career and many more.

One of the primary breeding grounds for such attitudes and behavior, apart from the home, is schools. These are places where children spend a substantial amount of their foundational time and mind space, where they gain knowledge and cultivate attitudes and skills. In fact, it has been debated that the biggest social agents and forces in the transmittal of sex-role stereotypes are parents, teachers and schools (UNESCO 2000). Research has shown time and again that early formative years, particularly from ages 0 to 10 are the most impressionable years in a child’s life. Views, attitudes and skills learnt and inculcated during this period remain for life. It is for this reason that children exposed to biases pertaining to gender over the course of their formative years internalise them. It is also for this very reason that efforts to counter gender inequalities and biases need to take off right from this period as well.

GENDER PLAY IN SCHOOLS

As discussed earlier, the school is a significant setting where gender plays out in a number of ways. These may be apparent or subtle, but the impact either way cannot be undermined. Some of them include:

- School vision & mission
- Management structures
- Recruitment
- School infrastructure & utilities
- The teaching-learning process
- Co-curricular & extra-curricular activities
- Classroom seating and interaction protocols
- Dress code (uniforms)

Each of this is important as it determines equations between the stakeholders – students, parents, teachers and the management and has long-term impacts on students, their beliefs, mindsets, behaviour and interactions. How each of these perpetuates gender biases is elaborated on in the following section.

School vision & mission

A school with a skewed vision and mission that may be biased towards a particular gender may be responsible for propagating biases through unfair policies, negatively influencing its stakeholders and offering unequal development opportunities for boys and girls.

Management structures

Fair management refers to equal representation of men and women in governing, monitoring and decision-making bodies. Any board/committee formed otherwise can be biased in its outlook, thus adversely affecting the delegation of responsibilities and implementation of policies in the larger interest of the stakeholders. Role modelling leadership as gendered is a real possibility and a huge problem.

Recruitment

Women have traditionally been assumed to be better teachers, owing to various assumed qualities such as patience, tolerance, understanding and being ‘better’ with children. As a result, schools predominantly have more women teachers than men. The question is – what effect can this have on transaction and do such assumptions deny opportunities to men who can be good and better teachers?

School infrastructure & utilities

Bias may be apparent in a school’s provision of and access to facilities for boys and girls. For example, are girls allowed to use a school’s cricket and football courts? Can boys access the art and craft lab easily and without prejudice?

The teaching-learning process

‘What’ is taught and ‘how’ this is transacted is vital to imparting just and equitable ideas and information to children. Therefore, the learning material being employed and teacher transaction are two crucial aspects of the teaching-learning process that can convey biases, both obviously and subtly.

➤ Learning material

The school curriculum, of which textbooks are an integral part, can be responsible for exposing and inculcating biases in students. Students are constantly exposed to textbooks that beam messages predicated on notions of male superiority and female inferiority (Mattu and Hussain 2003).

Learning materials are often subject to the insensitive use of language, images, examples, comparisons and role modelling. A curriculum can impart biases primarily through:

1. Illustrations
2. Content
3. Language

Illustrations

For the most part, women are ‘visible’ much lesser than men in Indian primary school textbooks. Where they appear, they are limited to prescribed traditional roles of supporting and nurturing their family - they cook, clean and look after children. Characters are depicted in accordance with these role stereotypes, such as women cooking in the kitchen and men working in an office. Given below are some samples of images conveying biases, where the woman is always represented as managing the kitchen and cooking for the family.

Professions have always had gender connotations, with specific professions being considered “suitable” for men and women. Men are often shown as scientists, mathematicians, doctors, pilots or entrepreneurs, whereas women are depicted as mothers and wives or shown studying subjects that “suit” women, such as nursing or teaching. This again is a result of gendered notions of attributes of men and women, societal biases and parental pressures that make them “fit” for certain professions. Such stereotypical representation reinforces the traditional roles that have been projected onto both male and female students for many years (The Commonwealth of Learning 1995).

Here are a few actual samples from Indian primary textbooks that reinforce traditional stereotypes.

Content

A significant but subtle way by which stereotypes can be reinforced is by attributing stereotypical traits to men and women - male characters are usually portrayed as able, honest, strong, faithful, brave, wise etc and female characters as submissive, caring, tolerant, modest, helpless, pious, beautiful etc. This can be manifested through descriptions, primarily through the use of language. For example:

Referring to the woman as “Mrs. Rao” in the above example itself is gender biased (“Mrs” is now recognised as a gender-biased term) as the woman is not known by her own name but subsumed to that of her husband. Such usages reinforce the traditionally subordinate status of a woman within the family (Mattu and Hussain 2003).

The choice of content can consciously or unconsciously foster biases, according to researcher Priyadarshini Rajagopalan¹. For example, during the course of her study of both state and national textbooks, she asserts that history textbooks in middle school focus heavily on male heroes, with very few women such as Sarojini Naidu and Rani Lakshmi Bai making the cut though several brave women appear in history. Women achievers are notably absent or ‘invisible’ in Indian history textbooks, thus reinforcing gendered attributes of men being “heroic” and “brave” while at the same time undermining the significant contributions of women to Indian history. Volumes of history books are written year after year, and they continue to exclude women achievers from books, year after year.

➤ *Language*

Language is a tool by which biases can creep in, either obviously or subtly. For example, using only ‘he’ or ‘she’ excessively to refer to people associated with certain professions, such as ‘mankind’, ‘chairman’ or ‘headmaster’, or in general usage are ways in which gender notions are passed on. Given the fact that in ordinary language “he” often stands in for both men and women, this kind of usage reinforces the perception that women do not merit an identity of their own (Ramachandran 2009).

For example, according to researcher Priyadarshini Rajagopalan, a study of NCERT primary textbooks revealed “subtle” stereotyping. The teacher was automatically referred to as ‘she’ and the traffic police was by default male. She concludes that while the Social Science texts do include people with different backgrounds, this was not in evidence in the English texts.

Given below is a sample:

In this sample, words such as “policemen”, “firemen” reflect gendered assumptions of such professions being dominated by men and women being completely left out in such references.

In fact, a study by UNESCO of school textbooks in Islamabad found that more than 70% of head teachers opined that irrelevant curriculum and portraying gender stereotypes promoted school dropout among females. This is dangerous at many levels. By failing to take into account the diversity of our society, students are constantly exposed to a one-dimensional, mono-visual world that allows no room for discussion or debate (Mattu & Hussain 2003). Interests and aptitude are ignored and overlooked, while aspirations of the family and society take precedence. Students absorb these gender-biased and culturally skewed messages right from Class 1 onward, simply because they echo the biases and prejudices of society. These will then become socially accepted behaviour, leading to a vicious cycle.

This is not to deny the fact that textbooks are consciously moving towards gender-sensitive representation. However, these examples are far and few. Dr. Swarna Rajagopalanⁱⁱ, a political scientist and researcher, opines that beyond a few “showcase schools”, things are not changing fast enough. This will be discussed in the following section of the paper.

➤ Teacher Transaction

Researchers also refer to the concept of a ‘hidden curriculum’ - the idea that teachers interact with and teach their students in a way that reinforces relations of gender, as well as race and social class (Raina 2012). For example, teachers may encourage boys to speak up in class. Conversely, girls may be given fewer opportunities to express themselves – this may lead to them believing that they should be passive and defer to their male classmates.

It has been argued that teachers reinforce the sex-role stereotypes learnt at home (UNESCO 2000). They have a tendency to treat boys and girls differently through role assignments, rewards and punishment for academic work. Teachers, for example, may tend to admonish boys more severely than girls for doing badly in such subjects as mathematics and science, because they are ‘expected’ to do better than girls in these subjects.

Teachers may also implicitly support traditional gender roles accorded to boys and girls by praising them for so-called ‘feminine’ and ‘masculine’ qualities respectively. Boys and girls may be assigned differential tasks, roles and responsibilities that conform to these gender norms, such as boys arranging furniture and heavy material around for a school function and girls performing activities such as serving drinks or eatables at the function.

The use of resources in a classroom may also propagate biases. For example, using a textbook that represents information in a one-dimensional and biased view becomes a resource that reinforces such biases. The examples discussed earlier, such as the visible absence of women achievers in textbooks and illustrations reinforcing the traditional roles of women, exemplify this.

Boys and girls may also be encouraged to choose gender-specific subjects and may be given career advice that reinforces this. Girls are usually encouraged towards subjects in the arts and humanities and discouraged from subjects like mechanical and chemical engineering; whereas boys are encouraged especially to opt for courses in science, technology and engineering.

Thulasi Narayananⁱⁱⁱ, a retired higher secondary teacher, states that authority figures such as teachers and senior managements in schools do perpetuate biases, but sometimes unintentionally and unconsciously. She states that people have been so conditioned over the years that they do not “realise” that they are actually discriminating between the two sexes and allotting work that reinforce such stereotypes.

Co-curricular & extra-curricular activities

Gender can also play out in activities and choices offered to boys and girls in co-curricular and extra-curricular activities. For example, the kind of sport that boys and girls can opt for in schools – boys are usually allotted sports like cricket and football, while girls play ‘softer’ games such as badminton. Boys may be encouraged to go on outdoor and overnight camps, which may be discouraged for girls.

Classroom seating and interaction protocols

Organisational arrangements refer to the division of physical spaces within the classroom and the school along lines of gender. For example, segregating boys and girls and limiting their interaction by seating them on opposing sides of a classroom. Routines, rituals and practices in everyday school life such as separate lines for girls and boys or having them form separate teams can reinforce stereotypes and existing gender norms.

Dress code (uniforms)

Differences in boys and girls school uniform rules can be seen as emphasising gender differences. For many years, girls in many schools have not been allowed to wear trousers to school although they are perhaps more comfortable than skirts/dresses in a school environment.

‘DEGENDERING’ EDUCATION

As elaborated earlier, gender bias in school education is the outcome of a number of issues including pedagogy, classroom transaction, stakeholder mindsets, family aspirations, societal norms, the curriculum followed and school governance. Hence, these issues have to be viewed through an individual and collective lens and addressed through concerted efforts by all involved stakeholders if real change is to be brought about.

Here are some tangible and measurable ways gender issues in education can be ‘neutralised’ in the short-term and long-term.

- *Representation of school management and recruitment*

It is imperative that school managements involved in crucial decision making and policy making have equal representation of both men and women to ensure various kinds of views are considered before decisions affecting students, parents and teachers are taken. In addition, recruitment of teachers needs to be approached with a more balanced and gender-neutral outlook. Capability, passion, dedication and innovation must be prime criteria, rather than gender-based opinions and practices.

- *Gender-sensitive facilities for boys and girls*

Schools need to maintain separate facilities for boys and girls to ensure healthy interaction, provide privacy and prevent embarrassing situations that can hinder or make interactions and equations between the sexes awkward. For example, providing segregated toilets and restrooms for boys and girls and separate shower and changing rooms, if the school has a swimming pool.

- *A gender-sensitive curriculum*

This, again, needs to be looked at from two angles – learning material and teacher transaction.

- Learning material

Student learning material and the choice of textbooks must keep away from propagating biases of any kind. Ms. Thulasi feels that textbooks continue to convey gender biases as they are reprinted year after year without revisions that reflect the changing roles of men and women in society.

Textbook writing is often undertaken by authors who may themselves have inherent biases that reflect in their books, either consciously or unconsciously. In this case, a practical way to counter the propagation of biases is to consciously neutralise them, by making them less obvious and countering inherent biases by varying representations.

One way to do this is to augment the representation of girls and women in textbooks. Illustrations depicting women and examples referring to women need to be quantitatively increased. However, this should not seem contrived, according to Ms. Priyadarshini. The idea is to not to change all illustrations to male or female but to have a variety so that a particular profession or trait doesn't get pinned to one gender.

Apart from this, how women are represented also necessitates change. Instead of constantly seeing them as nurturing or caring, they could be seen in other roles such as doctors, engineers, lawyers and pilots. This will not only redress gender bias but also present society more realistically (Mattu and Hussain 2003). Lessons based on popular heroes or personalities should also include women such as Rani Lakshmi Bai, Razia Sultana, P.T. Usha, Vijayalakshmi Pandit and other women achievers in various fields. Examples can also be used of women who have excelled in sports, or in professions that we conventionally associate only with men, such as law, science and defence.

Here is a sample from a textbook that has incorporated this idea:

Boys too, are traditionally under pressure to achieve a certain degree and attributes of masculinity that are meant to define them and govern their behaviour. According to Mattu and Hussain, “just as it is unfair for girls to grow up in a world that defines them within the narrow confines of conventional femininity, it is difficult for boys to strive towards a narrowly defined and aggressive masculinity.” One way of changing these perceptions would be to show boys in situations that bring out their gentleness, such as helping old people. Here is a sample:

It would also help to include stories of men who have excelled in “traditionally feminine” subjects such as the arts, painting or music, or whose acts of bravery involve a more subtle kind of courage based on concern for others and tolerance rather than muscle power alone (Mattu and Hussain 2003).

Social Studies is a subject that naturally lends itself to the reinforcement of traditional biases, as it includes topics such as ‘My Family’, that describe roles of family members and their duties and ‘Occupations’, that talk about common professions in society. In such topics, equity in representation is important, and achievable, as the following samples illustrate:

Her mother has to cook food and pack it in the lunch boxes for everybody in the house. Father makes breakfast. Both of them rush around to polish shoes, make beds, feed the puppy and complete other tasks on time!



Each of us has a role to play in the family. Father and mother together make the head of a family. Parents take care of the family. They work very hard to earn money, to pay for food, clothing, house (shelter), education, entertainment and so on. They also manage the house, and guide the children on what to do and what not to do.

At the same time, traditionally-used language and terms that appear in textbooks and other learning material necessitate modification, to inculcate the idea of equality in the minds of children and to refrain from associating gender with professions. For example:

A **firefighter** travels by a fire engine to the place, where there is fire.

The firefighters use the water in the fire engine to put out fires.

In the above example, the use of ‘firefighters’ rather the traditionally-used ‘firemen’ will lead to a more gender-inclusive reference of the profession. Similarly, some examples of gender -sensitive terms are:

Biased references	Neutral references
Mankind	humankind
Chairman	chairperson
Businessman	business executive, entrepreneur
Workman	worker
Salesman	sales agent/sales representative
Policeman	police officer
steward/stewardess	flight attendant
Waitress	server
Manpower	workforce

Similarly, the use of gender-neutral terms, such as “Ms.” Instead of “Mrs.”, is a small but useful step towards making content in textbooks more gender sensitive. Merely using “he” or “she” can be modified to “he/she” to present and convey a more equitable outlook.

The issue for developers today is not so much ‘what’ to say but ‘how’ to say it (Jenkins 1995). Balance, presenting all viewpoints and letting students make their own decisions is key. A gender-neutral and empowering curriculum should have the potential to offer students opportunities to critically engage with and challenge received knowledge about fixed gender identities.

➤ Teacher Transaction

Language and practices adopted in transacting the curriculum in the classroom play a significant role in cultivating progressive attitudes in students.

One significant step towards this would be for teachers to allow children to freely choose tasks, activities and duties based on their interests, rather than they be assigned to them based on gender and assumed capabilities. In reality, though this may not be possible at all times owing to various classroom constraints such as time, completion of syllabus and many other reasons, attempts can be made towards a gender-neutral allocation of tasks and duties whenever possible. Classroom transaction needs to be more gender sensitive, with equal opportunities being offered to boys and girls to participate, make choices pertaining to interest areas, games, subjects and careers.

Apart from the language in learning material, teachers need to be more conscious of their usage of seemingly harmless and simple words. As cited earlier, even pronouns such as ‘he’ and ‘she’ can be powerful perpetrators of gender biases. Using gender-inclusive occupational terms as those mentioned above will go a long way in telling students that no profession is gender oriented.

Classroom transaction aids such as teaching strategies, lesson plans, activities and worksheets need to be designed and formulated such that they don’t discriminate students on the basis of gendered assumptions. For example, one very effective strategy to illustrate and bring about gender sensitivity is storytelling. That ancient stories and fairytales propagate biases is well known. Popular tales such as *The Little Mermaid*, *Cinderella*, *The Sleeping Beauty*, *Little Red Riding Hood* to name a few, portray women as weak, vulnerable and depending on a man’s intervention to succeed or do better. The problem lies in the fact that these tales become popular culture and such behaviour and depictions become socially acceptable traits and behaviour. The question to ponder over is – what are we exposing our children to, and that too at such an impressionable age?

The answer lies in consciously making our stories and poems more sensitive to traditionally perpetuated biases and representing boys/girls and men/women neutrally, and in context. For example, a school in Kolkata, India, has tweaked traditional rhymes and poems to make them more gender inclusive.

Their poem on 'Humpty Dumpty' has been tweaked to include both boys and girls who help him get back on his seat when he falls down, rather than just "kings' men".

*"Humpty Dumpty sat on a wall...**To boys and girls** he gave a call...Fetch a ladder, fetch a rope...You can save me, I do hope!" (DNA 2013)*

Similarly, 'Rain Rain Go Away' tweaks 'Little Arthur' (a male) to be gender inclusive.

*'Rain, Rain go away, Come again on a Saturday, **Boys and girls** are ready now, To go to school right away!'*

A simple tweaking such as this can go a long way in creating and exposing children to gender-friendly materials.

- *Self-defense classes for girls*

Right from a young age, girls in traditionally gender-unfriendly nations such as India should be taught to defend themselves. Self-defense techniques and arts such as Karate and Krav Maga (an Israeli technique) will instill the necessary confidence in girls and help them fight back and defend themselves in the event of harassment. Schools can be the primary vehicle of such an initiative, incorporating this into their extra-curricular agenda or into their games periods.

- *Student committees and monitoring*

Select senior students in higher classes (Classes IX to XII) could form a committee that will involve themselves in policy making and initiatives that concern students to ensure participation and offer a multitude of current views, particularly from a gender perspective. This group can also be part of a monitoring mechanism that oversees and resolves reports of harassment and abuse, if any. Schools may also offer counseling services by appointing a full-time counselor at the school. Through several schools have a counsellor, his/her portfolio could be expanded to deal with issues concerning gender and harassment.

CONCLUSION

The paper has discussed a few but important ways by which gender biases are perpetuated in schools and ways this can be countered and neutralised.

It has been established that schools reinforce traditionally and culturally disseminated gender assumptions and inequalities in a number of ways – content, language, images, curriculum, policies, administration, facilities, teacher attitudes, to name a few. The complexity lies in the fact that schools, which are the foundation for children to cultivate knowledge, skills and attitudes, themselves create boundaries that limit possibilities (NCERT 2013).

The fight against eliminating gender biases in schools has started. Private players in the education field are trying to change things, according to Dr. Swarna. This, however, requires concerted efforts from all stakeholders involved. Any programme in educational institutions

to eliminate gender discrimination must take into confidence parents, teachers (both men and women), the management and students for whom there must be continuous programmes orienting them to equality in thought and deed (The Hindu 2001).

Schools need to consciously review their policies, practices and curriculum with a gender lens to create a more equitable learning environment for children. Training programmes sensitising different stakeholders need to be designed carefully and conducted periodically. Such capacity building programmes must be sustained over a period of time if tangible change is to be brought about, as this involves a shift in fundamental beliefs and attitudes of people.

Research and viewpoints across the world on learning and acquiring knowledge have shifted from the earlier concept of competence to motivation (Rampal 2012). Shouldn't choice of subjects and careers then be based on student interest and motivation to learn, rather than on stereotypical gender subscriptions?

At the same time, conversations and debates that question gender issues and practices need to be encouraged to address these issues effectively. This is where schools and teachers play a significant role – they must encourage such conversations in classes and promote healthy interaction. Only then will we see real change.

The question that educators and parents need to ask themselves – what is the purpose of education? Is it to mould their children to be employable? Or to score marks, albeit through rote learning? Or is it for personal development? What role do schools play in educating children? And isn't gender equality the mark of a fair and progressive society? The answer lies herein.

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Dignity of Writing in this Digital World

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Abstract

This paper is an attempt to look at the impact of technological gadgets upon writing. As we live in this digital century, 21st century, writing as a process is under some influence. As is obvious, our lives are progressively digitalized, and therefore our education which is a crucial limb of our life has also been digitalized.

In a very general sense, learning English as a foreign language is becoming more productive and easier to access. This is because of the fruitful marriage between technology and education as well as the adoption of the communicative approach and task based learning. Daily chatting through social interaction websites such as facebook and twitter has facilitated unconsciously the learning process including writing. Also, mobile phone's SMSes have broadened the scope of writing. Today's learners are different from yesterday's. They are digital.

Nowadays teaching writing has become interesting, not only for teachers but also for learners who are taking a crucial part in this process. Traditional textbooks alone couldn't practically bring a reasonable change in writing. Learners have taken power in classes.

This study has concluded that bridging the gap through making use of technological devices in teaching, if well controlled, could improve learning writing as a productive skill.

Keywords: Writing, a productive skill, digital natives, technological gadgets, multimedia materials, traditional textbooks, communicative approach, a learner centred approach.

1. Introduction

Mastering writing as a productive skill is a dream of foreign and second language learners. Teachers across the world try hard to help their learners capture the productive skills one of which is writing. Traditional textbooks for long time have suffered from the dramatic lack of suitable techniques to engage their learners in the classroom. Now is the time for educators and teachers to make use of the global change, a change brought by technology.

The arrival of the technological gadgets not only has brought luxury to our life, but also has driven our educational system. At home, personal computers and mobile phones have fascinated our daily communication phenomenon. Thus educators and policymakers have to make use of technology for language teaching and learning. Our learners, who are enthusiastically digitalized, are different from their parents in their daily communication style, as they are surrounded by different technological devices which make communication easier than before.

As technology becomes a crucial part of our learners, digital natives, outside classroom, hence time has come to bring technology into classroom. This aims at bridging the gap and help learners acquire writing skills. This paper provides a literature review on the use of technological devices for foreign and second language learning of writing. Then the paper discusses the results of a questionnaire on the daily use of technological devices.

A forty- question questionnaire on technology has been given out to forty learners of the fourth class students at a secondary school for boys and to same number of female learners at secondary school for girls in Basra city, Iraq. Finally, the paper concludes with the research findings and future research to study the effectiveness of using technology in teaching and learning writing as a productive skill.

2. Literature Review

2.1 Infusion of Technology into Education

Since the industrial revolution, as stated by Derek A. Muller, John Eklund and Manjula D. Sharma, technology has changed all aspects of lifestyle from daily communication to transportation to current culture. And people across the world can touch the continuous impact of technology upon their society including their lifestyles. And as it is well known that education, which is a spine of the society, could be under beneficial influences of technology.¹ The use of technology for educational purposes, as stated by Mark Warschauer, becomes day by day significant, and it is having a remarkable impact on all language skills including writing.²

It is also applicable, according to Carol Chapelle, to say that the English language that today learners use on the internet through social communication routes like facebook, twitter and other chatting rooms is significantly different from their parents'.³ Mark Warschauer stated that the electronic email has been a tool in first and second language education, as learners nowadays communicate with their teachers and among themselves across the world.⁴

Isabel Poza brought to light that technological gadgets including for example laptop computers and mobile phones were successful at motivating students and at overcoming the traditional classroom barriers. Because, as Isabel Poza stated, technological devices integrated into classrooms could bring additional exposure to authentic input and opportunities to communicate.⁵ Today's teachers are different from yesterday's as they are working with digital natives who are well equipped with technological devices. Their role as the prime source of information and master of the class was altered because of the sweeping revolution brought by technology.⁶

Moreover, Phuong Thao brought to light that the implication of technology in English language teaching brought authentic materials inside classrooms which in turn paved the way for better learning environment as it brings the outside world into their classroom.⁷ Finally, Gavin Dudeney and Nicky Hockly summed up that ‘using a range of Information and Communications Technology ICT tools can give learners exposure to and practice in all of the four main language skills-speaking, listening, writing and speaking’.⁸

2.2 Enhancing Students’ Writing Skills in a Digital Classroom

Unlike traditional classrooms where learners have no authentic input and the production stage is rarely accurate, digital classrooms give learners a spacious room for writing. Communication through technological devices, as Gavin Dudeney and Nicky Hockly indicated, is entirely important in this digital world. People can send endless messages to a friend in the other part of this globe via email or mobile phone typed texts. Hence there is a dire need to encourage writing as a communicative activity highly needed in this 21st century.⁹

Also, they added that there is an expansion on the range of tasks that teachers can assign for their learners from the in-class and homework tasks to a range of tasks learning writing through computer-mediated communication such as emails and chat rooms.¹⁰ And that is according to Carmen Dunlap and Evelyn Weisman caused by the aid of technological gadgets such as mobile phones and laptop computers, learners select interesting topics to write about and they are lucky to have their own right to select the most favourable topic to write on.¹¹

Gavin Dudeney and Nicky Hockly indicated that technology-based learning materials for example, chat rooms, through typed text, have considerable potential to bring learners together around the world in their social daily communication.¹² James Cengiz and Hakan Demirtas, according to the analysis of the impact of the Harvest Park Laptop Immersion Programme found that ‘students who use computers when learning to write are not only engaged and motivated in their writing, but also produce work that is of greater work and higher quality.’¹³ In other words they indicated that participation through laptop, a technology gadget, had a significant positive effect upon students’ writing skills.¹⁴

Mark Warschauer, Kathleen Arada and Binbin Zheng indicated that as part of a research project, the analysis of the content of 391 blog comments voluntarily written by Littleton Public School LPS students in Colorado in 2009 and 2010 in response to questions about the Inspired Writing programme showed that students were significantly motivated to learn with laptops at school.¹⁵

2.3 Motivation and Excitement for Learning with Technological Gadgets

As Gavin Dudeney and Nicky Hockly unveiled, there is currently a large number of teachers across the world that feel uncomfortable with the use of technological gadgets in classrooms. They are afraid of new technology for some reasons. They might lack confidence, maybe there is no digital laboratory in their schools, or it may be that they still stick to their traditional notions such as the almighty course book. Hence teachers everywhere in this digital world are in dire need of development training.¹⁶

Such training could change teachers’ attitude toward the use of technology in teaching language skills including writing. And being fully equipped with technology in classrooms, teachers could help bring excitement and motivation as Thao concluded in his study conducted in Hanoi University of Foreign Studies. He found that all 210 students and 45 out of 50 teachers in the survey expected technology to become exciting and motivating.¹⁷

Lynne Schrum, Gina Shelley and Ryan Miller found in their 2008 study that the participants responded that they use technology because it is fun and it brings excitement for their students. They quoted one of the teachers’ comment, “Students like technology. It makes learning less like work and more like fun.” They added that teachers, after being familiar with technology use in

classroom, are integrating technology into their teaching of language skills because they feel that “technology engages the students,” which they believe promotes better learning.¹⁸

Stefanie Tumbas concluded that technology ‘worked as a wonderful motivator for many of my students’. She added that the overall participation in the classroom has increased, ‘students have exhibited more interest and participation now than ever’. To sum up, the main finding of her 2005 study was that a positive correlation between technology and student motivation, engagement, and participation which was due to the ready availability of technology use in teaching language skills including writing.¹⁹

In a study conducted in 2012 by the author, students reported that they enjoyed learning through the use of technology in classrooms. A digital classroom, see (photo 1) below, was a big chance to learn on their pace enthusiastically. In his teaching journal, the author stated that shy students were productive as they submit their short assignments with no delay.

Photo 1: Students use technology-based learning materials during a two-month experiment conducted in 2012 in a secondary school for boys in a rural district in southern Iraq



3. Technology Use Questionnaire

To support this study, two groups of students, male and female students, were surveyed to understand their use of technology in their daily lives. Abu Al-Khaseeb Secondary School for Boys and another secondary with the same name for girls are both located in a rural area. Randomly, forty students in each school were selected to fill in the 20-question questionnaire. Forty copies of the questionnaire were given out to fourth grade students in each secondary school. As defined, a questionnaire is ‘an instrument for the collection of data, usually in written form consisting of open and/or closed questions and other probes requiring a response from subjects’.¹⁶

As shown below in table 1, 55% of all the students make use of the internet to participate in chatrooms. Facebook and twitter social interaction websites, and of course other search interaction engines, are the cosy resort for this digital world where our digital natives would like to relax and type texts to friends across the world. In addition, 30% users surf the internet to search for their favourite website on a daily basis. Only 15 % of users check their emails to send or reply to others.

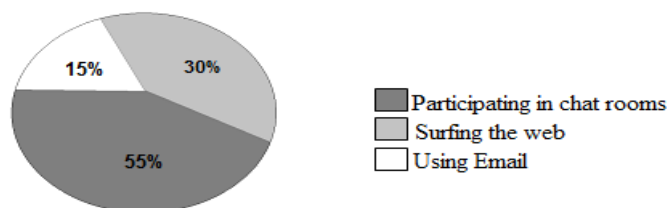


Table 1– The Percentage of Technology Users among Secondary School Students

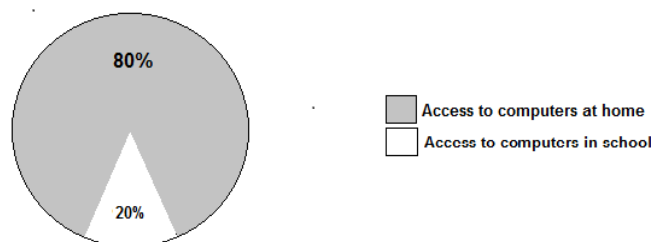


Table 2 – Students' Access to Computers at Home and in School

As shown above in table 2, students' access to computers at home is better than their access in school. The principals of the targeted two schools unveiled that students have only a computer class per week, and computers are not networked.

4. Discussion

Due to some logistical obstacles, this study couldn't conduct the second part of the experiment that is a four-week pilot study on the impact of technology on students' writing. And the researcher was obligated to conduct only the second part that is a 20-question questionnaire which is given out to eighty fe/male students to attain data to support this study.

However, a huge literature has examined the impact of technological gadgets on learning as a process and how learner achievement in writing has enhanced. Findings related to writing showed that, according to James Cengiz and Hakan Demirtas, students who write with the aid of technological devices like laptop computers are 'not only more engaged and motivated in their writing, but also produce work that is of greater length and quality.'²⁰

Students of this study reported that their daily access to technological devices including smart phones and laptop computers has paved the way for them to be productive. They are surrounded by technology which means that daily writing of a minimal SMS or short email has come true.

Another debate brought by Anne Harrington and Charles Moran who stated that technology marriage with education has given teachers a chance to 'empower their students as thinkers and problems solvers.'²¹ Also, as Mark Warschauer discussed, students have had their own writings. They are no more a big fan of a standard syllabus already assigned to them by their class teacher. This means that students, through the aid of technology being infused in their learning, have been empowered and their writing, to a big extent, has changed and improved to 'real purpose writing with their digital friends around the world.'²²

5. Conclusion

First, this study set out to examine whether students favour the impact of technology upon learning process. And we have seen that producing a comprehensible SMS sent from a smart phone, or a short an email has been made accessible with the aid of technology. Also, the questionnaire results told us that students currently have welcomed the arrival of technology at

home. And despite the little percentage of access to technology in schools, they have touched the difference they are achieving in their writing skills.

Besides, as mentioned in the literature review, students are no more a big fan of traditional syllabus. Technology has empowered 21st digital students' autonomy of learning. They like to write assignment or even short accounts on authentic topics of their interests. Hence, the researcher insists that teachers should make use of this opportunity to foster learning through supporting learners to become independent.

Also, teachers are facilitators and organizers of the learning process. These roles have been brought to them by technology. As literature review has stated, teachers have to be fully equipped with technological knowledge to make a better use of technology in teaching writing skills.

Finally, technology marriage with teaching has brought fun and excitement to classrooms. And as digital students are surrounded by miscellaneous technological devices, it is highly recommended to bridge the gap between inside and outside classrooms. It means that students on the one hand should take their full opportunity to write on topics of their interests, and on the other hand teachers should forget to assign homework assignments that are boring.

6. Recommendation

First, this study is one of few studies attempted to seek how technological gadgets have an impact on students' learning process including writing skills. Governments and educational offices everywhere are highly recommended to take into consideration that e.literacy training is mandatory to improve teachers' potentials in dealing with technology in classrooms.

Another recommendation is to bridge the gap between inside and outside classroom. As is well known that our students are digital and are surrounded by different technological devices. These, if well infused in the teaching and learning process could bring fun and excitement which then could improve students' achievement in writing skills.

Finally, it is enthusiastically recommended that teachers should listen to their students' favoured topics to write on. This could encourage students to take the risk to write a long account of a topic of their interests, or even send an email to their classmates, friends, relatives, or even to their teachers.

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Education and Income Distribution: A Path Analysis Framework

Danuvas Sagarik

ABSTRACT

The aim of this integrative study builds on the established theories of economic development and human capital development in order to review the relevant literatures, analyze the empirical evidence, and propose the integrated framework of education and income distribution. For the purpose of this study, it is posited that education expenditure are determined by multi-dimensional determinants. A number of theories are therefore incorporated regarding education and income distribution. This study recognizes and quantifies education expenditure by both types and stages of education according to the allocation of government budget and the rate of enrollment at each stage of education as well as the measures of education quality such as test score. The results reveal that a numbers of previous studies have found the impact of education, both quantitatively and qualitatively, on economic development particularly on income distribution. This study adds to the literatures by proposing another framework that integrates several factors from several dimensions including the education expenditure, enrollment rate, and test scores along with some macroeconomic-related control variables. This integrated framework is based on the model of path analysis, which can be used for public policy analysis, particularly to analyze the direct and indirect impact of education policy and education outcome on income distribution.

Keywords: Education Expenditure, Education, Policy Analysis, Income Distribution

1. Introduction

The term ‘development’ may mean different things to different people. In the past few decades or so several meanings of this term have been defined. Nevertheless, by considering the scope of what this term should cover, it is crucial to have some working definitions for policy makers and practitioners to deliver the desirable development outcomes.

One of the overarching definitions proposed by Todaro and Smith serves as a useful basis in the understating of development goals. That is, ‘development’ refers to “the multidimensional process involving changes in social structure, popular attitudes, major institutions, as well as the acceleration of economic growth, poverty eradication, and a reduction of inequality” (Todaro and Smith, 2010).

Amartya Sen (1999) fascinatingly view development as the capability of individuals in which they can do what they want to do and can be what they want to be. This approach to development clearly places emphasis on human as the central ground of the universe. In his seminal works, Amartya Sen attempts to point out that human freedom is the ultimate goal of development. The view of development as human development ignites international organizations to invest more resources to promote people-centered developmental approach and hence a series of human development report by the United Nations.

It is even more fascinating as it has been increasingly and widely accepted this view of development as human development. Ul Haq (in WB 2008) enlarges the view of Sen as the following statements:

“The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. People often value achievements that do not show up at all, or not immediately, in income or growth figures: greater access to knowledge, better nutrition and health services, more secure livelihoods, security against crime and physical violence, satisfying leisure hours, political and cultural freedoms and sense of participation in community activities. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives.”

This paper seeks to add to the literature by exemplifying the theoretical background of theories that focus on the impact of education on income distribution. By reviewing these

theories, it allows us to have a profound understanding of the role human capital play in promoting economic development. It also aims to provide empirical evidences from previous studies to support the reviews theories and to serve as a wider perspective of how significant human capital development is. A new framework is proposed as an analytical tool for policy makers and development practitioners. The paper also provides policy recommendations and some lessons to take into account for future course of human development.

2. Theoretical Background

2.1 Human Capital: Some Conceptual Issues

The basis of human capital lies in the theories of Theodore Schultz, an economist at the University of Chicago who was awarded the Nobel Prize in economic sciences in 1979. Schultz, an agricultural economist, produced his ideas of human capital in the early 1960s as a way of explaining the advantages of investing in education to improve agricultural output. The logical next step was to expand this linkage between better education and improved productivity as a benefit for the economy as a whole. Schultz demonstrated that the yield on human capital in the US economy was larger than that based on physical capital such as new plant and machinery.

Gary Becker, the 1992 Nobel Prize winner for economics, is one of the very early proponents of human capital theory. Becker (1975) advocates the importance of human capital in the process of economic development by proposing different kinds of human capital creation. He also emphasizes on the significance of the investment in human capital as a key for sustainable economic development or even an engine of economic development itself. The investment in human capital includes variety of ways such as formal education and on the job training.

Another prominent scholar who advocates the theory of human capital is Jacob Mincer. In his seminal work, Mincer put forward the importance of the role education plays in promoting human capital which in turn leads to economic development or at least sustains the level of economic development.

The general categories of human capital investments can be described in a life—cycle chronology: resources in child care and child development represent pre—school investments. These overlap and are followed by investments in formal school education. Investments in labor market mobility, job choice, job training, and work effort occur during

the working life, while investments in health and other maintenance activities continue throughout life.

2.2 Some Essential Issues on Income Distribution

While development as growth is considered as a mainstream development, the question of distribution became of central concern among development economists from around 1960s. Development approach or theories that focus on other perspective are known as alternative development, which considers development in terms of, for example, equality, justice, self-reliance, environment sustainability or cultural pluralism. Alternative development theories have been subjected to considerable enrichment and further elaboration since 1970s. Moreover, these theories have achieved great importance in the academic debates as well as international development co-operation.

Proponents of this type of alternative approaches include Dudley Seers, Amartya Sen, Peter Townsend, Paul Streeten, and other theorists who have disagreed with economic growth as an end in itself. They have not, however, rejected the whole body of mainstream economic development theory, but rather tried to supplement it in certain essential respects.

Particularly prominent is the fact that rising in inequality is not a recent development, but has been evident for at least three decades, if not longer. Dudley Seers (1969), a British economist, fascinatingly describe equality as the one of the elements in development, apart from absolute necessity and employment. Quoted from his article, the crucial points are:

“The questions to ask about a country’s development are therefore: What has been happening to poverty? What has been happening to unemployment? What has been happening to inequality? If all three of these have become less severe, then beyond doubt there has been a period of development for the country concerned. If one or two of these central problems have been growing worse and especially if all three have, it would be strange to call the result ‘development’, even if per capita income had soared (Seers, 1969).”

Robert W. Fogel, the 1993 Nobel Prize Winner in Economics, has argued that until the last third of the 19th century, the concern of economists had been with equality of opportunities. Then the focus was shifted to equality of material conditions such as basic needs Fogel (2000) argues that because material goods account for progressively smaller

share of total spending for most people, in the future the fight for more equality or equity will be directed to the distribution of immaterial goods.

Modern development economists and policy makers have also addressed this income inequality issue, but have been more concerned with a distribution of income across individuals or households. This is perhaps because they are more concerned with inequality as a cause of poverty, then a more meaningful measure may be to express in terms of changes in come among different income groups (Seers, 1969). Income distribution, in the modern day, may therefore refer to the personal or household distribution of income. To have profound understanding in the concept of income distribution, it is worth investigating more in detail of some crucial aspects concerning income distribution.

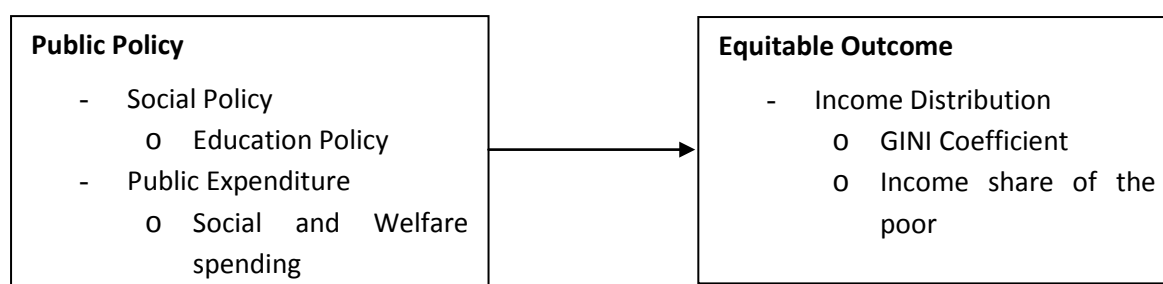
There is a need to recognize the fact that rising income inequality matters, notably via its potential impact on economic growth (Alesina and Rodrik, 1994; Perottie, 1992,1996; Atkinson, 1997; Barro, 2000; Bigsten and Leving, 2000) and the effect of income inequality on economic growth may differ in developed and developing economies (Barro, 2000). The latter is somehow aligned with the Kuznet curve, which explains that inequality first increases and later decreases during the process of economic development (Kuznet, 1955). The evidence from these literatures clearly clarifies that income inequality affects the performance of the economy and hence it is crucial for this study to investigate how government can alter income distribution.

2.3 Education and Income Distribution in Theory

Dudley Seers (1969) interestingly presents the framework for analyzing the effect of public policy on income inequality. Seers' work is useful for this study as it provides the simple framework of how government can intervene to achieve greater potential for development in terms of equity. This is because fiscal system could bring about development more rapidly especially when there is income available for transfer to the poor.

Gary Becker attempts to illustrate the importance and the significance of human capital as an important part of thinking about development and many developmental problems such as income distribution and labor turnover. In his study, the results show that higher investment in human capital, i.e. higher level of education leads to higher future earnings (Becker, 1975). This implies that if the lower-income group of population receives higher level of education relative to other groups, then income inequality problem should be less severe.

Figure 1: Seers' development as equity model



Source: Adapted from Seers' (1969)

It has also been argued that a relative expansion of education reduces inequality (Knight and Sabot, 1983). This occurs when the supply of educated labor rises relative to demand, the wage premium on education decreases, which outweighs the early tendency to first increase income inequality when limited labor is educated. The human capital approach suggests that while inequality in education's concentration contributes to income inequality, expanding education to the lower income groups increases their productivity and thus wages, thereby improving income distribution, provided the marginal product of labor remains high despite the increased supply of skilled labor (Ahluwalia, 1976).

The starting point to consider about the theoretical linkages between education and income distribution arises from this theory of human capital. Human capital theorists immensely promote the role of education in the transformation of human beings into more efficient productive components (Schultz, 1963; Becker, 1964; Mincer, 1974; Ahluwalia, 1976). In other words, the human capital theory attempts to explain that education helps increase productivity. Therefore, if low income group of population receive more education they will be more productive and be able to generate higher income. An increase in income of the poor, therefore, reduces income inequality. The provision of formal education is seen as a productive investment in human capital. The proponents of human capital theory consider human capital as equally important or even more important than physical capital.

Schultz (1963) explicitly put forward the concept of human capital investment and the formation of human capital in economic growth and wage growth. Schultz also proposes that the changes in the investment in human capital are a basic factor reducing the inequality in the personal distribution of income. This is because the economic capabilities of man are predominantly a produced means of production and most of differences in earnings are a consequence of differences in the amounts that have been invested in people. It is also mentioned that the scope of education requires more attention that it has received.

Another theoretical linkage between human capital and income distribution is created by Mincer (1974). In his view, each person determines the distribution of income among them based on revenue and maximizes human capital to the different decision-making. The crucial point of Mincer's work is that the amount of investment in human capital, i.e. years of education, correlates with the distribution of income.

The human capital approach also suggests that education expansion to the lower income group, such as vocational education, can help increase the productivity of the poor and hence wage (Ahluwalia, 1976). Once the lower income class gains higher wages, it implies that the distribution of income is improved. Education of the right type can consequently alter the distribution and reduce income inequality.

Theoretical arguments have also examined how different levels of education such as higher education affect income distribution. Chiswick and Chiswick (1987) explain how increased participation in higher education could change the composition of the labor force but it is not clear whether income disparity would increase or decrease. When few are highly educated, increasing participation in higher education could first raise income inequality as more individuals move change their category from unskilled to the skilled cohort. Ram (1989), nevertheless, discusses that further increase in enrolment in higher education might then lower income inequality as more and more unskilled become skilled hence lowering the wage premium for skilled workers.

Inequality in education quality can also increase income inequality if this attracts skill-biased technological change (Walde, 2000). In the country where the skill ratio between graduates from higher education and secondary education is large, there is a chance to adopt technologies that require skilled workers (those graduates from higher education) and to replace unskilled workers. The skill bias is predicted to depend on education system.

3. Education and Income Distribution: Some Empirical Evidences

Evidences on education and income distribution can be divided into two groups, cross-country and time-series analyzes. Majority of the work done in this field uses cross-country data to analyze the impact of several measures on education. These measures include enrolment rates, school attainment, or education expenditure. There are also some studies that use time-series data to analyze the impact of education on income distribution within country, although this is very limited in the number of studies.

The first group of research uses cross-country data including the following literatures. Becker (1964) and Schultz (1966) empirically confirm the association of labor productivity and individual earnings. The human capital approach proposes that more education help improves employment and earnings among the poor since additional knowledge and skills make human beings become more efficient and productive. The work of Becker and Schultz both serve as the foundation of a number of studies on human capital and income in the past couple of decades.

Mincer (1974) illustrates the positive correlation between years of schooling and individual earnings. That is, if an individual spend more years in school then he or she tend to earn more after graduate. This coincides with the theoretical background of the human capital theory and support the public policy that favors high rates of school attainment. The weakness of Mincer's work is perhaps due to the fact that it only focuses on the years of schooling in general but neglects the importance of each stage of education.

Primary schooling has been a prime object in the study of education and income distribution. Ahluwalia (1974) concludes that primary school enrollment rates are significant to the lowest income bracket and secondary enrollment rates significantly increase the middle class' income share, while decreasing that of the highest income group.

Knight and Sabot (1983) argue that the effects of more schooling may be either positive or negative for income inequality because the evolution of rates of return to education are likely far more complicated than a simple linear progression suggests. Education, nevertheless, is still considered as a major determinant of pay.

In a large panel of countries, De Gregorio and Lee (2002) find schooling attainment significantly negatively and education inequality positively relate to the GINI coefficient, while both are insignificant to income shares.

Psacharopoulos (1977) uses cross-country data to analyze the effect of access to education and income distribution by using coefficient of variation of enrolments as a proxy for educational inequality. The implication of this finding is that a policy of more equal access to education, that is to allow more access to secondary and higher education, might have the desired impact of making income distribution more equal. College subsidies increase the GINI coefficient globally and between LDCs, which insignificantly decreasing it among DCs (Psacharopoulos and Tilak, 1991).

The human capital expenditure is, in many literatures, considered as a major contributor to income distribution, especially the role of educational expenditure. This is in line with the observation of Sylwester (2002), Braun, (1988), and Birdsall, Ross, and Sabot

(1997) that a higher amount invested in education has an impact on distribution of income. Sylwester (2000) develops a model to test the impact of education expenditures on income inequality. It appears that countries devote more resources to public education as a percentage of GDP have lower income inequality in subsequent years although any effects are slow to be realized.

As Schultz (1963) remarks “higher amounts invested in human capital are the most important factor in decreasing inequality”, education expenditure is expected to play a crucial role in determining income distribution. Keller (2010) confirms this remark from her studying using education expenditure at each education stage as explanatory variables and concludes that an increase in education expenditure, especially at the primary level, can decrease income inequality. The work of Keller (2010) also tests for the indirect effects of education on income distribution through a vector of control variables, such as economic growth, fertility rate, export ratio, and inflation. This method provides a further understanding of how education policy can affect income distribution.

Although the vast number of studies of human capital and income distribution devote to cross-country analysis, it is worth mentioning some studies that use time-series as this kind of study is still limited but can produce a very informative policy advice. Lin (2007) studies the impacts of education expansion and schooling inequality on income distribution in Taiwan. He uses a time-series analysis between 1976-2003. The results show that either increases in schooling level or schooling dispersion tend to improve the income distribution. Educational expansion can reduce inequality in Taiwan.

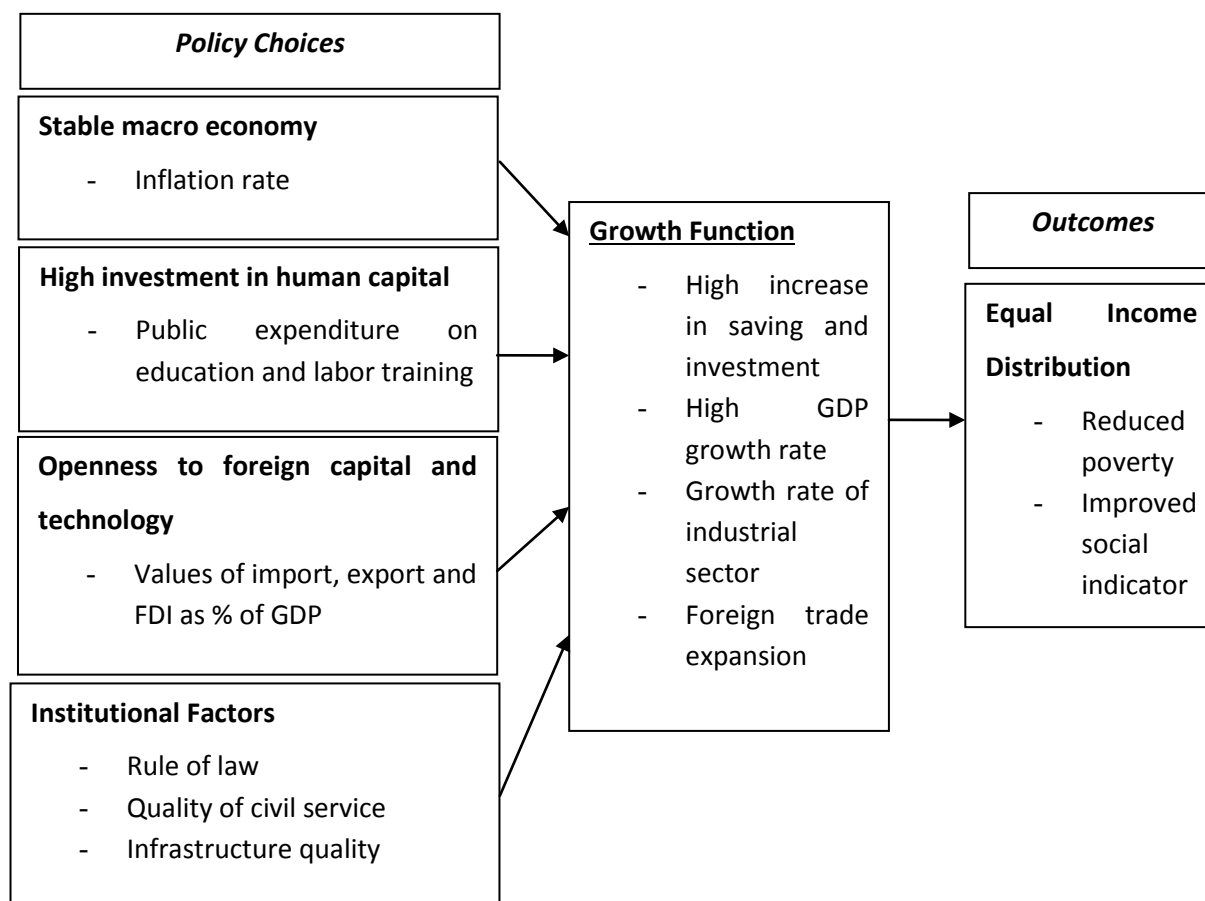
Gunatilaka, Chotikapanich, and Inder (2006) find Sri-Lanka’s middle class benefiting disproportionately more from education provision and infrastructure than the poor, raising income inequality. This indicates that policy-makers should pay attention to the right type of education and to evaluate whether education expansion benefits the population in general or just particular groups.

Equally important is the work conducted by the World Bank in 1993, which can help us clarify a framework to analyze the impact of public policies on growth and income distribution. This can be considered as a key document signaling a shift in emphasis in thinking among economies. It was built around insights flowing from the endogenous growth theory’s methodology for identifying the crucial policy variables in the growth process. This framework is illustrated in figure 2 below.

A central contribution of the World Bank (1993) is the argument that sustained growth and equal income distribution are the results of critical macroeconomic policy, human

capital formation, openness to international trade, and environment that encourages private investment and competition. In this view, the success of many economies in East Asia has been due to reinforcing policy feedbacks. No single policy ensured success implies that there can be indirect effects and the correlations among the explanatory factors.

Figure 2: The World Bank’s model of “The East Asian Miracle: Economic Growth and Public Policy,” 1993



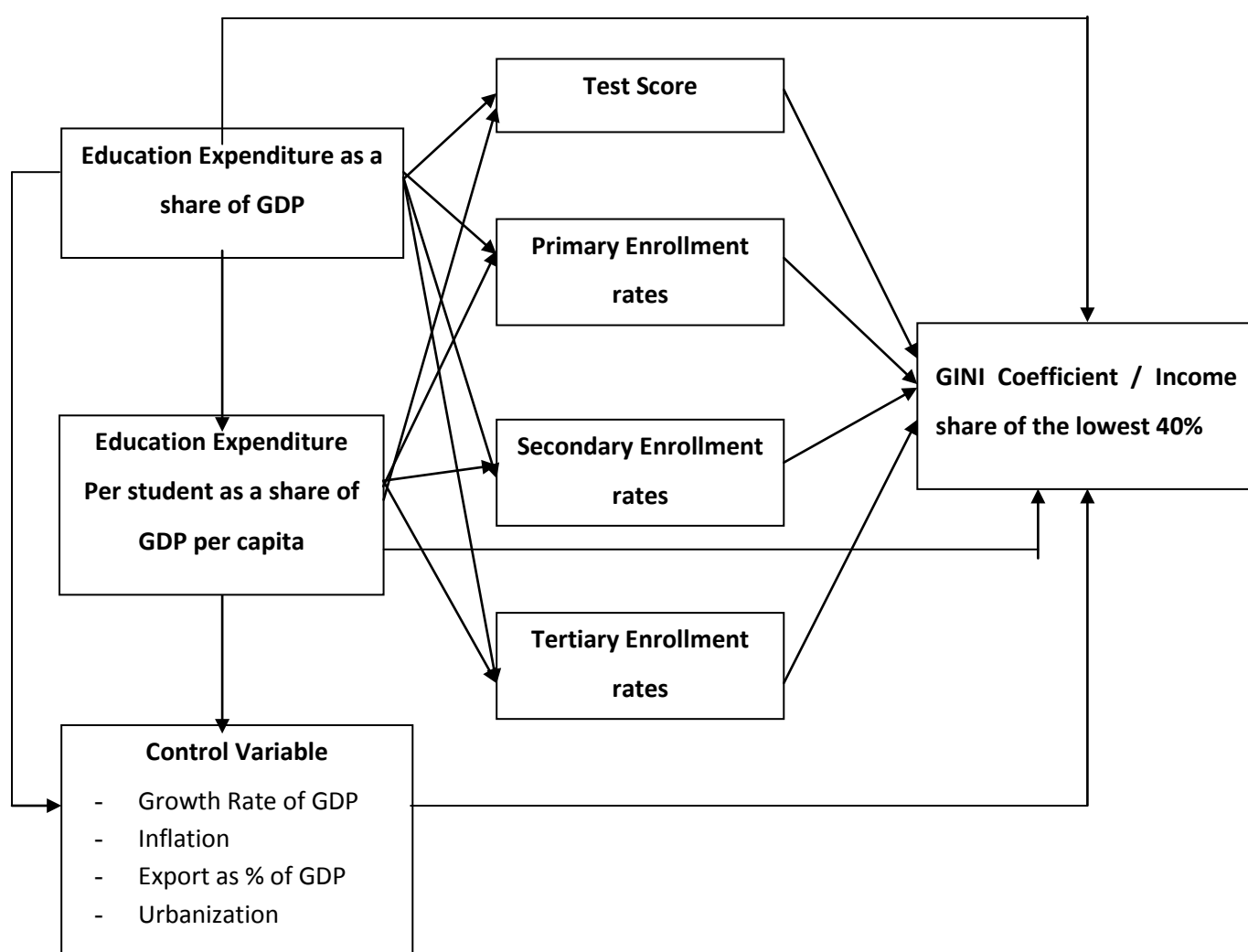
Source: Adapted from the World Bank (1993)

4. Proposed Framework for Education and Income Distribution Analysis

To construct a framework, I also take into account of how to appropriately measure income distributions by avoid using just one indicator. The most standard indicator of income distribution is the GINI coefficient, which will be the first indicator in this study. The share of income of the poorest 40% is also another well known indicator and is included in this study.

In the proposed framework, I include two policy variables, which are education expenditure as a share of GDP and that as per student, as independent variables. These variables have both direct impact and indirect impact on income distribution. The indirect impact has to do with another set of variables which include enrollment rates and test score. This set of variables depends on education expenditure but act as independent variables that affect income distribution. Lastly, as in Barro (2000), I incorporate four control variables, which are GDP growth, inflation, export, and urbanization.

Proposed Framework for Education and Income Distribution Analysis



5. Policy Implications and some lessons for development practices

This paper has reviewed the theoretical background of the two overarching and crucial concepts in development studies, which are human capital and income distribution.

Human capital theory places emphasis on education as the key engine to create human capital. The promotion of human capital can lead to the developmental outcomes and one of the important outcomes is income distribution. As indicated by Seers (1969), income distribution cannot be neglected from the goal of development. A number of empirical studies have illustrated the undeniable impact of education policy on income distribution.

This paper serves as the ignition and the exploration of an alternative way to analyze the impact of education policy on income distribution. The proposed framework in this study clearly points out the significance of education expenditure as a policy tool to the extent in which it has both direct and indirect impact on income distribution.

There are some reasons for public intervention in education policy. Particularly important is the public expenditure as it reflects how governments behave in reality. A careful consideration should be paid to how government allocates its budget on education. A context-specific can play a very important role in the policy-making process and particularly the policy-making decision. This is because different context may yield different results from the estimation using the proposed framework.

The further concern is to do with the distribution rather than with the total volume of educational investments. Future research should focus to help children of the poor to acquire a minimal degree of earning power where schooling is also viewed as an instrument. Since poverty is often viewed as a relative concept, the amount of minimal universal government supported education has been progressively lengthening as average education (and income) has increased. It is still not always clear, however, to what extent these policies are efficient in alleviating poverty.

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Educational leadership for Parental and Community Involvement at the Secondary Schooling Level

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Abstract

The current study is threefold: first it explores which strategies Heads of Schools (HOS) use to engage families and the community at secondary level, second it reveals which educational leadership styles best promote such endeavour and third it identifies the challenges faced by schools in promoting such partnership. The study was conducted within both the positivist and the interpretive paradigms. Quantitative data were gathered using an adapted version of Salinas, Epstein and Sanders (1997)¹ questionnaire with a random sample of HOS from thirty schools comprising of both public and grant aided private schools. Thick data was collected using stratified random sampling during a focus group discussion to find out about the leadership styles and the challenges faced by schools in this endeavour. The findings indicate that HOS use mostly those strategies which are institutionalised. This study also reveals that HOS are mostly autocratic. It uncovers the various challenges which exist both internally and externally when HOS try to engage families and the community. The report recommends that schools can develop valuable initiatives to engage families and community more actively. For this to happen the study also hints at the gap which exists in terms of leadership practices which need to be provided to HOS.

¹Salinas, K.C., Epstein, J.L. & Sanders, M.G. (1997). Starting points: An inventory of present practices of school-family community partnerships. In J.L. Epstein, L. Coates, K.C. Salinas, M.G. Sanders, & B.S. Simon. School, Family, and Community Partnerships: Your Handbook for Action (pp.122-125). Thousand Oaks, CA: Corwin Press.

Key words: leadership styles, parental and community involvement

INTRODUCTION:

Mauritius is an island in the Indian Ocean about 2,000 kilometres off the southeast coast of the African continent. Its capital is Port Louis. The country is multi-ethnic and multi-cultural. Most Mauritians are multilingual, and English, French, Creole and Asian languages are used. The government system is closely modelled on the Westminster parliamentary system. Mauritius is highly ranked for democracy and for economic and political freedom

Education is free from pre-primary to tertiary level. Since July 2005, the government introduced free transport for all students. The education system in Mauritius consists of three years in pre-primary, six in primary leading to the Certificate of Primary Education, followed

by five years of secondary education leading to the School Certificate and a further two years of higher secondary ending with the Higher School Certificate. The Tertiary Education sector includes colleges, universities and other technical institutions in Mauritius.

Mauritius is currently experiencing massive investment in the education sector. For the year 2011, government expenditure on education was estimated at about Rs 11.7 billion, representing 12.5% of total expenditure. The government is aiming at building a knowledge society and becoming a regional knowledge hub (Budget Speech, 2011) and aims at improving pass rate at all levels. Therefore much effort is directed towards enhancing the quality of education and various initiatives are being implemented. Among them, emphasis is laid on developing 'partnership and involvement of community through empowerment of Parent-Teachers' Associations and establishment of linkages by schools and the community' (School Management Manual, 2009). Research regarding the effects of family involvement on educational outcomes has shown that parent involvement makes a difference in children's academic achievement. Practitioners and policy makers alike do accept the importance of parental involvement in schools. The issue of school, family and community partnership is again mentioned in the School Management Manual (2009) in which the education authorities provide guidelines for the running of public schools in Mauritius. However, knowing how and to what extent schools involve parents and the community is not so well understood. Therefore exploring how schools engage families and the community at secondary level is needed to be able to promote such partnership. Indeed, this is usually referred to in the literature as the school, family community partnership (SFCP). According to Sanders (2001) SFCP is a network among schools, families and organisations, individuals and businesses in the community which is set up with the main objectives of promoting the holistic development of students. Epstein (2009) finds that "a programme of SFCP is an essential component of school and classroom organisation" (pp.2).

The issue of school, family and community relations is a world-wide phenomenon. A review of the literature reveals that researchers are paying more attention to such relationships as it has been found out that parents who are informed and involved in their children's school can positively impact their child's attitude and performance. Sanders and Epstein (1998) also state that "developments in social theory have provided greater insights into how strong connections between schools, families and communities enhance children's learning and social and emotional growth and well-being" (pp.2). Yet new studies have shown that what the family does and what schools and community do is not so well defined (Young & Marx, 1992).

In order to further the understanding on the links between the school, the family and the community, Epstein (1995) developed the theory of the overlapping spheres of influence. In this model Epstein (1995) contends that there are three "major contexts which students learn and grow – the family, the school and the community" (pp.10). These three contexts can be brought together or kept separately depending on practices that schools adopt. Hence links that are developed between them can be studied within this model. The students find themselves at the centre of the model. A concomitant focus on families and schools as foundations for child development and learning is grounded in ecological-systems theory (Bronfenbrenner, 1992).

Epstein (1995) argues that 'school, family and community partnership cannot simply 'produce' successful students'. Studies conducted on the importance of school family and community partnership revealed that students perform better when there is collaboration between school, family and community (Karakus & Savas, 2012; Bower and Griffin, 2011, DeMarquis, 2011; Tshabalala, 2013). These partnerships lead to significant advantages for all

stakeholders. It has been found that high-quality and high-performing schools have partnerships with families and communities. When there is overlapping between SFC, there is greater understanding of the needs of the children who are also students. At the same time this partnership provides parents with greater information on how they can help their children at home. They, thus become more aware of the instructional programmes. Teachers also benefit when there are strong SFCP as parents appreciate and recognise the efforts that they make to sustain the partnership. Furthermore, other studies have noted a decrease in dropout rate, improved attendance and students' behaviour, improved teacher relations, greater commitment to schoolwork, improved attitudes toward school, less delinquent behaviours, social adjustment and competence. (Gillum, 1977). Therefore partnership activities should be designed to engage, guide, energise and motivate students to produce their own successes.

STATEMENT OF THE PROBLEM:

Studies on school, family and community partnerships have shown that academic success of students improves when there are strong SFCP. Schools invite parents to attend open days, collect report books, and contribute to the activities of the Parent-Teacher Association. These activities are important yet research shows that there is more to SFCP. Tshabalala (2013) claimed that "at best parents were as clients who had little say in school management and functioning" (pp.647). Research indicates a gap between the desired and actual levels of parental involvement (Bower & Griffin, 2010). Given the importance of such partnership and the lack of such research in Mauritius, this study was to explore how schools engage families and the community in the education of their children at secondary level in Mauritius.

PURPOSE OF THE STUDY

The purpose of this study is to:

1. Identify, describe and analyse the strategies that schools use to involve the family and the community in school activities
2. Examine the leadership styles used by HOS in involving the family and the community
3. Identify the challenges that schools have to face in promoting involvement between the school, family and the community

RESEARCH QUESTIONS

The study sought to address the following research questions:

1. What are the strategies that schools use to involve the family and the community in school activities?
2. What kind of leadership styles are used by HOS in involving the family and the community?
3. What are the challenges that schools have to face in promoting involvement between the school, family and the community?

SIGNIFICANCE OF THE STUDY

This study will no doubt benefit schools seeking to review their SFCP practices or schools that are interested in developing SFCP. The study will also shed light on the different types of involvement which are not currently been implemented at school. It is significant to the field of educational leadership as it will add to the rather limited body of research on the relationship between schools and family and community in Mauritius.

There is also the fact that if these links between the school, the family and the community are developed, schools as well as the other stakeholders will derive additional benefits such as

greater academic success, better learning environment, better support and understanding from families and the community.

LITERATURE REVIEW AND THEORETICAL FRAMEWORK:

Involving parents and community

According to Sheldon (2003b, pp.151) “Epstein conceptualizes the school, home, and community environments as "spheres of influence" that can be drawn closer together or pushed farther apart depending on the institutional policies and individual beliefs and practices within each context”. This theory was developed to explain the vital function of school, families and community working together to help children in achieving their aims. Epstein (1992, pp.1140- 1141) points out that there are 'interlocking histories of the major institutions that socialize and educate children’.

It shows that the interlocking function of these three institutions is determined by the attitudes and practices of stakeholders in each sphere. Hence this gives rise to Epstein (1995) 2001) framework of six types of involvement as shown in Table 1 below. This framework has been used in various studies (Simon, 2004; Salinas & Jansorn, 2004; Sanders, 2001).

(a) Table 1: Epstein's (1995) Framework of Six Types of Involvement

Type of involvement	Description
Type 1 Parenting	Help all families establish home environments to support children as students
Type 2 Communicating	Design effective forms of school-to-home and home-to-school communications about school programs and children's progress
Type 3 Volunteering	Recruit and organize parent help and support
Type 4 Learning at home	Provide information and ideas to families about how to help students at home with homework and other curriculum-related activities, decisions, and planning
Type 5 Decision making	Include parents in school decisions, developing parent leaders and representatives
Type 6 Collaborating with community	Identifying and integrate resources and services from the community to strengthen school programs, family practices and student learning and development

Various studies have been carried out the different types of involvement. For Type 1 parenting, research shows that there is a direct link between the quality of environment at home and the achievement of students (Christenson & Sheridan, 2001). It has also been found that parents who are more involved tend to have children who perform better at school (Eagle, 1989; Griffith, 1996).

For type 2 communicating, Mapp (1997) finds that families feel related to the school when there is communication between schools and home. Hendrick (1997) claims that "When parents and professionals combine knowledge about services and the child, a plan of action may be developed that supports the child's overall growth and development. Professionals

have information and resources that are useful for parents while parents have specific knowledge about their child that professionals can use to guide their decision making" (pp. 119).

Type 3 volunteering, Haynes et al., (1996) find that when parents volunteer at school, the achievement of their children increases. Epstein (1995) also claims that parents who volunteer at school might find themselves involved other types of involvement which would eventually trigger improvement in children's outcomes. Other studies on the benefits of volunteering have also come up with the fact that it contributes to children's progress at school. (Lemmer & Van Wyk 1988; Edward & Redfern, 1988)

As for type 4 learning at home, there is evidence that when families assist in their children's learning at home by talking about schoolwork and helping with homework there is an improvement in children's achievement (Finn, 1998). It is found that when parents are involved with homework, it influences the motivation of the students (Walker, et al., 2004)

For type 5 school decision making, this implies involving parents in decision making since it can contribute to children's learning. This has been ascertained by Simmons, Stevenson and Strand (1993). As for type 6, collaborating with community, Sanders and Epstein (1998) found that involving the community brings about benefits for the schools, the students and the families. This can also be consolidated through an enriched curricular and extracurricular activities.

Schools and thus school leaders would develop practices in line with these types mentioned above in order to develop SFCP. An analysis of this framework shows that the decision to develop practices along these types of involvement implies that school leaders have to develop "an organised program of structures, processes and collaborative activities for parents" (Epstein, 2011, pp. 48). Furthermore, schools and schools leaders have also to confront the obstacles which could challenge the benefits which could be derived from successful SFCP (Sheldon, 2003b). One of these challenges would be the sustainability of SFCP as often "partnerships tend to decline across the grades" (Epstein, 2005b, pp.393). Each type of SFCP allows for the development of a set of practices of partnership and calls for a repertoire of leadership styles to promote such liaison.

Leadership styles for parental and community involvement.

There is a huge amount of literature which discusses leadership styles and theories (Chen, et al., 2011; House & Aditya; Neri, 2006; Northouse, 2001; Vroom & Jago, 2007). However, there are some differences in the way leadership style has been defined. In their study, Mazzaella and Smith (1989) put emphasis on defining leadership style in terms of what the leader does. This is derived from the way the leader leads the organisation. This definition is linked to those who defined leadership style as the way a leader influences followers. Furthermore, Mazzaella and Smith (1989) also ascertain that leaders have to choose between either helping the organisation to reach its goals or by building and maintaining relationship with subordinates. Litwin and Stringer (1968) found that the school leader is guided by his motives and the school's goals. However, Hersey and Blanchard (1993) claim that the leadership style of the school leader is in fact how he acts in response to how his subordinates behave towards him/her.

There are many different leadership styles which can be adopted by school leaders. Most of these leadership styles focus on the activities which the school leaders do in relation to planning, decision-making, collaborating, participating, coaching, commitment building, delegating and other activities linked to the running of school, dealing with teachers, pupils,

parents and the community. Once a leader decides how he/she is going to behave in relation to these activities, defines the leadership style. Likert (1967) proposes four different leadership styles. He put forward the idea of a continuum of leadership styles from authoritative-coercive and authoritative-benevolent to consultative and participative. Blake and Mouton (1978) proposes five different leadership styles depending on where leaders would locate themselves between their concern for people and that for production. Tannenbaum and Schmidt (1973) model of leadership is focused on the leader trying to influence people by telling them what to do and how to do it or to involving them in planning and execution of tasks (Hersey & Blanchard, 1993). Fiedler (1967) developed the contingency theory and claims that leaders have a leadership style. They change the situation to match their leadership style. According to this theory a leader can be task-oriented or relationship-oriented and works upon the situation to maximize performance.

House and Mitchell (1974) state that the leadership style of a leader depends on the characteristics of followers and the demand of the task. The leader tries to increase their subordinates' motivation for the achievement of personal and organisational goals. As opposed to Fielder (1967) assumption that the leadership style of the leader is constant, House and Mitchell (1974) claim that the leader tries to match his/her leadership style to the situation. Hence leaders can be directive, supportive, participative or achievement-oriented style. There is also the Vroom-Yetton-Jago (Vroom & Jago, 1988). In this model there are five different leadership styles. These styles are linked to how much employees are involved in decision-making and it ranges from autocratic to consultative. Hersey and Blanchard (1993) discuss four leadership styles which are telling, selling, participating and delegating. The application of different styles will depend on the leader's appraisal of the followers' readiness to perform specific tasks.

All these leadership models have proposed different leadership styles. Some leadership styles depend on situation, others depend on the leaders' perception of followers' readiness to perform a task, while others relate to followers' involvement in decision-making. While discussing leadership styles, reference is also made to leadership styles which consist of autocratic, democratic and laissez faire. These three styles are found to be infused in the other models. An autocratic leadership style is one where the leader takes all the decisions and is in whole control of the organisation. According to Adair (1984) such type of leadership style establishes a servant-master relationship. A democratic leadership style is one where the leader encourages participation of followers. The laissez faire leadership style is adopted by a leader who gives free-reign to the followers. There is thus cause to believe that the leadership style adopted by the HOS will determine how and to what extent they are ready to engage in SFPC.

A review of literature also shows that the stakeholders involved in the school, home community partnership have different perceptions what their roles should be. The way teachers define the partnership is different from the way parents define it (Scribner, Young, & Pedroza, 1999). Teachers' conception of family involvement consists of providing academic support for their children while families conceive their roles as more holistic (Catsambis, 2001). There is also the fact that the teachers and the school have different expectations about the role of the community. The community sees its role as encompassing greater parental involvement and the school might expect greater help with teaching and learning (Jehl et al., 2001). There may also be differences in what constitutes proper school, family and community partnership for different stakeholders. Honig et al. (2001) state that "the focus of many school-linked services efforts has been on 'fixing' students so teachers can 'really teach' and removing barriers to learning, rather than rethinking the learning and teaching that occurs for students—all day, in and out of school—and the conditions, resources and

supports that enable it” (pp. 9). Hence the goals of schools requesting family and community partnership may be different from the reasons why families and community want to be involved in schools.

There is a blame game between schools and families concerning their willingness to be involved. Henderson et al., (2007) assert that there is a misunderstanding between parents and the school as both blame the other for not promoting parental involvement. This is also supported by Bower and Griffin (2011). There is also the fact that it is difficult for schools to get parents to be involved because parents do not know what they need to do and HOS doubt their capabilities to become involved in school matters. Schools find it difficult to involve parents in ways which they feel are relevant for the schools and the students. Some parents have the tendency to be more involved in informal conversations with teachers and prefer unplanned visits to schools (Freeman, 2010). It was also observed that some parents cannot get involved and they do not attend school activities or volunteer at schools as they are working and are taken up in other activities. (Tshabalala, 2013). This problem has been referred as “parent apathy” by Tshabalala (2013, pp.652). Things get more complicated as Heads of schools also do not know how to engage parents and the community (Tshabalala, 2013, pp.652). The communication channel has been often blamed as schools do not have appropriate communication strategies from school to home and vice versa. The focal challenge here is to communicate in the language and level that families can understand (Epstein, 1995)

RESEARCH METHODOLOGY

The purpose of this study is to explore parental involvement in school; the researchers have worked within both the positivist and the interpretive paradigms using a mixed method. The mixed method combines the strengths of both quantitative and qualitative methods and at the same time addresses each other’s weaknesses (Punch, 2009). Data collection was done in two phases, as follows

Phase one: Survey

A questionnaire adapted from Salinas, Epstein and Sanders (1997) was used to obtain quantitative data from the selected school leaders. The questionnaire was adapted according to the objective of the current study and reworked so that questions are relevant to the Mauritian context. As such Type 3 Volunteering; recruit and organize parent help and support was not taken on board, as non-school personnel are not allowed on school grounds (School Management Manual, 2009). A questionnaire has been used because data can be collected quickly and from many people. According to Gray (2004, pp.187) “Questionnaires are research tools through which people are asked to respond to the same set of questions in a predetermined order”. Also respondents can answer the questionnaire at their convenience. The identity of the respondents is kept confidential. It is anonymous. Interviewer bias is not present (Gillham, 2000). The Epstein questionnaire had the advantage of having been tested in terms of validity and reliability, and has a simple and easy to fill in format. According to Gray (2004) it is important for the layout to be attractive so as to increase the rate of response. Gillman (2000) recommended that special attention be paid to instructions. They suggest that it is important to use careful typography and design. The questionnaire was divided into five parts reflecting the five types of involvement from Epstein (1995).

Research Participants for the survey

School leaders were chosen because they are the ones who drive school family community partnerships (Griffith, 1996). In order to arrive at a national sample, we identified

participants for our study during a workshop for HOS held at the Mauritius Institute of Education. A random sampling worked from the attendance sheet comprising of 40 HOS from State schools were selected respectively. Care was taken that HOS came from both rural and urban schools as well as contain a mixture of both girls and boys schools. All the participants were informed about the nature of this study. Respondents were given assurance that all information provided would be anonymous and no name would be recorded.

Phase two: focus group discussion

For the focus group discussion the stratified random sampling (Cohen & Manion, 1989) procedure was adopted. This was done with a view to ensure representation of HOS from the urban and rural areas as well as girls and boys schools. A total of 10 HOS were selected to participate in the focus group discussion. A consent form was first distributed to the participants to ask for voluntary participation. The consent form consisted of a brief on the research as well as assurance of anonymity and confidentiality was given.

Focus group discussion offers insights into how people think and provide a deeper understanding of the phenomena being studied. The focus group was organized so that a friendly atmosphere prevails in order to get maximum verbal and non-verbal information on the issue. Focus group interview had the advantage of being less time consuming as well as cheaper than individual interviews. Focus groups also allows for group interaction between and among other members of the target population. This encourages participants to make connections to what others are saying and thus help in augmenting participation. Researchers were able to capture these data which provided a more comprehensive understanding of what is being studied.

Prior to the focus group discussion, HOS were informed of the objectives of the research. Participants were assured of confidentiality of all information as no names were recorded. The presentation round serves the purpose of an ice breaker. Clear instructions were then given so that each participant knew when to give their views. This was done with a view to ensure that the views of everybody are taken on board. Five open ended questions were posed with a judicious use of prompts and cues. The focus group discussion session took one and a half hour. Data were noted and transcription worked out.

Data analysis

The information gathered from the questionnaire was analyzed using descriptive statistics namely percentages, frequencies and. The following procedures were followed for data obtained from focus group discussion:

- Data reduction
- Data coalescing: Grouping of ideas under the adapted Epstein's (1995) Framework of Six Types of Involvement.

Data were analyzed through topical and theoretical frameworks. Colleagues' checks were done to verify understandings and enhance validity (Merriam, 1988; Miles & Huberman, 1994).

Research findings and discussion

Responses obtained from 40 questionnaires, a Likert scale data was created and the analysis, in terms of proportion of high prevalence, mean and standard deviation is shown in Table 1.

Rank	Strategy	Proportion of high prevalence (%)	mean score	standard deviation
1	Collaboration with community	3.750	1.775	0.794
2	Parenting	5.500	1.785	0.984
3	Learning at home	7.500	1.975	0.999
4	Decision Making	11.429	1.968	1.250
5	Communications	19.545	2.275	1.598

Table 1: Likert scale analysis of data obtained from the 40 questionnaires

The data above reveal that schools favour ‘communication’ as a major means to involve families. There is very little attention given to collaboration with the community.

Communications

The analysis reveals that the strongest involvement of schools is designing effective forms of school-to-home and home-to-school communications about school programs and children’s progress. However, this involvement accounts for merely around 20% of all identified strategies related to communications. The rarity of the communicated-led involvement is also supported by the mean score of around 2.3 (see Table 1). This value indicates a central tendency towards the involvement plan receiving isolated or little attention (rating = 2) or modest emphasis with much opportunities for improvement (rating = 3). The comparative high value of standard deviation value indicates, however, the participants have diverse perspective on this matter.

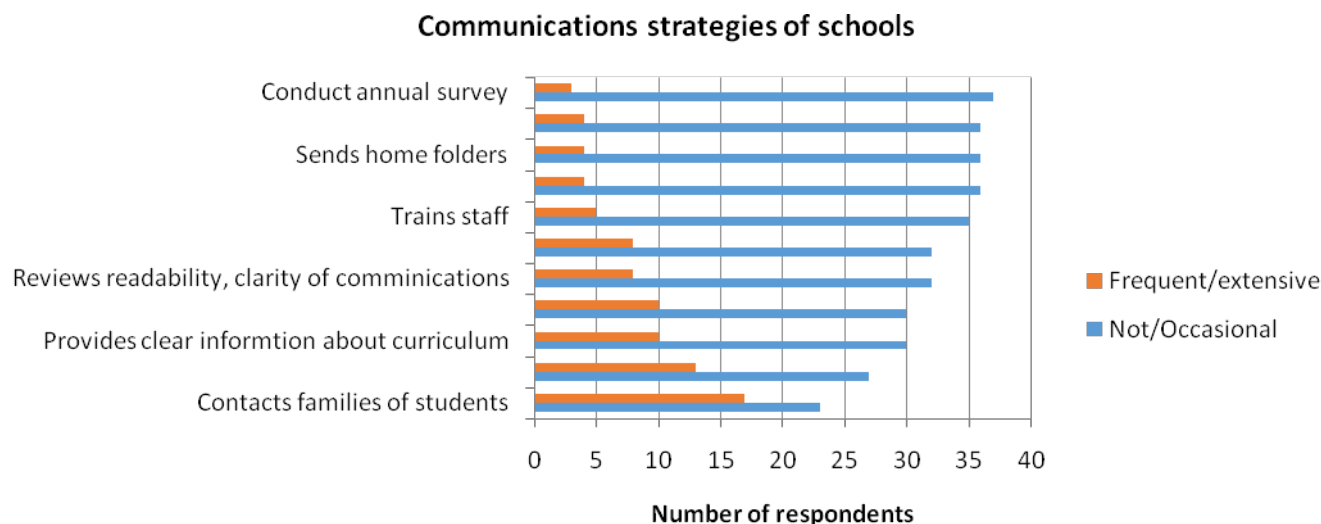


Figure 1: Responses on the items related to communications from the 40 participants.

Among the components related to communications, it can be observed from Figure 1 that contacting families or students having academic or behaviour problems is one of the highest priority areas for schools (42.5%). Emphasis is also laid among schools to conduct orientation for parents (32.5%). However, it can also be observed from the bar chart in Figure 1, that all the components have higher observation rate in the category “Not/Occasional” than “Frequent/Extensive”. In particular, (1) conducting annual survey for families to share information and concerns about student needs and reactions to school programs, and their satisfaction with their involvement in school,(2) production of a regular school newsletter with up-to-date information about the school, special events,

organizations, meetings and parenting tips, (3) sending of home folders of student work weekly or monthly for parent review and comment, and (4) developing communications for parents who do not speak English well or do not read well are clearly not prevalent components in around 90% of the sampled schools. From result, there is much cause of concern as there is implication that the schools do not have clear cut strategies which would lead to parental involvement and it was further found out that those schools which do employ certain strategies for parental involvement, they do so either very rarely or most probably when they have been asked to do so by the central Ministry or at the beginning of school terms which is a regular feature in Mauritius.

From the focus group discussion with the HOS, many points emerged so as to understand the nature of communication or lack of communication between school and parent. Weifen and Jialing, (2007) stated that it is difficult to get in touch with parents because they are not used to the type of medium which the schools use. HOS mentioned that letters and memos sent to parents via their child are most often ignored. When prompted why they do not use other means of communication, they unanimously said that they are bound by the central ministry and need to abide by the format proposed.

Another major challenge HOS mentioned are the teachers' code of behaviour. This corroborate with what Markow and Martin (2005) found out that "communicating with and engaging parents is the most frequently cited challenge among new teachers and the area they feel least prepared to take on in their first teaching position" (pp. 4). Various studies have found that teachers do not know how to link with families (Foster & Loven, 1992; De Acosta, 1996; Greenwood & Hickman, 1991; Midkiff & Lawler-Prince, 1992; Williams, 1992). When further prompted HOS mentioned that during meeting teachers pointed out that dealing with parents is not part of their job apart from the occasional end of term result distribution. HOS also pointed that teachers are also apprehensive on getting too involved with parents as there are many incidents where parents are aggressive and use abusive language.

Another important point mentioned by HOS is the lack of training which would have prepared teachers as well as HOS to such partnership. From the focus group discussion, HOS mentioned that getting parent involved is not easy task. As very often communications are misinterpreted. There is a feeling that teachers as well as HOS do not know how to communicate with parents (Foster & Loven., 1992). Teachers and the HOS tend to express themselves in ways that are not common to parents (Rich, 1985). This brings us to the question of whether professional development programmes should include components on how to get parent involved in schools? In a study conducted by Chavkin and Williams (1988) it was found that over 70% of the educators who took part in the study believed that they should be taught about parental involvement in their teacher training programme.

Decision Making

The ability to include parents in school decisions and developing parent leaders and representatives is a strategy which is prevalent to some extent at schools. In fact, only around 11% of components related to decision making are implemented on a frequent basis in some of the schools.

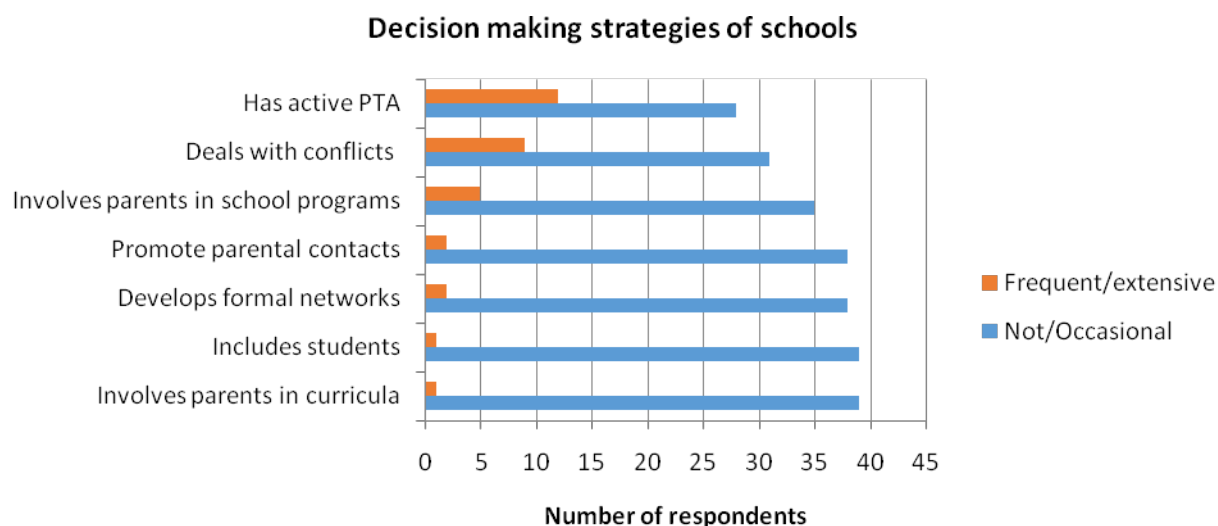


Figure 2: Responses on the items related to decision making from the 40 participants.

It can be further observed from the bar chart in Figure 2 that, except to some extent having a parent organisation (such as Parent, Teacher Association - PTA), most of the school's parental involvement plan components related to decision makings are hardly implemented. Most importantly, students' voice (along with parents) in decision making group and involvement in school curricula has been reported to be emphasised in only one school. This point was elaborated during the focus group discussion as percentage of parental involvement in decision making has much to be desired.

Participants explained that working with the PTA is a definite attempt to bring parents and teachers together in the interest of the students. This is in line with what was observed by Ajayi (1999). Participants find that the PTA is the ideal link between the school and the families. Participants explained that being involved with the PTA allows for deep exchanges of views, the analysis of issues which school and families feel are important.

They also reveal that parents can make recommendations. While discussing the involvement of the PTA in decision making, all participants recognised that despite the laudable efforts that they make, the roles of the PTA in decision making could be strengthened in order to enhance family and community participation in schools. They discussed the fact that more involvement of the PTA in school administration is possible. They recognised that efforts could be made to include parents in advisory committees. Parents could also be brought in when the school defines its vision or sets its goals. They could help in the development and implementation of programmes or co-curricular activities. They also discussed that there are other events where parents and the community could be involved. They mentioned the school events such as sports and other school activities.

However, what is also clear from what participants revealed is their heavy reliance on the PTA for funds needed for infrastructural development. In Mauritius, participants also explained that schools cannot organise fundraising activities as education is free and schools are either run by the state or fully subsidised by the state. But the PTA has the right to organise fundraising activities. Hence this might explain why heads of schools pay attention to the PTA. Another reason why heads of schools do not heavily involve parents and the community in decision making is the fact they fear too much interference in the day to day running of schools. They remained convinced that the role of parents and the community are there to support the heads of schools by being involved in the school. There is indeed, not much which schools do apart from interacting with the PTA. Participants reveal that other

initiatives which could encourage fellowship among parents, community and the school are not favoured. Participants reveal that it is not in the culture of schools to involve parents and the community in decision making

Learning at home

It can be observed from Figure 3 that almost all schools are not emphasising in their parental involvement plan elements contribution to the learning at home strategy. At best, only 5 schools give importance to make parents aware of the importance of reading at home, and ask parents to listen to their child or read aloud with their child.

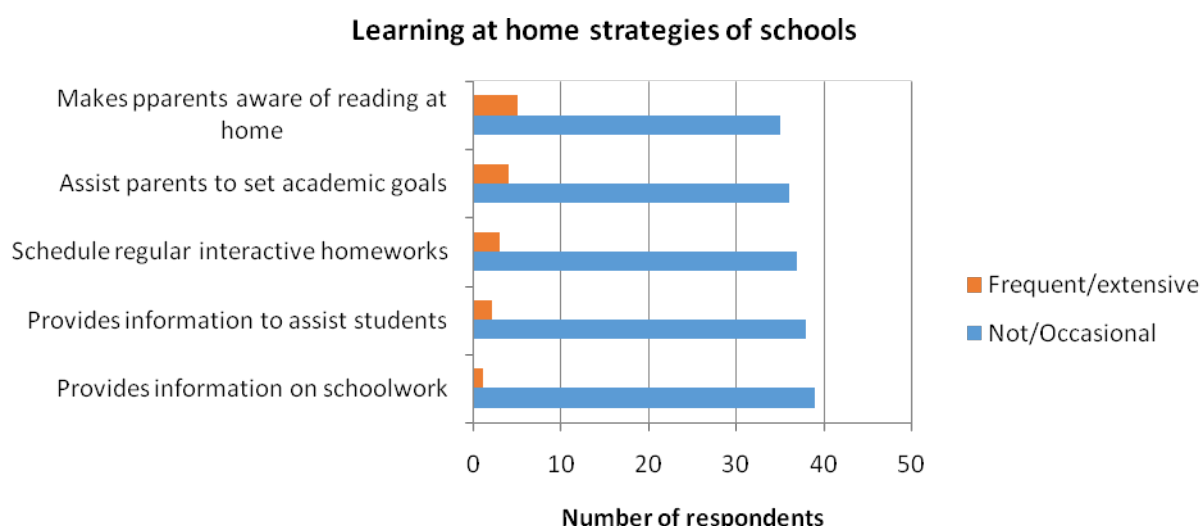


Figure 3: Responses on the items related to learning at home from the 40 participants.

Participants admitted that they do not have much initiative in order to develop and assist parents in helping their child learning at home. As far as schools are concerned, participants explained that they try to provide the most effective learning environment at school as they believe that most learning occurs at schools. However, HOS also seem to place a lot of emphasis on homework. They are of the opinion that practicing the skills learned in can help to strengthen the liaison between the home and the school. However, they admitted that they have not initiated any strategy which could lead to providing parents with information on schoolwork. There is students' journal where the students are expected to write down what they have as homework. But the participants revealed that students are not required to write down what they have done at school during the day. Hence parents can only keep an eye on homework but do not know exactly what the students did during the day. Participants also revealed that there is also no guarantee that parents are keeping an eye on what their children are doing at home. Participants also expressed some doubts about whether the parents would be comfortable in being involved in learning at home. Some participants feel that parents may not know how they can contribute. Participants also explained that they consider that what happens at home is private and schools should not interfere in what goes on at home. Hence it was clear from the discussion which went on that the participants do not consider that they have to provide for the needs of parents as well. There is also the fact that participants felt that all these strategies would require a lot of time and resources that they feel that they cannot spare.

Parenting

Among the items related to parenting the participants from 8 schools out of the 40 reported that (see Figure 4) it is regular practice to produce information for families that is clear and is linked to the children's performance. None of the schools has established the conduct of workshop for parents on child development as a school's improvement plan. In only one case that approaches, such as sponsoring home visits, asking families for information about children's goals, strengths and talents and providing families information on home development, have been reported.

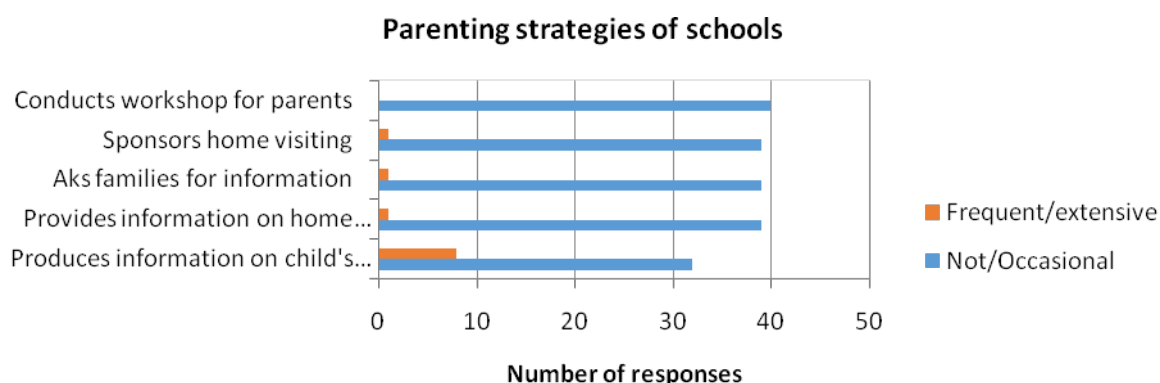


Figure 4: Responses on the items related to parenting from the 40 participants

The least prevalent strategy is collaboration with community (proportion = 3.75%). The mean score (1.775) also indicates that the participants do not observe the strategies laid bring about effective collaboration of the school with the community (rating = 1) or they rarely (ratings = 2) observe such strategies in practice. The relatively low value of the standard deviation indicates that this opinion is quite consistent among the participants.. One of the challenge deals with the mismatch between how parents and school define their involvement. Schools have their own understanding and expectations of what they would like parents to do. However, these may not be shared by parents. Parents might feel that they are involved with their children's education in ways that the schools do not acknowledge. The schools might wish that parents get more involved with classroom transactions (Jehl et al., 2001). Schools tend to focus on what goes on at school. They would like parents to ensure that once at schools students can devote their whole attention to learning. But parents and the community may conceive their involvement differently (Honig et al., 2001).

Schools also have to face parents' and community' lack of willingness to get involved. Research has shown that in some cases parents do not get involved because of their own negative experience of schooling and their doubts about their self-efficacy in helping in the education of their children (Welsh et al., 2004). HOS are of the opinion that that the parenting style adopted by parents can also be a major challenge. Research has found that if parents adopt an authoritative parenting style, then they tend to be more involved at school and to provide a better environment at home which leads to better involvement with the school and better academic achievement for the students (Steinberg et al., 1992). Likewise studies have found that when there is positive parental role construction, parental involvement is high (Drummond & Stipek, 2004; Grolnick, et al., 1997). If parents do not have that positive parental role construction then it would be difficult for the schools to succeed in involving parents.

Another point mentioned by the HOS was that parents are not willing to cooperate when they are asked for involvement. They do not respond to letters sent and would simply not turn up. Rectors mentioned that parental involvement is seen mostly when their children have joined the school that is at Form I or Form II level. After that there is a decline of such engagement

or parents are never seen at school. Parents are more interested in getting their child ‘settled’ in schools and once this is done they feel that their part of their job is done. Parents believe they should let children become independent and according to Rectors parents fear that too much of involvement may cause their child to being ‘labelled’ and ‘victimised’ by peers and even teachers. For Rectors schools are still viewed by parents as a closed system which may be due to parental own schooling experiences.

Yet the other side of the scenario also exists as pointed out by some HOS. Too much interference from some families is a major challenge. Various studies found that those parents have a tendency to believe that attention must be given to their children at the expense of the needs and beliefs of other families (Brantlinger, 2003 Graue, Kroeger & Prager, 2001; Lareau, 2003). They cross the line between involvement and interference. Hence these parents are not generally cooperative with the school so much as they want the school to do what they want. These parents pose a real threat to the school’s ability to cater for the needs of other students.

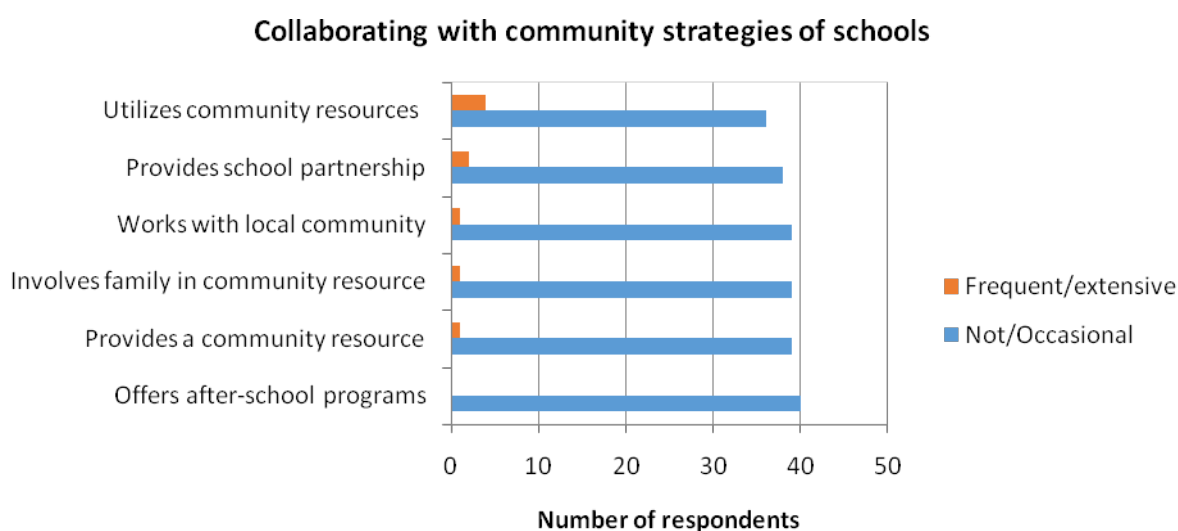


Figure 5: Responses on the items related to parenting from the 40 participants

From the bar chart in Figure 5, it can be observed that none of the 40 schools offer after-school programs for students with support from community businesses, agencies and volunteers. On the other hand, only 4 schools have reported to utilize community resources to enhance the learning environment.

Heads of schools explained that they determine mainly what form parents and community involvement will take as they are in charge of the schools. The discussion among the participants also revealed that there is a strong tendency of both schools and communities to regard each other with a great deal of distrust. In fact, participants explained that they feel that the community pays a lot of attention to problems which they face or weaknesses which they have. Participants explained that they believe that the community can contribute only financially to the success of schools. They could provide funds for buildings and equipping specialist rooms. Participants claim that the community tends to rely on schools to help get rid of social problems or tends to blame schools for being unable to produce efficient citizens. Schools feel that, at times, the community does not seem to appreciate the work done by schools. Heads of schools have to recognise that they utilise community resources, yet they do not initiate much initiatives which could involve the community in schools. Participants feel that collaborating with the community implies consulting and working with the community. Nevertheless there is the feeling among participants that if the community wants

to be involved at school, then there is need for the community to decide what and how they want to contribute.

When HOS were asked which types of leadership are more appropriate to promote SFCP, they were unanimous in pointing out that they have not been trained in developing such partnership and they mostly proceed by relying to their own judgement. Similar findings were reported by Tshabalala (2003). The most appropriate leadership style seems to be the democratic or participative leadership style. This is because when leaders adopt this leadership style, they open the door for participation of other people for completing tasks and help the school reach its goals. (Daft & Lane 2005, pp. 44; DuBrin 2010; Rounds & Segner 2011). HOS also mentioned that at times they adopt the situational style to deal with events that crop up with parents.

Conclusion and future directions

The findings of this study help to build a better understanding of the initiatives which schools take to involve families and the community. The findings also offer implications for schools and education authorities which seek to create policy that could support involvement of families and the community as one of the means to improve student achievement. It was found that despite the plethora of literature on the various benefits of involving parents and the community, few schools are willing to develop extensive strategies to work with parents and the community as partners' in the education of the students. It seems that schools are not yet prepared to share the responsibility for students' learning with the parents and the community. This study nevertheless, contributes to an understanding of the way schools function and it highlights the fact that they seem to work in isolation without much openness towards families and the community.

The results of the present study also suggest that not much attention is given to involving families and the community at school. Hence garnering what schools could consider as ideal family and community involvement strategies still represent a major challenge. More studies need to be conducted to explore the best strategies that would prove efficient for schools in Mauritius. This suggests that schools should focus on devising strategies along those proposed by Epstein (1995) and adapt them to their context.

This study has brought forward the challenges faced by both schools and parents where SFCP is concerned. What is clear is that the first step should come from the school and one way to do so would be to identify those parents who are willing to be connected and engaged with the school and then work with them. They could provide ideas and work out activities to address the challenges. Each school's situation is unique, so suggestions might work better in certain school than others. A committee/team comprising of parents and teachers/HOS would look into the strategies that would help into encouraging SFCP. Schools should develop programmes to help involve parents. It could produce guidelines which can help parents of low educational background to provide their children with home conditions that support learning. Schools could also organize workshops, or produce video clips, courses and training for parents which respond on parenting and child rearing.

Schools could also develop better communication strategies with parents and the community. They could organise meetings with each parent at the beginning of the year and have regular follow up initiative. Parents will thus be fully aware of what is going on at school and in time could develop parent initiated strategies to get involve at school. The language used by schools should be accessible to parents. They could also send regular reports home for analysis and observations.

As far as learning at home is concerned, much effort has to be done. Schools could provide families with relevant information on the skills needed for students in all subjects. They could also work out a document on homework with guidelines for parents on how to supervise and discuss homework and schoolwork at home. There should be some amount of homework which requires discussing at home with parents. They could also provide information on how to help students improve their skills in class and for assessment.

Schools could help the PTA to expand its activities to encompass other activities such as taking a more active part in decision making at school. The school could welcome parents on advisory committees, curriculum committees in order to increase their involvement. Space should be created to involve parents in school governance. Occasions should be given to members of the PTA to take part in decision making about school programmes. Parents could also be asked to be part of committees which deal with goal setting, development and implementation of activities and the allocation of funds.

In order to build links between the schools and the community, schools could provide information to students and their families on the services which exist in the community such as health, cultural, recreational and social facilities. Other information concerning the facilities which the community could offer to students which are related to learning, counselling, civic, and other organisations such as private employers, could be made available by the schools to the parents. The community should also be aware of the services which the schools could offer, such as, visiting of old people's home, recycling programmes, sponsoring of orphanages.

However, in order to succeed with the above recommendations, it is essential for schools to train their personnel to become family-community friendly. Hence programmes should be set up in order to train Heads of Schools in developing school-family-community partnerships. This implies a vision, cohesive policy and reforms which could promote school-family-community partnership. They could learn about how to develop programmes and how families and the community can help the school attain its objectives. Heads of Schools should be able to have leadership across the school and towards families and the community. They should work on establishing trust which is essential for team leadership to be successful. In fact, Heads of Schools must be provided with training in order to restructure their schools so that they could form effective partnerships with the families and the community.

Teachers should also be trained on how to work with families and the community. They should be provided with appropriate professional development. Modules on different issues related to the different types of family and community involvement must be included. Teachers should be encouraged to take initiatives at class level. They should be supported by the school administration. The professional development programme should not be fragmented, but should be well planned to make teachers more agentic towards families and the community. There is need to establish steady well defined working agreement which can be sustained in the long run. Hence, this involves sharing of new responsibility and tasks. They should be encouraged to be creative, innovate and inventive in the conception of their strategies. These professional development programmes should be available at both pre-service and in-service level.

LIMITATIONS OF THE STUDY

As with any study, there are potential limitations that must be considered. First, this study relied solely on the answers provided by heads of schools. The lack of families and community voices is a limitation which further research should consider. Future studies need

to evaluate or consider the perceptions of students and teacher to gain a better sense of what they have to say on the involvement of families and the community.

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Implications of Emotion Regulation on Young Children's Emotional Wellbeing and Educational Achievement

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Abstract

Effective regulation of both positive and negative emotions plays a pivotal role in young children's emotional and cognitive development and later academic achievement. A compelling body of evidence has highlighted the symbiotic relationship between emotion regulation competencies and young children's emotional health, in particular their mood and self-esteem, the two essential components of emotional wellbeing. On the other hand, the latest neuroscientific research has confirmed the powerful role of emotions on children's cognitive mastery, indicating that emotions can either facilitate or impede children's learning process. These research findings point to the critical role of emotion regulation on young children's readiness for school, asserting that children with developed emotion regulation skills are able to focus and maintain their attention on the learning task and follow teachers' instructions, which are key contributors to later academic success. Current and emerging research into this field has the potential to advise and guide both, education policy and the directions of young children's upbringing and education in their formative years. As part of a PhD study, this article will outline findings of a critical analysis of the literature addressing the relationship between children's emotion regulation skills, their emotional health and later educational achievement.

Introduction

The past two decades have witnessed a significant increase of emotion-regulation research (Gross, 2007; Kring & Werner, 2004; Skinner & Zimmer-Gembeck, 2007; Southam-Gerow & Kendall, 2002; Taylor & Liberzon, 2007; Eisenberg, Valiente, & Eggum, 2010) since more than 700 academic journal articles with the term ‘emotion regulation’ in the title or the abstract were published, as proclaimed in the PsycInfo database (Koole, 2009). This impressive body of research points to the critical role of emotion regulation on young children’s emotional wellbeing (Garner, 2010; Eisenberg, Valiente, & Eggum, 2010; Cicchetti, Ganiban, & Barnett, 1991; Barblett & Maloney, 2010; Gluckman, 2011), cognitive development (Garner, 2010; Eisenberg, Valiente, & Eggum, 2010; Cicchetti, Ganiban, & Barnett, 1991; Blair & Razza, 2007; Howse et al., 2003), and later academic achievement (Trentacosta, & Izard, 2007; Ayduk et al., 2000; Shoda et al., 1990). Research insights indicate that children’s inability to regulate emotions effectively, may seriously affect their mental health (Bradley, 2000; Kring & Werner, 2004), as well as their ability to learn and achieve within the school (Bahman & Maffini, 2008), thus placing them at risk of academic underachievement (Hawkins et al., 1999) and dropping out of school (Washington Kids Count, 2002). Hence, it seems important to have a better understanding of the role of emotion regulation in children’s emotional and cognitive development, by integrating the increasingly accumulating research in this area that may have significant implications for early childhood educational practices. As part of a PhD study, this article will outline findings of a critical analysis of the literature addressing the relationship between children’s emotion regulation skills, their emotional health and later educational achievement.

Methodology

In order to identify the relevant studies for the purpose of this critical review of the literature, several methods were used. Initially, by using search terms related to children’s emotion regulation, emotional wellbeing and cognitive development a computer search of Educational and Psychological Journal Articles was conducted in several databases: PsycINFO, Psychology and Behavioural Sciences Collection, Medline and Education Research Complete. The following specific terms were used to locate the emotion regulation articles: emotion knowledge, emotion regulation, affect regulation, self-regulation, emotional control, emotion management and emotional wellbeing, paired with cognitive development, academic achievement, educational accomplishment, school readiness and school success. The selection of those terms was based on the work of distinguished academics and researchers in the field of children’s emotional development, such as: Izard (2001), Saarni (1999) and Garner (2010). The articles chosen for this literature review were searched manually from the following academic journals published in the last two decades: Child Development, Journal of Personality and Social Psychology, Early Education and Development, Journal of School Psychology, Journal of Child Psychology and Psychiatry, Developmental Psychology, Australasian Journal of Early Childhood, Early Child Development and Care, Development and Psychopathology, Educational Psychology in Practice, Emotional and Behavioural Difficulties, Journal of Student Wellbeing, Psychology in the Schools, Personality and Individual Differences, Early Education & Development, Sociology of Education, Early Childhood Research Quarterly, Educational Psychology Review, Journal of Early Intervention, British Journal of Developmental Psychology, Cognition & Emotion, Imagination and Cognition, and Personality. Studies that investigated the link between emotion regulation and children’s emotional and cognitive development and their later academic achievement were selected for this review of the literature. Once

identified, studies included in this literature review were classified into the following main categories: the studies addressing emotion-regulation in relation to children's emotional wellbeing (Durlak et al. 2011; Ciarrhochi et al., 2000, Schutte et al., 2002), the studies focusing on the influence of emotions on children's cognitive development (Damasio, 1994; McPhail, 2004; Hanoch, 2002 a,b; Bolton, 2000; Ashkanasy et al., 2002) and those examining the influence of emotion-regulation on children's later academic achievement (Trentacosta et al., 2007; Garner, 2010; Shields et al., 2001; Miller et al., 2006). Hence, the specific subheadings in this article were organized based on the most common topics related to emotion regulation construct that have been investigated in the selected studies. Although there are discrepancies in the focus of the research and the conceptual understanding of emotion regulation among the developmental researchers, the findings of these studies clearly indicate that effective regulation of emotions is an important predictor of children's emotional wellbeing (Aldao, Nolen-Hoeksema, & Schweitzer, 2010; Eisenberg et al., 2000) and later academic success (Garner, 2010). It is less clear how emotional, motivational, behavioural and cognitive dimensions of emotion-regulation concept are interrelated (Garner, 2010).

Emotion regulation: definitional challenges

The definition and understanding of emotion regulation has posed a conceptual challenge and raised a considerable debate among researchers (Cole, Martin & Dennis, 2004; Zeman et al., 2007). Some researchers approached emotion regulation 'as a process that occurs within the person' (Cole, Martin & Dennis, 2004 p.321) that generates a range of physiological, neurological, behavioural and motivational changes (Garner, 2010; Cacioppo, Berntson, & Klein, 1992; Frijda, 2006; Mauss et al., 2005), whereas others (Thompson, 1991, 1994) examined this construct as an ability to modify one's emotional responses within a particular social or environmental context. Some possible reasons for this difference in definitions among the emotion regulation researchers might be the elusive and dynamic nature of emotions (Cole, Martin & Dennis, 2004), the intricate mechanisms by which emotions have an impact on individual's behavioural, neurological and physiological processes (Cole, Martin & Dennis, 2004; Gross, 1998) and the complexities of their regulation (Hourigan, Goodman & Southam-Gerrow, 2011).

Although emotion regulation research 'has been plagued by a lack of clarity and definition' (Cole, Martin & Dennis, 2004, p.320), several working definitions of emotion regulation have been adopted and applied in the selected studies for this literature review. Cole, Martin & Dennis (2004) defined emotion regulation as a process of internal modulation of a triggered emotion by applying various behavioural or cognitive strategies. Thompson's (1991) definition of emotion regulation that is the most frequently adopted and used in emotion regulation studies, refers to 'the ability to effectively manage one's emotions and control the outer expression of one's internal state in the service of accomplishing one's goals' (Thompson, 1994, p. 28). On the other hand, Eisenberg and Spinrad (2004) offer a more encompassing definition, considering emotion regulation as a process of inception, maintenance, inhibition or modification of individual's emotional states, involving physiological, motivational and behavioural concomitant changes related to one's social adjustment or achievement of individual goals. Although definitions of emotion regulation differ to a certain degree among the developmental researchers due to the complexity of this construct, there is a general consensus that 'emotion regulation is not a single behavior, but a varied collection of processes and strategies' (Fujiki, Brinton, & Clarke, 2002, p.103).

Correlations between emotion regulation and emotional wellbeing

An overwhelming body of evidence (Durlak et al. 2011; Ciarrochi Chan, & Caputi, 2000, Goleman, 1995; Saarni, 1999; Salovey & Mayer, 1990; Salovey et al., 1995) has highlighted the symbiotic relationship between emotion regulation competencies and children's emotional health, in particular their mood and self-esteem, the two essential aspects of emotional well-being (Schutte et al., 2002; Ciarrochi, Chan, & Caputi, 2000). Those who are able to regulate their emotions effectively generally have more positive outlook on life and experience better emotional wellbeing (Schutte et al., 2002) due to their ability to resist the environmental threats on their self-esteem and sustain a more positive mood in unpleasant situations (Ciarrochi, Chan, & Caputi, 2000).

An individual's mood is considered as a keystone of emotional health (Ekman & Davidson, 1994; Salovey et al., 1995; Thayer, 1996), as it has a profound impact on the perception, interpretation and response to external information (Ciarrochi, Forgas, & Mayer, 2001). Empirical research (Watson Clark, & Tellegen, 1988; Watson et al., 1999) indicates that generally there are two distinct dimensions of one's mood, a typical positive and a typical negative mood. A positive mood encompasses feelings of serenity, alertness and enthusiasm (Watson Clark, & Tellegen, 1988) that stimulate an open and friendly approach towards others (Watson et al., 1999). Emotionally competent children are able to sustain their positive mood in a broad scope of social situations (Ciarrochi, Forgas, & Mayer, 2001; Mayer & Salovey, 1997), due to their ability to regulate their emotions appropriately (Salovey & Mayer, 1990). Hence, those children manage to associate with a wide range of individuals (Bar-On & Parker, 2000; Fabes and Eisenberg 1992), and are able to establish and maintain positive relationships with their peers and caregivers (Parlakian, 2003; Denham et al., 2012; Garner and Estep 2001). Engagement in positive peer relationships provides a sense of security, belonging, and support to those children (Bolmer et al., 2005) that are associated with a positive attitude towards preschool and school environments (Denham, Bassett, & Zinsler, 2012) and increased participation in the learning activities (Hamre & Pianta, 2005). Empirical evidence suggests (Schutte, Schuettzel, & Malouff, 2010; Ciarrochi, Chan, & Caputi, 2000) that emotionally competent children are able to induce and maintain positive memories in a positive mood and to retrieve positive memories in a negative mood. Moreover, those children are able to induce a positive mood more rapidly by counteracting the negative impact of unpleasant situations and maximize the effect of positive situations (Schutte et al., 2002). For example, an emotionally competent child who is teased by his peers is able to resist the emotional threat to his mood by interpreting the teasing as an inappropriate behaviour. In this way, by making a conscious decision to ignore or diminish the effect of this kind of behaviour on his affect, he is able to sustain his positive mood in this situation (Schutte, Schuettzel, & Malouff, 2010).

A negative mood, on the contrary, comprises feelings of fear, sadness and anger (Watson, Clark, & Tellegen, 1988) that usually support avoidant social behaviour (Watson et al., 1999). Children who have difficulties in regulating their emotions, usually develop negative feelings and attitudes towards their peers and important adults in life (Bahman & Maffini, 2008) which in turn, may affect the social relationships across their life span (Garner, 2010). Moreover, they may feel insecure, misunderstood and unsupported, resulting in emotional and social isolation from others (Bahman & Maffini, 2008). Therefore, children who are not able to regulate their feelings effectively, have an increased tendency to distress, anxiety and depression (Watson, Clark, & Tellegen, 1988; Schutte et al., 1998).

Self-esteem, the second important component of emotional wellbeing, is regarded as one's positive or negative affective self-assessment that is closely related to individual's perception of self-worth (Leary, 1999a,b; Mruk, 1995, Bednar et al., 1989). Children's

experiences in their formative years, in particular the way they have been treated by their caregivers and the way parents' communicate and respond to children's emotions, play a crucial role in the development of a child's self-esteem (Collins, 2009). For example, when children are treated with respect, listened with genuine interest to their daily emotional experiences, and praised for their efforts and small accomplishments, their self-esteem is increased (Collins, 2009). This is also supported in the sociometer theory of self-esteem (Leary, 1999a,b) contesting that major impact on one's self-esteem has the feedback received lately from significant others. Moreover, according to Smith and Petty (1995) an individual's self-esteem is closely related to positive thinking in challenging situations. High self-esteem has multiple benefits on an individual's mental health and emotional wellbeing, such as fewer episodes of depression, social anxiety and substance abuse (Leary, 1999a,b).

Emotionally competent individuals have high self-esteem because they are able to withstand the negative environmental influences that might distort the positive self-image they hold of themselves (Schutte et al., 2002). For instance, when feeling angry, emotionally competent children are able to focus their attention on their inner emotional states, which helps them to diminish the influence of others' negative affect on their self-esteem with this simple strategy (Berkowitz, Jaffee, & Troccoli, 2000). Moreover, a compelling body of empirical evidence (Mayer et al., 2001; Ciarrochi, Chan, & Caputi, 2000; Martinez-Pons, 1997; Schutte et al., 1998; Smith & Petty, 1995) revealed that emotionally competent children have a high level of self-esteem because they are able to express their feelings openly and appropriately (Smith & Petty, 1995), and are able to develop quality relationships with others (Parlakian, 2003; Denham, Bassett, & Zinsser) due to their capacity to interact in a positive and meaningful way with them (Ciarrochi, Chan, & Caputi, 2000). Besides, the ability to establish a supportive social network helps those individuals to surmount their life difficulties and cope better with stress (Bolmer et al., 2005), which in turn, is related to better emotional health (House, Landis, Umberson, 1988).

The influence of affect on children's cognitive development

The crucial multifaceted influence of affect on individual's cognitive development has only been understood as a result of the growth of related research in the last two decades (Forgas, 2000). This extensive body of evidence (Damasio, 1994; McPhail, 2004; Hanoch, 2002 a,b; Bolton, 2000; Ashkanasy et al., 2002) indicates that emotions and cognition are intertwined, regarding emotions as main facilitators of cognitive processes. Hence, an interdependent new postulation emerged, viewing both, emotion and cognition as interacting concepts (Humphrey et al., 2007).

The powerful role of emotions on children's cognitive mastery was well established in the neuroscientific research (Caine & Caine, 1997; Adolphs & Damasio, 2001; Ciarrochi, Forgas, & Mayer, 2001; McCain, Mustrad, & Shanker, 2007; Forgas, 2000), confirming that affect can either facilitate or impede students' learning (OECD, 2002). In their review of an extensive research on brain development, Caine & Caine (1991) and Fogarty (2009) affirmed the pivotal role of emotions in the process of learning, asserting that emotions compete for a space in the working memory of the brain, thus interfering with the learning process (Goleman, 2004). The rationale for this is that emotional centres of the brain that are situated in the amygdala (part of the brain involved in the processing of emotional information), are closely related with the learning centres of the brain which are located in the neocortex (part of the brain involved in higher cognitive functions, such as conscious thought and language development) (Adolphs & Damasio, 2001). According to Zins et al., (2004), the neocortex also plays a critical role in the process of cognitive learning. When students feel overwhelmed by any distressing emotion, the learning centres of the brain are

hampered temporarily, preoccupying students' attention with strong negative feelings, thus impeding their learning process (Elias et al., 1997). Therefore, children who feel anxious or distressed, have a limited ability to concentrate on their learning tasks that in turn, might interfere with their academic capacity and educational achievement (Cain & Carnellor, 2008). On the contrary, positive emotions incite children's attention, which in turn, incites both, their short-term and long-term memory (Caine & Caine, 1991), thus enhancing their desire to learn and achieve academically (Zins et al., 2004). Hence, it is very important to assist children from an early age to recognize and appropriately manage their own emotions (Humphrey et al., 2007), and effectively utilize their positive affect to unleash their creativity and academic potential to the utmost level (Russ, 1999; Shaw & Runco, 1994).

The influence of emotion regulation skills on children's educational achievement

Effective regulation of emotions plays a pivotal role in children's school engagement and their educational achievement (Trentacosta & Izard, 2007; Garner, 2010). When entering school, children who lack emotion regulation competencies have poor study habits and experience difficulties in following teachers' instructions (Nelson, 1999). Those children commonly experience attention problems and display hyperactive behaviour in school settings (Bulotsky-Shearer & Fantuzzo, 2004; Keogh & Burstein, 1988; Nelson, Westhues, & MacLeod, 2003; Nelson, 1999). The rationale behind this assertion is that children who are predominantly in a negative mood and get easily frustrated throughout a day, may experience difficulties in focusing their attention on the learning task and completing it on time (Howse et al., 2003). Therefore, a lack of self-regulation skills can severely affect children's academic performance and increase the risk of school drop out (Ensmiger & Slusarick, 1992; Rose, Rose, & Feldman, 1989).

On the other hand, effective regulation of emotions is associated with school enjoyment and school success (Shields et al., 2001; Miller et al., 2006). The children who can manage their emotions appropriately, are able to engage positively in social interactions with their peers and teachers (Blair et al., 2004; Denham et al., 2003) and are generally perceived as optimistic, helpful and empathetic individuals (Garner & Estep, 2001; Fabes & Eisenberg, 1992). Those children, in turn, are more likely to be accepted by their peers in the school environment (Shields et al., 2001). Evidence suggests (Ladd et al., 1999; Wentzel, 1994) that peer acceptance can foster children's school engagement and increase their motivation to pursue academic success. In addition, children with well-developed emotion regulation skills are regarded as attentive and academically advanced students by their teachers (Eisenberg, Spinrad, & Sadovsky, 2005; Trentacosta, & Izard, 2007), as they can focus their full attention on the task until its completion, ignore classroom distractions and follow teacher's instructions (Bodrova & Leong, 2008). The rationale here is that emotionally competent children are able to minimize the influence of negative emotions in stressful situations and utilize positive emotions to increase their motivation to learn and attend to the academic task (Izard, 1991). This, in turn, is related to teachers' positive evaluations of their school performance (Denham, Bassett, & Zinsser, 2012) that plays an important part in children's academic success (Gillespie & Seibel, 2006).

In early childhood, a number of studies (Colwell & Hart, 2006; Cutting & Dunn, 1999; Shields et al., 2001; Izard, 2009; Miller et al., 2006; Howse et al., 2003) have explored the link between emotion regulation competencies and later academic achievement. Emerging from this growing body of evidence is the notion that self-regulation is a crucial aspect of children's readiness for school (Shonkoff & Phillips, 2000; Pianta, Steinberg, & Rollins, 1995) and is directly related to their later academic success

(Hughes, 1998; Howard-Jones, Pickering, & Diack, 2007; Shields et al., 2001; Miller et al., 2006; Trentacosta, & Izard, 2007). For example, a study considering the link between emotion understanding at an early age and cognitive outcomes in school years (Izard, 2001), demonstrated that emotional understanding and self-regulation competence at 5 years of age can predict academic success at 9 years of age. In a similar work, Shields et al., (2001) confirmed that preschoolers' emotional knowledge was positively related with teachers' assessment of their academic abilities, including language skills, recognition of numbers and counting. The findings from another study conducted on 154 two year-old children (Howse et al., 2003) that examined the relationship between preschool children's emotion-regulation and achievement scores in kindergarten, provided evidence that parents' perceptions of their children's emotion regulation competence measured by Emotion Regulation Checklist (ER Checklist; Shields & Cicchetti, 1997), was directly related to the children's academic achievement in kindergarten, including literacy, mathematics and listening comprehension. The conclusion of this study was that children who have difficulties to regulate their emotions in the preschool years, may have problems with focusing on their learning tasks in the classroom, which in turn, would affect their academic achievement (Howse et al., 2003). This is in line with the research findings from other studies in early childhood (Blair and Razza 2007; Trentacosta, & Izard, 2007), indicating the positive correlation between preschool children's self-regulation skills and their competence in math's and literacy.

On the other hand, a lack of emotion regulation skills as evaluated by Shields and Cicchetti's (1997) Emotion Regulation Checklist (ERS) was associated with disruptive classroom behaviour and a lower level of academic success (Bulotsky-Shearer and Fantuzzo 2004; Keogh and Burstein 1988). Some longitudinal studies of preschool children (Campbell, 1995; Ladd, et al., 1999; Schwartz et al., 1998) affirmed that lack of emotion regulation skills in early childhood, including low frustration tolerance, disruptive behaviour, and aggression can predict adjustment problems in the early school years. Similar research (Ayduk et al., 2000; Shoda, Mischel, & Peake, 1990) has clearly demonstrated the link between emotion competence in the early childhood and later academic success in adolescence and adulthood. Moreover, emotion regulation difficulties in early childhood have been identified as the main predictors of early school dropout (Ensminger and Slusarick 1992; Rose, Rose, & Feldman, 1989).

There are differing views regarding the possible reasons for the link between children's emotion regulation and academic achievement, in particular language competence. Some researchers (Shields et al., 2001) asserted that one possible reason for the inextricable link between emotion regulation competences and language competence is the fact that children's verbal fluency forms a foundation for successful articulation of their emotional experiences. On the contrary, Izard (2009) believes that children can improve and enrich their vocabulary and language skills, while they are learning how to label and accurately express their own emotions. No matter what the reasoning here is, researchers agree (Bruce, 2010; Frederickson, 2009; Roffey, 2011) that those children who are supported to develop their self-worth and emotion regulation skills, are able to flourish into self-motivated and independent learners.

Discussion

The aim of this article was to outline the findings of a critical review of the literature addressing the relationship between children's emotion regulation skills, their emotional health and later educational accomplishment. A growing body of empirical research (Ciarrhochi, Chan, & Caputi, 2000; Martinez-Pons, 1997; Schutte et al., 1998; Smith & Petty,

1995; Caine & Caine, 1997; Adolphs & Damasio, 2001; Ciarrhochi, Forgas, & Mayer, 2001; McCain, Mustrad, & Shanker, 2007; Forgas, 2000) provided evidence that effective regulation of both, positive and negative emotions plays a pivotal role in young children's emotional and cognitive development and later academic achievement.

Empirical studies that examined the relationship between emotion regulation and emotional wellbeing (Saarni, 1999; Salovey & Mayer, 1990; Salovey et al., 1995) indicated that individuals who are able to manage their emotions effectively experience better emotional well-being. This body of evidence revealed that emotionally competent individuals have a high level of self-esteem because they are able to express their feelings verbally and appropriately (Smith & Petty, 1995), generally experience greater life satisfaction because they have an optimistic outlook on life (Mayer, Caruzo, & Sitarenos, 2001; Ciarrochi, Chan, & Caputi, 2000; Martinez-Pons, 1997; Schutte et al., 1998), and have quality relationships because they are able to interact in a meaningful and positive way with others (Ciarrochi, Chan, & Caputi, 2000). Besides, the ability to establish strong social support network helps those individuals to surmount life difficulties and cope better with stress, which in turn, is related to better emotional health (House, Landis & Umberson, 1988).

Furthermore, developmental studies that examined the purported link between emotion regulation and academic success indicated that self-regulation is an important predictor of children's readiness for school and their later educational achievement (Trentacosta, & Izard, 2007; Garner, 2010; Blair and Razza 2007; Howse et al., 2003). The rationale here is that emotionally competent children are able to minimize the influence of negative emotions in stressful situations and utilize positive emotions to increase their motivation to learn and attend to the academic task (Izard, 1991). This, in turn, is related to teachers' positive evaluations of their school performance (Denham, Bassett, & Zinsler, 2012) that plays an important part in children's academic success (Gillespie & Seibel, 2006).

However, these findings should be interpreted cautiously due to the definitional challenges and some methodological limitations of emotion-regulation studies. One significant issue is that many of the studies focusing on emotion regulation lack clarity regarding the definition of the term, that according to Cole, Martin & Dennis, (2004) is a fundamental scientific requirement as it is guiding the research design. The use of various working definitions in the research may have implications on the selection of research instruments to assess individual's emotion regulation abilities, which in turn 'may derive different conclusions' (Zeman et al., 2007, p. 380). Therefore, the complexities of defining the term of emotion regulation raised several methodological challenges among researchers related to the assessment of children's self-regulation abilities.

One important methodological issue emerging from this review was that the findings of some emotion-regulation studies relied only on one assessment method, such as observations (Feldman, Eidelman, & Rotenberg, 2004; Tonyan, 2005; Denham et al., 2001) or interviews with children (Blanchard-Fiileds & Coats, 2008; Reiser, Black & Kalamarides, 1986). In developmental research, the use of observational methods is associated with a challenge for the researchers to capture the essence of individual's emotional expression (Zeman et al., 2007). Hence, the assessment of emotion regulation based on observations may include a subjective element as it is directly related to the researcher's ability to make inferences of children's emotional experience by observing their non-verbal cues (Zeman et al., 2007). On the other hand, when using interviews as a research method for obtaining data, the individual differences in children's verbal expression of emotions can have a significant impact on the quality of the data (Zeman et al., 2007), thus influencing the final results. Moreover, according to various developmental researchers (Shipman et al., 2003; Zeman & Garber, 1996; Zeman & Shipman, 1996; 1997) children's emotional expression may differ in the presence of different informants that 'might not be privy to the range of children's

emotional functioning' (Hourigan, Goodman & Southam –Gerow, 2011, p.199), which in turn, could bias the results of those studies. For example, children's reactivity to the situations that require testing or interviews with an examiner as an authority figure, may influence children's responses and thus interfere with the results (Zeman et al., 2007).

According to Zeman et al., (2007, p.378) the evaluation of self-regulation abilities 'will require the complex integration of multiple methods at a variety of levels of analysis' including behaviour and cognitive assessment as well as the assessment of individual's physiological changes (Thompson, 1994) by taking into consideration the social interactions between the individual and the environment (Cicchetti, Ackerman, & Izard 1995). Hence the use of multiple methods to assess emotion regulation is essential (Larsen & Prizmic-Larsen, 2006) in an attempt to make sense of the discrepant sources of data (Kraemer et al., 2003). In summary, in regards to the emotion –regulation assessment, Larsen and Prizmic- Larsen (2006, p.342) stated that: 'Emotion researchers need to keep clearly in mind that constructs are never purely measured. Rather, all measures are construct-method composites . . .'

Conclusion and further recommendations

In conclusion, studies focusing on multidimensional aspects of emotion regulation construct included in this review elucidated that effective regulation of emotions plays a pivotal role in young children's emotional and cognitive development and later academic achievement. These research findings point to the critical role of emotion regulation on young children's readiness for school, asserting that children with developed emotion regulation skills are able to focus and maintain their attention on the learning task and follow teachers' instructions, which are key contributors to later academic success. However, the critical review of the literature identified some definitional and methodological challenges among the researchers that might have influenced to a certain degree the results of emotion regulation studies. Therefore, in future studies developmental scientists need to resolve the definitional challenges and increase the methodological rigor in the emotion regulation research in order to enlighten our understanding of emotion regulation processes in the early years.

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Poverty alleviation through 21st Century Education for Sustainable Development

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Abstract

Today's world has moved on from the industrial age of perfecting assembly lines through rote processes to the knowledge age where information is power. Today's citizen is obliged to make informed decisions to solve world problems of global nature such as deforestation, floods, famines, extinction of species, emerging health problems, poverty alleviation, food security and the like. To meet the needs of the present citizen without compromising the resources of future generations is the ethos of sustainable development. Education is an essential tool for achieving sustainable development. Learning takes place in formal setups like the schools, nature centres, non-governmental organizations etc. and in informal setups such as through local media, community groups, peer mentoring and the like. Education for Sustainable Development (ESD) is a lifetime endeavour. The authors establish an interconnection/interrelationship between ESD and the 21st century skills; meaning that the two concepts cannot be separated. Learners need to be taught the crucial 21st century skills at schools, to prepare them for real world problem solving. Poverty alleviation requires concerted efforts. The ESD strategy proposes the establishment of several Regional Centres Expertise (RCE) to address local issues in poverty. RCEs will also promote the long-term goals of ESD, such as environmental stewardship, social justice, and improvement of the quality of life in all our communities hence alleviating poverty.

Keywords: 21st century learning, 21st century skills, sustainability, sustainable development, education for sustainable development

Introduction

Today's world has moved on from the industrial age where bearing knowledge to perfect assembly lines through rote processes was sufficient. Today's citizen is obliged to make informed decisions to solve real world problems of global nature such as deforestation, floods, famines, extinction of species, emerging health problems, poverty alleviation, food security and the like. In the 21st century, individuals find themselves living in an interconnected, inter-dependent global village. The activities of one group of individuals in a certain part of the world will show its effects all around the globe not only today but it will be carried forward to tomorrow's generations. Citizens thus need to learn to be responsible for their actions today for sustainability. UNESCO's (2003) framework for implementing the Decade for Education for Sustainable Development (DESD) outlined four thrusts in Education for Sustainable Development (ESD). The first was the promotion and improvement of basic education that encourage individuals to lead sustainable lives. The second is the orientation of existing education programs to include curriculum renewal with greater focus on sustainability. The third thrust was the development of public understanding and awareness of sustainability issues. This understanding is critical for society to make progress towards more sustainable communities and as a result address the element of poverty alleviation. The fourth and final thrust was concerned with public training in all sectors of the workforce. This training would ensure the workforce had the ability to perform their work in a sustainable manner. The Rio Declaration on Environment and Development lists 18 principles of sustainability (UNCED, 1992):

1. People are entitled to a healthy and productive life in harmony with nature.
2. Development today must not undermine the development and environment needs of present and future generations.
3. Nations have the sovereign right to exploit their own resources, but without causing environmental damage beyond their borders.
4. Nations shall develop international laws to provide compensation for damage that activities under their control cause to areas beyond their borders.

5. Nations shall use the precautionary approach to protect the environment. Where there are threats of serious or irreversible damage, scientific uncertainty shall not be used to postpone cost-effective measures to prevent environmental degradation.
6. In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process, and cannot be considered in isolation from it. Eradicating poverty and reducing disparities in living standards in different parts of the world are essential to achieve sustainable development and meet the needs of the majority of people.
7. Nations shall cooperate to conserve, protect and restore the health and integrity of the Earth's ecosystem. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.
8. Nations should reduce and eliminate unsustainable patterns of production and consumption, and promote appropriate demographic policies.
9. Environmental issues are best handled with the participation of all concerned citizens. Nations shall facilitate and encourage public awareness and participation by making environmental information widely available.
10. Nations shall enact effective environmental laws, and develop national law regarding liability for the victims of pollution and other environmental damage. Where they have authority, nations shall assess the environmental impact of proposed activities that are likely to have a significant adverse impact.
11. Nations should cooperate to promote an open international economic system that will lead to economic growth and sustainable development in all countries. Environmental policies should not be used as an unjustifiable means of restricting international trade.
12. The polluter should, in principle, bear the cost of pollution.
13. Nations shall warn one another of natural disasters or activities that may have harmful trans-boundary impacts.
14. Sustainable development requires better scientific understanding of the problems. Nations should share knowledge and innovative technologies to achieve the goal of sustainability.

15. The full participation of women is essential to achieve sustainable development. The creativity, ideals and courage of youth and the knowledge of indigenous people are needed too. Nations should recognize and support the identity, culture and interests of indigenous people.

16. Warfare is inherently destructive of sustainable development, and Nations shall respect international laws protecting the environment in times of armed conflict, and shall cooperate in their further establishment.

17. Peace, development and environmental protection are interdependent and indivisible.

Education for Sustainable Development (ESD)

Education is the process of imparting intellectual, moral, social skills and values to learners for a particular purpose. Education and training, both formal and non-formal, are key processes by which human beings and societies can reach their full potential and shun poverty. Education is key to sustainable development. The key roles of education are:

- Education must inspire the belief that each of us has both the power and the responsibility to effect positive change on a global scale.
- Education is the primary agent of transformation towards sustainable development, increasing people's capacities to transform their visions for society into reality.
- Education fosters the values, behaviour and lifestyles required for a sustainable future.
- Education for sustainable development is a process of learning how to make decisions that consider the long-term future of the equity, economy and ecology of all communities.
- Education builds the capacity for such futures-oriented thinking.

Educating people for sustainable development should provide the skills, perspectives, values and knowledge to live sustainability. ESD carries with it the inherent idea of implementing programs that are locally relevant and culturally appropriate. All sustainable development programs including ESD must take into consideration the local environmental, economic, and societal conditions. It must be interdisciplinary - integrating concepts and analytical tools from a variety of disciplines and be reoriented to include the changes needed to promote sustainable development. The overall aim of ESD is to empower citizens to act for positive environmental and social change by giving people knowledge and skills to help them find new solutions to their social, economic and environmental issues.

Objectives of ESD

The objectives of ESD in the context of DESD are:

1. To promote and improve basic education, including literacy and lifelong learning for sustainable livelihoods, with emphasis on access, opportunity and quality outcomes for children and youth in and out-of-school, and adult literacy;
2. To orient existing education programmes at all levels (content and processes) to promote the social, environmental, cultural and economic knowledge, skills, perspectives and values inherent to sustainability;
3. To create public awareness and build understanding of, the principles of sustainable development, with emphasis on the roles of the media and civil society;
4. To develop training programmes for imparting skills to promote sustainability practices; and
5. To develop strategies at every level to enhance capacity for ESD.

ESD as global drive for poverty alleviation

Education should shape our future by providing knowledge, skills, perspectives and values for sustainable living. It should be provided at all levels from early childhood to adult and continuing education. It should promote economic development with respect for our natural resources and cultural heritage. Therefore, it should be dynamic and evolving while empowering people to promote and engage in positive social, economic and environmental change.

ESD is for everyone, within a perspective of lifelong learning and engaging all possible spaces of learning (formal, non-formal and informal). It calls for a reorientation of educational approaches – curriculum and content, pedagogy and examinations.

ESD addresses key areas of sustainable development with culture as an underlying dimension. The vision underscores certain values in each pillar as follows:

Society: understanding social institutions and their role in change and development, as well as the democratic and participatory systems, which give opportunity for the expression of opinion, the selection of governments, the forging of consensus and the resolution of differences.

Environment: awareness of the resources and fragility of the physical environment and the effects of human decisions and activities with the commitment to integrate environmental concerns into social and economic policy development.

Economy: sensitivity to the limits and potential of economic growth and their impact on society and quality of the environment, with a commitment to assess personal and societal levels of consumption for concerns of the environment and social justice. It is at this level that poverty issues are addressed.

ESD further seeks to promote and advocate:

- Interdisciplinary and holistic learning embedded in the whole curriculum, not just as a separate subject;
- Sharing of values and principles underpinning sustainable development;
- Critical thinking and problem-solving leading to confidence in addressing the dilemmas and challenges of sustainable development;
- Different pedagogies;
- Learner-centered environment; and
- Addressing local as well as global issues in appropriate means of communication to learners.

Culture predetermines the way issues of ESD are dealt with in specific national contexts. In this sense, culture is a way of being, relating, behaving, believing and acting.

ESD is about values, with respect at the centre: respect for others, including those of present and future generations, respect for difference and diversity, respect for the environment, and respect for the resources of the planet we inhabit. Education enables us to understand ourselves and others and our links with the wider natural and social environment, and this understanding serves as a durable basis for building respect. Along with a sense of justice, responsibility, exploration and dialogue, ESD aims to promote the adoption of positive behavior and practices, which enable all to live a full life without being deprived of the basics.

ESD IN THE FIVE PILLARS

Education has many purposes, including enabling communities to fulfill their individual potential as well as contributing to social transformation. All educational programmes should be based on the five pillars of education, which are key to providing a quality education and

fostering human development in all communities. According to UNESCO (2006), the five pillars are; learning to know, learning to do, learning to live together, learning to be and learning to transform oneself and society. These five pillars are necessary to help people from all walks of life to create a more sustainable future.

ESD and Values

ESD encompasses the values such as: human dignity, fundamental freedoms, human rights, equity, and care for the environment. According to UNESCO Bonn Declaration (2009) Education for Sustainable Development is based on values of justice, equity, tolerance, sufficiency and responsibility. It promotes gender equality, social cohesion and poverty reduction and emphasizes care, integrity and honesty, as articulated in the Earth Charter. The Earth Charter is an ethical framework that includes respect and care for the community of life, ecological integrity, universal human rights, respect for diversity, economic justice, democracy, and a culture of peace. The Earth Charter is the product of a decade-long, worldwide, cross-cultural dialogue about common goals and shared values.

The values to be contained in a particular ESD programme are a matter of discussion for the stakeholders e.g. community members. Values shape many things within a community. For example, how we treat others, how we view ourselves, our expectations of the government, and our use or abuse of natural resources. Individuals in communities have to understand their own values, the values of the society they live in, and the values of others around the world is a central part of educating for a sustainable future. Each community must learn the skills of recognizing their own values and assessing them in the context of sustainability. A good starting point for communities in addressing values in ESD-related issues in the community is the knowledge of the Earth Charter. The difference between education that supports development and education that supports sustainable development is determined by the values incorporated in the curriculum.

Table 2: S.E.E. the Links

SOCIETY	ENVIRONMENT	ECONOMY
1. conservation 2. housing	1. water 2. air	1. food/fiber 2. business/industry

3. medical care	3. land use/soil	3. local economy
4. poverty	4. waste	4. global economy
5. culture	5. pollution	5. jobs/livelihoods
6. politics	6. habitat	6. markets

S.E.E. LINKS

Society = "poverty"

Environment = "land use/ soil"

Economy = "markets"

Example Linkage:

A young farmer inherits a garden plot. The previous owner had not cared for the plot; the soil had lost fertility and was eroded by rainwater. The young farmer kept most of the harvest from the garden plot to feed his family. The produce market in town suffered because many farmers did not have surpluses to sell, because their land was also eroded.

Education is an essential tool for achieving sustainable development. Learning takes place in formal setups like the schools, nature centres, non-governmental organizations etc. as well as in informal setups such as through local media, community groups, peer mentoring and the like. The term “sustainable development” was first given currency by the World Conservation Strategy (IUCN, UNEP, WWF 1980) and later reinforced by the Brundtland Report (World Commission on Environment and Development 1987). However, it is an evolving concept. Education for Sustainable Development (ESD) should be a lifetime endeavour. As the needs of individuals of today change, so does the need to preserve the resources for tomorrow. The World Conservation Strategy primarily sought to protect essential ecological processes, life-support systems and genetic diversity through the sustainable utilization of natural resources. The Strategy linked poverty, development and environment by drawing attention to the dilemmas facing rural people in developing countries who are sometimes compelled to over-utilize natural resources in order to free themselves from starvation and poverty. It gave increased prominence to the root social, political and economic causes of the environmental crisis. These ideas were to inform the

development of the framework for the recommendations in the Brundtland Report “Our Common Future”. Brundtland Report –defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Education is said to be the process of receiving or giving systematic instruction. Thus education for sustainable development (ESD) should be systematically instructing citizens to meet their present needs while conserving the resources for future generations.

Stevenson, Fien & Schreuder (2002) state that the relationship between education and sustainable development is complex. Generally, research shows that basic education is key to a nation’s ability to develop and achieve sustainability targets. Education can improve agricultural productivity, enhance the status of women, reduce population rates, enhance environmental protection, and generally raise the standard of living. Stevenson, Fien & Schreuder (2002) further say that to be successful, ESD, like all good education, must blend knowledge and skills. ESD must provide practical skills that will enable people to continue learning after they leave school, secure sustainable livelihoods, and live sustainable lives. It is through the 21st century skills that we see ESD manifested. Some of these 21st century skills are:

- The ability to communicate effectively both orally and in writing
- The ability to think about systems (both natural and social systems)
- The ability to think in time – to forecast, to think ahead, and to plan
- The ability to think critically about value issues
- The ability to comprehend quantity, quality, and value
- The capacity to move from awareness to knowledge to action
- The ability to work cooperatively with other people
- The capacity to use various processes – knowing, inquiring, acting, judging, imagining, connecting, valuing, questioning and choosing
- The capacity to develop an aesthetic response to the environment

Once learners, educators, professionals and communities embrace the 21st century skills poverty will be a thing of the past. And therefore with the changing times comes a need to reform the learning curricula. Quite a few organizations have thus far researched on the skills

that are essential for the 21st century education/communities. The partnership for 21st century skills framework categorizes these as:

- Learning and Innovation Skills
 - o Creativity and Innovation
 - o Critical Thinking and Problem Solving
 - o Communication and Collaboration
- Information, Media and Technology Skills
 - o Information Literacy
 - o Media Literacy
 - o ICT (Information, Communications and Technology) Literacy
- Life and Career Skills
 - o Flexibility and Adaptability
 - o Initiative and Self-Direction
 - o Social and Cross-Cultural Skills
 - o Productivity and Accountability
 - o Leadership and Responsibility (Retrieved from www.p21.org)

ESD AND 21ST CENTURY SKILLS

The table below shows the author's comparison between the ESD abilities and the 21st century skills:

Table 1: A comparison of ESD and 21C Skills

ESD Abilities	21C Skills
The ability to communicate effectively both orally and in writing	Communication Skills/ ICT (Information, Communications and Technology) Literacy
The ability to think about systems (both	Media Literacy

natural and social systems);	
The ability to think in time – to forecast, to think ahead, and to plan	Initiative and Self-Direction
The ability to think critically about value issues	Critical Thinking and Problem Solving
The ability to comprehend quantity, quality, and value	Flexibility and Adaptability
The capacity to move from awareness to knowledge to action	Creativity and Innovation
The ability to work cooperatively with other people	Collaboration Skills
The capacity to use various processes – knowing, inquiring, acting, judging, imagining, connecting, valuing, questioning and choosing	Information Literacy
The capacity to develop an aesthetic response to the environment	Leadership and Responsibility

The table above establishes an interconnection/interrelationship between ESD and the 21st century skills; meaning that the two concepts cannot be separated. The 21st century skills fit well with ESD. It is a shared aim of several organizations to see a world where a skilled population makes informed decisions in their home, community and working lives and in their leisure activities. Technology can act as a tool to make it possible. People need to understand and take responsibility for the impact they have on the quality of life of other people, locally and globally (Sustainable Development Education Panel 1999, p.11). UNESCO is seeking to make ICTs a tool of sustainable development in the following four ways (UNESCO, 2006) in its endeavour to alleviate poverty:

Computing: ICTs offer new learning modes and spaces and new possibilities for interactivity. This represents an opportunity for the widespread dissemination of ESD – on the condition that they are affordable in terms of cost, infrastructure, energy supply and they are easy to use with interfaces in local languages and even none-text interfaces (pictorial and spoken).

Connectivity: Where ICTs are accessible to learners, they can serve to provide spaces for global dialogue. The Small Islands Voice (www.smallislandsvoice.org), for example, links the general public and youth of island communities of the Caribbean, Indian Ocean and the Pacific, sharing experiences and concerns and building consensus and mutual support for sustainable development. The Community Multimedia Centres (CMC) initiated by UNESCO recognize that ICTs are more than connecting to the internet and that human development requires the integration of all forms of local media – internet, mobile telephony, local radio, TV. The centres enable communities to handle and produce information and meet many needs from distance education and training to telemedicine and publishing.

Content: ICTs become relevant for sustainable development when they provide relevant, locally-specific content to end-users. But they must also recognize the importance of community's existing knowledge systems to sustainable development and communities themselves as actors in the process of knowledge generation. This implies that ICT tools must also make it easier for local users to actively generate, use and share knowledge, instead of being just consumers.

Capacity (human): Most people living in impoverished communities lack an awareness of ICTs and their potential. An important tool in poverty reduction and sustainable human development is to open up these tools to marginalized communities. Within the framework of the Organization's follow-up to the World Summit on the Information Society (WSIS), UNESCO has created a research network 'ICTs in the Hands of the Poor: Initiatives for Development and Research', building awareness, offering examples of best practice in ICT training and providing guidelines on complementary (non ICT) institution-building, such as the development of appropriate regulations and legal frameworks.

CASE STORIES

Several projects around the world have demonstrated successful implementation ESD at community level. In Kenya, the Kenya ESD Implementation Strategy was launched in February 2007 under the auspices of the National Environment Management Authority (NEMA) and UNESCO. The ESD strategy identifies local sustainable development issues,

priorities and existing capacities. It proposes modalities that will contribute to the attainment of sustainable development and calls for all sectors to embrace ESD.

The strategic objectives are:

1. To enhance the role of education and learning for equitable, efficient and sustainable utilization of the country's resources
2. To promote quality education through diverse learning and public awareness for improved quality of life and productive livelihoods
3. To promote teaching and learning that inculcates appropriate values, behaviours and lifestyles for good governance and sustainability

A success story is seen in the BUMA Fish & Integrated Farm project. BUMA Fish & Integrated Farm is family business established in 2009. BUMA has undergone transformation, from perennial maize production to Horticulture and Aquaculture. The Farm is situated in Isukha East, Kakamega County. A unique feature with BUMA Farm is an inland fish pond in the homestead, a green house, an elaborate nursery with different horticulture crops and a farm for indigenous vegetables. BUMA Farm prides itself in using a delicate balance between the latest technologies in production processes; material usage; and practical know how. In summary, BUMA fish and Integrated Farm is an example of a transformative learning process that facilitates change in agricultural process from traditional to modern agriculture.

Conclusion

Poverty alleviation requires concerted efforts. The ESD strategy proposes the establishment of several Regional Centres Expertise (RCE) to address local issues in poverty. Stakeholders in RCEs are drawn from government, private sector, civil society organizations and development partners. These include: Actors in the formal, non-formal and informal education sectors (communities, teachers, trainers at all levels of learning, researchers, NGOs, CSOs, FBOs, media), providers of content for ESD (scientists, researchers, educators, museums, zoos, botanical gardens among others), students and learners at all levels, supporters of the delivery of ESD such as local government officials, representatives of private enterprises, volunteers, media, foundations, and development partners.

Functions of RCEs

RCEs aim at bringing together organizations at the regional/local level to jointly promote ESD. They will build innovative platforms to share information and experiences and promote dialogue among regional/local stakeholders through partnerships for sustainable development. This will lead to the creation of a local/regional knowledge base to support ESD, namely:

- Reorient education towards sustainable development, designing an integrated sustainable development curricula tailored to address issues relevant to the local context;
- Increase access to quality basic education that is most needed in the regional context;
- Deliver training programmes for all levels of community/ society as well as develop methodologies and learning materials; and
- Lead advocacy and awareness raising efforts focusing on educators and the essential role of ESD in achieving a sustainable future.

RCEs will also promote the long-term goals of ESD, such as environmental stewardship, social justice, and improvement of the quality of life in all our communities hence alleviating poverty.

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The Effect of Literacy Approaches on Socio-Economic Life of Migrant fishermen in fishing communities in Lagos State

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Abstract

The study examined the effect of literacy approaches on socio-economic life of migrant fishermen in fishing communities in Lagos State. The quasi experimental research design was adopted in the study. The population for the study comprised fishermen in all the fishing communities in selected Local Government Areas of Lagos. A total number of one hundred and sixty fishermen were selected from Badagry, Ibeju-Lekki, Epe and Amuwo-Odofin Local Government Areas of Lagos State to form the sample size. Five research questions and Five hypotheses were developed to guide the study. The data collected were analyzed and tested at 0.05 level of significant. The results of the findings among others indicated that functional literacy based approach had a remarkable effect on socio-economic life of migrant fishermen considering the variables for the social status placement e.g. Income, fishing techniques etc. On the bases of the findings, the following recommendations were made, among others: That suitable literacy approaches such as the functional -Based Approach should be used to meet the need of adult learner (fishermen) in the fishing communities. Government should support the literacy education for fishermen by providing funds, necessary materials and equipment to all literacy centres in Nigeria most especially in such disadvantaged communities. Again, adequate publicity and literacy campaign should be made especially on the value of being literate regardless of the age or status of the participants.

Introduction

Background to the study

The issue of illiteracy is a major concern in most modern societies. It is a phenomenon that features prominently in national as well as international reports and recommendations. As a concept, illiteracy denotes the state of being unable to read and write or compute with understanding (Okedara, 2001:12).

In the most common sense, illiteracy is the opposite of literacy, which means the acquisition of the skill of transmitting and receiving messages or information in an intelligible manner in written form. According to UNESCO (1976), a person is considered literate when the individual has acquired the essential knowledge and the skill, which enable individual to engage in all those activities in which literacy is required for effective functioning in the individual group and community, and whose attainments in reading, writing and arithmetic make it possible for individual to continue to use these skills towards individual own and the community's development (UNESCO, 1965:21). There are some assumptions underlying why nations embark on literacy programmes. It is believed that:

- i. Literacy is a human right and illiteracy a source of shame.
- ii. Literacy is a tool for promoting national development in all spheres.
- iii. A non-literate population may be condemned for continuing the modes of production of its ancestors.
- iv. Literacy would act as a bridge between fatalistic and uncomprehending acceptance, which was thought to characterize many rural people.
- v. Literacy would motivate the masses to increase their effort to break out of the poverty circle.

Literacy would help Migrant fishermen adopt a more advantageous mode of production, distribution and consumption (Thompson, 1989:42). Illiteracy is perceived as a disease as non-literates everywhere lack important functional competencies. They are not able to read or write and cannot understand a printed explanation of financial charges. Non-Literates are thought to be ignorant of several opportunities for businesses and financial assistance advertised in newspapers. As noted by Oyediji, Omolewa and Asiedu (1982: 50), even if non-literates are told about the numerous advertisements concerning trade enquiries, distributorship, dealerships and other opportunities, they are not likely to be able to follow them up, as they remain non-literates. Cross (1981:84) posited that the problems of functionally non- literates, especially adults, are extremely serious and stubborn.

Non-literates abound in most societies, especially in the less developed countries. Periodic reports by UNESCO and UNDP (1990:18) indicate that Nigeria, like many less developed and third world countries is made up of many non-literates.

Apparently, illiteracy is more pronounced in some occupations and professions. In Nigeria, fishing is basically the occupation of people living in riverine areas. Suffice it to say that fishing provides employment for a great number of people. Lagos State is one of the states in Nigeria that has a large population of fishermen (Eko Book, 2002:5). The situation in which greater numbers of fish farmers in Lagos are non-literate does not augur well for the society.

The geographical environment where the fishermen dwell is not conducive. The environment is difficult and harsh hence are not easily accessible. For these reasons, the dwellers in the various fishing communities appear isolated and forgotten. They seem to be outside

government plans and actions and lack basic infrastructure necessary for healthy living. Thus, migrant fishermen maintain a very low socio-economic life. Besides, these fishermen experience other correlates of poor life, namely: infant mortality, migration of the youth and poor-educated population, malnutrition and large families.

The migratory nature of migrant fishermen's occupation makes them to live in shacks. The fishermen also suffer poor and insufficient medical care, unsanitary health and inadequate housing. Arguably, the migratory nature of the fishermen's job and the geography, of their environment demand that the migrant fishermen be given special education, since this is regarded as the basics to the socio-economic life of an average citizen. Giving the fishermen conventional education is made impracticable. Hence, concerned educators advocate adult literacy programmes.

Adult literacy programme entails making adults acquire the ability to read, write and do simple calculations with understanding. Oyediji, Omolewa and Asiedu (1982:50) describe adult literacy as a means of acquisition of the skills of reading, writing and numeracy by adults. To Scribner and Cole (1981:34), adult literacy education is not simply making the fishermen to know how to read and write a particular script or count numbers, but enabling them applies these skills for specific purposes in specific context. The acquisition makes it easier for adults to benefit from other types of adult education, including agriculture and health extension programmes.

Adult literacy education is considered the pivot on which other forms of education revolve. It is accepted as a vehicle for obtaining further information, for modifying attitudes and behaviour and for achieving a better quality of life (Oyediji, Omolewa & Asiedu 1982:63).

It is postulated that providing adult literacy education to fishermen is significant in many ways. These include that:

- i. Literacy and numeracy abilities of fishing communities play a significant role in management of aquatic resources as well as in the maintenance and diversification of livelihoods.
- ii. Acquisition of literacy and numeracy enhances the ability of fishermen in record keeping, communication, management of business activities and marketing. These activities may typically involve book keeping using both literacy and numeracy, and letter writing as part of long distance trade.
- iii. Literacy is needed as part of community management of fishing resources and in environmental protection activities.
- iv. The ability to access and use written communication influences decision-making (for example on health or credit), which can also enhance and diversify people's livelihoods. (Barton, P. and Hamilton, K. 1998:35).

In Nigeria, it is envisaged that it is only through some special educational programmes that migrant fishermen and other non-literates can benefit from the provisions of the National Policy on Education, so as to enable them contribute their quota to national development. The National Policy on Education which originated in the 1970s, published in 1977 with the latest revision in 2004 provided for the establishment of mass literacy, adult and non-formal education. According to the policy, the programmes encompass all forms of functional education given to youths and adults outside the formal school system, such as functional literacy, remedial and vocational education (National Policy on Education, 2004:15). The

goal of mass literacy, adult and non-formal education as contained in the National Policy on Education includes:

To provide functional literacy and continuing education for adults and youths who have never had the advantages of formal education, or who did not complete their primary education. These include nomads, migrant families and the disabled and other categories or groups, especially the disadvantaged gender (National Policy for Education, 2004:25).

Basically, the thrust of the programmes is to eliminate mass illiteracy and to encourage individuals to see literacy as a means to self-improvement and adapt the literacy programmes into socio-cultural conditions. In order to make the idea work, the Federal Government of Nigeria instituted a National Commission for Mass Literacy, Adult and Non formal Education. The states of the Federation complemented the activities of the national body by establishing mass literacy agencies as part of the over-all national effort to eradicate mass illiteracy.

Further to the various earlier efforts to strengthen education in Nigeria, the Universal Basic Education (UBE) scheme was launched on September 30, 1999. The stated goals of the scheme include:

- i. To universalize access to basic education
- ii. Engender a conducive learning environment, and
- iii. Eradicate illiteracy in Nigeria within the shortest possible time.

The scheme has three components, namely:

- i. Formal basic education encompassing the first nine years of schooling, that is, primary, and junior secondary education, for all children
- ii. Nomadic Education for school age children of pastoral nomadic and migrant fishermen, and
- iii. Literacy and non-formal education for out- of- school children, youth and non-literate adults.

A careful study of two of the components of the UBE scheme shows that the migrant fishermen and non-literate adults are considered. This means that the UBE programme in addition aimed at eliminating illiteracy among migrant fishermen. It would also help individuals to use literacy as a means of achieving self-improvement, socially and economically.

Sequel to the declared intention to improve the educational needs of the migrant fishermen, one would think that there are innovative literacy approaches that could be applied. It is important to note that approaches are not the same thing as methods. As Aderinoye (1997:65) explained, approaches refer to the process employed in reaching the learners, while methods mean the process of instruction. Examples of teaching methods include tutorials, study circle, the synthetic and analytic methods, discussion group, lecture and role-playing methods. Approaches, as identified by Aderinoye (1997: 68) include the functional approach, integrated approach, fund – the - teaching - of - one approach, each – one - teach - one approach, family literacy approach, Freirean conscientization, real literacy approach and the distance education approach. On their part, Lind and Johnson (1990: 36) identified four approaches, which they considered as having major influences in the Third World in recent history. The approaches are:

- i. The Fundamental Education Approach, otherwise called Basic Education or General Literacy.
- ii. The Selective – Intensive Functional Approach launched through the Experimental World Literacy Programme EWLP, which to some extent, is still practised as Functional Literacy.
- iii. The Conscientization Approach, written by Paulo Freire and often promoted by NGOs; and
- iv. The Mass Campaign Approach which seeks to involve all segment of society in order to make all adult men and women in the nation literate within a particular time frame.

This study is interested in trying out some of these innovative literacy approaches in order to help ameliorate the illiteracy level of the fishermen in Lagos state.

Statement of the Problem

The migrant fishermen are a special population whose socio-economic life and contribution to economic growth of the nation has been of special interest to the any nation. The quest by the government to give literacy education to the migrant fishermen to boost their quality of lives appears to be distant from being accomplished. According to Ezewu and Tahir (1997:43) one of the problems is that, the fishermen and their children often see formal education as largely irrelevant to their occupation and health. Moreover, their environment (which is reverine in nature) and occupational activities (which are migratory) seem to pose some obstacles as these factors make it rather difficult for the fishermen to access formal education.

In addition, Ezeomah (1999:29) identifies other factors that have also influenced the socio-economic life of the fishermen such as cultural/traditional biases, poverty, high fertility rate, extreme conservatism and antagonism to innovation. These factors make up the social environment of the fishermen.

Furthermore, Ezeomah (1999:34) noted that while the fishermen would have taken up more ambitious programmes and risks of exploring new methods, this is not the case as the fishermen generally lack the knowledge, skills and attitude needed to take up such challenges in their profession. Hence, they remain impoverished and underdeveloped. The major problem is that these fishermen do not have the basic education and the reasons for this situation could be attributed to many of the factors highlighted above and that the Universal Basic Education (UBE) which was the platform on which the programme is concentrated had more provisions for the young and children. However, it is a truism that the fishermen as citizens still require governmental support to improve their socio-economic status and literacy level which at the point of investigation was very low.

It appears to the investigator that the fishermen had come in contact with literacy many years ago but the method used did not consider their needs, which included making schools and learning centres readily accessible to them since they are highly mobile in nature.

Considering the significance of literacy education as a tool for a socioeconomic empowerment, perhaps it can be asked; would adoption of the selected approaches to the

literacy education of migrant fishermen in Badagry, Lekki, Amumo Odufin and Epe in Lagos State have the effects of raising their socioeconomic lives?

Purpose of the Study

The study was undertaken to determine the effect of whole language approach on the level of literacy of the fishermen in the study area.

Furthermore, the study was aimed at examining the extent to which some identified approaches would promote literacy acquisition among the Migrant Fishermen, and how their personal variables like sex, age, marital status and level of education of influenced their literacy acquisition. Other purposes of the study include:

- i. Finding out if socio-economic status (like income, housing types and fishing techniques) of the migrant fishermen has any influence on their participation in literacy programme.
- ii. Investigating if the perception of the instructors affects the respondents' acquisition of literacy skills.
- iii. Determining the extent to which adoption of the literacy approaches would enhance the production level of the fishermen.

Research Questions

The research questions generated for the study are:

- i. Is there any difference in the post treatment income levels of fishermen treated with either whole-language, competency based, or Freirean approaches and those who were not?
- ii. Does income level of fishermen affect their literacy acquisition?
- iii. To what extent does the gender of fishermen at experimental and control group affect their literacy acquisition?
- iv. Do migrant fishermen's ages influence their literacy acquisition?
- v. Has marital status affected literacy acquisition of migrant fishermen?

Hypotheses

To guide this research, the following null hypotheses were formulated and tested:

1. There is no significant difference in the pre and post treatment literacy scores of fishermen treated with Whole-Language, competency based and Freirean approaches.
2. There is no significant difference between the pre and post treatment literacy scores of fishermen from different income
3. There is no significant gender difference in post literacy scores of fishermen in the treatment and control groups.
4. There is no significant difference in post literacy scores of migrant fishermen of differing ages
5. There is no significant difference in post literacy scores of married and single migrant fishermen

Significance of the Study

The study would be useful in:

- providing information on the effect of literacy approaches on the socio-economic life of the migrant fishermen as well as under privileged groups;
- determining the extent to which some personal variables e.g. sex, age, etc. influence literacy intention;
- finding out if the socio-economic status of the migrant fishermen has influence on their participation in literacy programme;

Finally, it provides information for other researchers who might want to carry out further research studies on the topic related to this area

Scope of the Study

The research was carried out in fishing villages in Lagos State. Areas covered included rural Badagry, Epe, Ibeju Lekki and Amuwo Odofin. The study considered the effect of four approaches to literacy on the life of migrant fishermen. The approaches were the whole language approach, the competency based approach, the freirean approach and the eclectic approach.

Methodology

The research design: The Solomon Four – Group Experimental Design was adopted for this study. The Design is represented with the formulae:

O ₁	X ₁	O ₂	Experimental group
O ₃	X ₂	O ₄	Experimental group
O ₅	X ₃	O ₆	Experimental group
O ₇	C ₁	O ₈	Comparison control group

The Design, according to Gay (1992; 64) involves testing of hypothesis concerned with cause and effect relationships. It also entails the manipulation of at least one independent variable, control of other variables and observation of the effect on one or more dependent variables.

The design was deemed appropriate for the study because the influence of the treatment can be determined both when pre-test is administered and when not administered. It also gives room for the researcher to control the interaction effect of the pre-test and treatment. The researcher randomly assigned treatment to the four groups involved.

The approaches used for the groups are:

- i. The Whole Language Approach – Experimental Group I
- ii. The Freirean Approach – Experimental Group II
- iii. The Competency Based Approach – Experimental Group III
- iv. The Eclectic Approach – Comparison Group.

O₁ O₃ O₅ and O₇ represent pre-test scores for groups 1, 2, 3 and 4, respectively.

O₂ O₄ O₆ and O₈ represent –Post-test scores of groups 1, 2, 3 & 4, respectively.

X₁ X₂ and X₃ are all experimental treatment groups.

C₁ represent control group.

Population for the study: The population for the study included fishermen in all the fishing communities in the selected Local Government Areas of Lagos State.

Areas of Study: The study covered Four Local Government Areas of Lagos State, which have fishing communities. The four Local Government Areas are Badagry, Ibeju Lekki, Epe and Amuwo-Odofin. They were selected based on the fact that they have large numbers of fishing communities.

Samples and sampling technique: The sample for the study comprises one hundred and sixty fishermen selected from Badagry, Ibeju-Lekki, Epe and Amuwo-Odofin Local Government Areas of Lagos State. The procedure used to select the subjects was the clustered sample. This technique is appropriate for use in this study because the population of fishermen in the study areas is infinite. At the same time, a list of the population does not exist and also, the geographic distribution of the fishermen is widely scattered. The Table 1 below shows the sample distribution by Local Government Areas and fishing communities respectively.

Table 1: Sample Distribution by Local Government and Fishing Communities

	L.G.A	No. of fishing communities	No. of selected fishing comm.	No. of selected fishermen
1	Badagry	86	17	40
2	Ibeji Lekki	53	11	40
3	Epe	198	40	40
4	Amuwo Odofio	61	12	40
	Total	398	80	160

Instrumentation

Three basic instruments were utilized to gather data. These were;

1. Basic Literacy Questionnaire BLQ (Learners Pre and Post Achievement Tests in Literacy, LPPATL);
2. Questionnaire 2- Fish Production, Social and Economic Schedule (FPSES);

Learner's pre and post-achievement tests in literacy (reading, writing and arithmetic)

The learners' pre and post-achievement tests contained 10 main sections of different grades of items. These included recognition of pictures, recognition of letters, writing of the alphabets and numbers, simple arithmetic, recognition and writing missing alphabets from words and numbers.

These questions were put in formats like flashcards, letters and cardboards and sheets of paper for easy administration to learners. The questions in the case of post-tests were designed to determine the effectiveness of each approach for literacy based on the achievement scores of the learners, while the pre-test questions were meant to measure the knowledge level of the subjects to ensure their relative uniformity before teaching commenced. The researcher also had the learner's pre and post Achievement test in English and Yoruba constructed by the Linguistic Department of the University of Lagos.

Fish Production, Social and Economic Schedule (FPSES)

This questionnaire was employed to collect information from the participants of the experiment.

Section A contained 8 items; the questions were designed to know the personal characteristics of the learner. Questions included were on age, sex, occupation, marital status, educational background and socio-economic status.

Section B is divided into two, Bi and B ii. Bi has 10 items that were designed to analyze fish production while B ii has 9 items analyzing the socio-economic status of the fishermen.

Procedure for administration of research instruments for the study

The researcher visited the fishing communities for the purpose of familiarization and getting the necessary approval from the Oba's (community chiefs). This involved the visit to the **Oba's** palace at Badagry, Lekki, Epe and Amuwo-Odofin respectively. Having secured the approval from the Oba's for their communities to be used, it then became imperative for the researcher to recruit and train research assistants and the instructors. Each instructor was assigned two research assistants. They were re-trained for two training sessions of one hour each in their different areas of specialization. The research assistants selected were fluent in English, Yoruba and Egun languages which are the local languages. Also, they acted as interpreters as majority of the participants spoke Yoruba and Egun as their first languages. In all eight research assistants were recruited and trained. The research assistants were undergraduate students in the final year at the Fishery Department of the University of Lagos and the Institute of Oceanography, Victoria Island and Adult Education Department, University of Lagos. The assistants were trained for 2 days, using the draft research instruments. The researcher and the assistants administered the instruments in each community for six weeks. The different communities were taught using the different approaches and made use of the synthetic and analytic methods of teaching. The researcher adopted a draft syllabus for a six-week project in the use of literacy approach. The researcher, with her assistants and instructors met with the fishermen two times per week and each meeting lasted for two hours. Generally, they all accepted evening classes because of the nature of their profession. The time for classes was 4-7pm every Friday and Saturday.

Method of Data Analyses

The data collected were analyzed using ANOVA and t-test statistics and tested at 0.05 level of significance

Result and discussion of findings

The research hypothesis one

The result of hypothesis one shows that Competency –Based Approach, has the highest mean score of 33.25 followed by Freirean with the mean score of 30.07 and Whole-Language with the mean score of 28.31 while the, Eclectic (Control) had mean score of 23.51. To determine if the differences in post literacy scores are significant across the four groups, ANCOVA technique was employed. For experimental condition, the calculated F-value of 30.25 is greater than the critical F-value of 2.67 given 3 and 153 degrees of freedom at 0.05 levels of significance. This means that there exists a significant difference in post literacy scores of fishermen due to experimental conditions.

Based on the significant F-value obtained, further analysis of data was done using the Fisher's least square method to determine which group differs from the other and the trend of

the difference. Fishermen who are subjected to WLA treatment did not differ in literacy manifestation than those given CBA treatment ($t=1.58$; $df=78$; critical $t=2.00$, $p>0.05$). Similarly, fishermen given WLA treatment do not significantly differ in literacy manifestation than either those given the FA treatment ($t=0.54$; $df=78$; critical $t=2.00$, $p>0.05$) or those given placebo treatment i.e. control group ($t=1.54$; $df=78$; critical $t=2.00$; $p<0.05$). On the other hand, fishermen who were given placebo treatment i.e. control group significantly manifest less literacy attributes than those who were given CBA treatment ($t=3.12$; $df=78$; critical $t=2.00$; $p<0.05$) and those FA treatment ($t=1.02$; $df=78$; critical $t=2.00$; $p<0.05$) respectively.

From the result presented above, the following conclusion could be drawn.

1. Before exposure to the four experimental conditions, fishermen in each of these groups scored poorly in literacy.
2. After treatment, fishermen in the control group did not record any significance improvement in literacy
3. Those in Competency Based Approach and Frierean Approach recorded the greatest improvement in literacy among the fishermen. However, no significant differences were observed among these three groups.

It was Aristotle who said, “Knowing anything is teaching it”. However, teaching that knowledge or skill may not be an easy task, most especially when the supposed teacher does not know how to convey that knowledge or skill to the learner, either through ignorance or confusion. It is in the light of this premise that the study discovered the importance of literacy approaches as the most significant variables among those examined.

In the course of the study, fishermen were subjected to tests to establish their pre-entry knowledge. The results showed that our first hypothesis was rejected. Before the exposure to the experimental conditions the fishermen in each group scored poorly in literacy. However, after being treated with three different approaches: namely the Competency-Based Approach, Frierean Approach and the Whole-Language Approach, we discovered that they had gained in knowledge according to the strength of each approach employed for each group of fishermen. These results establish the fact that approaches are important for literacy as observed by Rogers (1987:58).

It is also observed that among the three approaches –the Competency-Based Approach consistently shows its advantage over the remaining two approaches (Frierean and Whole-Language). The higher mean scores of fishermen taught by the Competency-Based Approach (Under experimental and control groups) bear testimony to the above fact. Therefore, we could conclude that the most superior approach for providing literacy for the migrant fishermen as far as this study is concerned is the Competency-Based Approach.

However, we should exercise caution in claiming that the competency-based approach is most superior among the three approaches tested. In this case, we should re-call past research efforts, which are still inconclusive on the best approach Oyediji et al (1982), Kennedy (1973) and Peyton et al (1996). All the same, we may take sides with Oyediji et al (1982:39) who assert that, the best technique is that which works for my given group of individuals, and even among individual, constituting a class, the teacher may find that one technique works better for one set of people than for another. Consequently, we can then say that the Competency Based Approach seems to ‘work best’ for the fishermen under this experiment and this situation justifies our claim. On the issue of whether an approach is more effective than another, we prefer to say that to some extent, the Competency-Based Approach seemed most dependable of all the three approaches as the result of the fishermen showed in this experiment. The situation may however, not hold for all instances and situation. In fact, this statement is supported by Rodger {1987:74} who says that

“The most difficult data to provide is those which offer evidence that One method is more effective than another in attaining programmed Objective”

Since some of our objectives include finding the appropriate approach to impart literacy to migrant fishermen and selecting the approach in terms of the performance of the fisherman, the results presented here seem to justify the claim that the Competency-Based Approach is more dependable than the other two approaches

Research hypothesis two:

The result of hypothesis two shows that with respect to the post-test results of the participants, the result reveals that subjects with high income status have highest mean score of 32.61 followed by fishermen in middle income class with mean score of 24.96, while the fishermen that belonged to low income class have mean scores of 23.63.

To determine if the differences in mean scores are significant across the three income levels, ANCOVA technique was used. Results show that for income, the calculated F-value of 12.23 is greater than the critical F-value of 3.07 given 2 and 157 degrees of freedom. This means that there exists significant difference in post literacy scores due to levels of income. Based on the significant F-value obtained, further analysis of data was done using Fisher's least square method to determine which group differs from the other and the trend of difference. The result shows that fishermen who were subjected to Socio-economic status using income level, as parameter on post literacy score of the fishermen. The fishermen with high-income group significantly differ from the middle income group ($t = 9.33$; $df = 79$; critical $t = 2.00$; $p < 0.05$).

Similarly, fishermen with high income level significantly differ from the low income group ($t = 11.37$; $df = 105$; critical $t = 2.00$; $p < 0.05$) On the other hand, fishermen with middle income level were significantly different from the low income group ($t = 2.33$; $df = 140$; critical $t = 2.00$; $P < 0.05$).

This is in agreement with the review of some social-economic status, variables and measures by Higgs (2002:27). This review justifies the effect of the treatment on the socio-economic life of the migrant fishermen. During the course of the experimentation it was observed that those with high and middle income were able to quickly provide practical materials for study unlike the low income class but those with low income were eager to learn to try and bridge the literacy gap and to probably improve on their income.

This is in agreement with the expectance valence theory by Ruberson (1977) and Vroom (1964). The fishermen were motivated to participate because they believed it would improve their income, housing types and socio-economic life. On the other hand the housing types had no effect on the treatment of the fishermen. This result is so probably because where they were living did not matter to the fishermen. It was traditionally acceptable but they considered a better future, which motivated their interest in the literacy intervention and to the effect of the third placement, which is fishing equipment and techniques.

Hypothesis Three: The hypothesis states that there is no significant gender difference in the post literacy scores of fishermen treatment and control groups.

The result obtained clearly indicates that the calculated F-value of 9.81, 4.16 and 11.91 and 8.30 are greater than the critical F-ratio of 3.92 with the degree of freedom of 1 and 154; and the critical F-ratio of 2.68 with degree of freedom of 3 and 154 at 0.05 level of significant. This implies that there exists significant difference in post-treatment literacy scores of fishermen due to gender difference. Based on these findings, the major conclusions were:

1. There was a significant gender difference in the post-test literacy scores of fishermen in the experimental groups.

2. The male and female groups in CBA treatment group performed significantly better than those in FA and WLA groups.
3. However, in the EA (control group), the female mean scores of 23.29 is higher than that of male score of 22.8

Further findings from this study show that significant gender difference exists in the post test scores of fishermen in treatment and control groups. The male and female groups in the Competency-Based treatment group performed significantly better than those in the Frierean and Whole -Language groups.

The result findings imply that gender does not affect the use of the literacy approaches. Again the result also implies that the observed significant gender difference was perhaps as a result of difference in capabilities. These findings imply that the approaches can be used for the fishermen without fear of gender sensitivity. To support this fact that gender is found not significantly related to the fishermen in this study Johnson et al (1974:27) found out that sex difference in literacy depends primarily on the social demands and cultural expectations of the learners and the general community. To confirm the influence of cultural difference in literacy achievement between sexes, Johnson (1974:31) carried out tests in the United States of America, England and Nigeria. This has further been confirmed by other studies like that of Bloom et.al (1976:94).

On the other hand Adelodun (1989:67) has been able to find that sex difference in literacy has no negative significance among learners taught with a method devised by her as the Verbal Symbolizing Technique (VST). With the above finding in agreement with the study, it could be encouraged that the approaches be used for both males and females.

Research Hypothesis four: The fourth hypothesis states that there is no significant difference in the pre and post literacy scores of migrant fishermen owing to their age.

The result shows that at post test, that migrant fishermen, whose ages ranged between 20 and 29 years, had the highest mean scores of 31.56 followed by those in the age bracket of 30 and 39 years with mean scores of 28.29 while those who are 40 years and above had the least mean scores of 28.14. To determine whether the differences in mean scores are significant across the whole age groups, one-way analysis of variance (ANOVA) was carried out. The result shows that the value of F-calculated of 3.22 is greater than the value of F-critical 3.07 given 2 and 157 degrees of freedom at 0.05 level of significant. This means that there exists a significant difference in post-treatment literacy scores of fishermen due to ages of migrant fishermen. To determine where the significant differences lie, post hoc analysis was conducted using protected t-test method and the result shows that fishermen who were subjected to age range of 20-29 significantly differ in their literacy than those in age of 30-39 ($t = 7.98$; $df = 127$; critical $t = 1.98$; $p > 0.05$). Similarly, fishermen within the age range of 20-29 significantly differ in their post literacy scores than those in age range of 40 and above ($t = .031$; $df = 107$; critical $t = 2.00$; $p > 0.05$). The above result shows that the mean scores of the fishermen at the pre-test did not show much difference, however, after the treatment, there was a significant difference in the literacy manifestation of fishermen whose age ranged between 20- 29 followed by those age range from 30-39 then, those of them from 40- above. It could be as a result that they are younger or are motivated that it would improve their income and social life Instead of the type of education that would not be of benefit to them. A most recent research by Maddox (2007:15), fishermen of the age bracket of 20- 40 years got involved in literacy programme in Bangladesh to help them in the management of market related fishing activities, thus supporting the fact that the fishermen's involvement is income related. The performance of the fishermen in the treatment classes across all age underlines the claim by many scholars like Okedara (1981:43) and Rogers (1987:82) that age is no

barrier to learning and performance as the fishermen all showed improvement in the literacy intervention

Hypothesis five: This hypothesis states that there are no significant difference post literacy scores of married and single migrant fishermen.

To test this hypothesis, independent t-test Statistical method was used. The result shows that the value of t calculated X^2 value 2.49 is greater than the critical t-value 1.96 given 158 degree of freedom at 0.05 level of significant. This result indicates that there is a gender difference in achievement scores of fishermen. The result above indicates that more married fishermen were involved in the literacy intervention. What is observed according to Schacter (1959:28) is the inability of individuals to embark on “second chance” in their educational endeavours as married couples. A very important element in creating awareness is to give the fishermen an option to a better socio-economic life away from their traditional fishing activities. This, Nadal (1991:64) states is generally described as motivation and it can be looked at in several ways. As far as using literacy approaches to create a better socio-economic life for the fishermen is concerned, motivation is very important for the instructor as well as for the married and single fishermen.

Contribution to knowledge

The research has made the following contributions:

1. It will help the disadvantaged groups like the fishermen to be involved with literacy as variable school timing model will be adopted and this will reduce educational/occupation conflicts
2. The study improved on the gap found in literature review
 - (a) Literacy for adult fishing population
 - (b) Functional literacy instead of Basic or Traditional literacy.
3. The study concludes that the competency- based approach is the best literacy approach for the disadvantaged groups like the fishermen.
4. It will also be a pool for any research work on literacy approach and migrant fishermen.
5. The study concludes that the skill acquisition and programmes of social awareness are a very vital part of literacy especially for the disadvantage group like the fishermen.
6. The study contributes to the planning and organizing of functional literacy programmes by clearly identifying time preferred for classes and effective literacy approaches which could be replicated in other communities

Implication of the findings for adult education

The findings in this study have some important implication on adult education and educators alike.

The main objective is to make known the different approaches for the benefit of adult learners and their instructors. It is also to evolve a meaningful and workable approach to providing literacy with a view to improving the socio-economic life of disadvantaged groups like fishermen. The Competency-Based Approach to literacy which was the most effective in the literacy intervention can be adopted by adult educators and possibly improve its workability (such improvements may come through ratification of its short comings, after long observations and the use of cultural related in structural materials to reinforce its clarity).

Adult instructors, supervisors, educators, and organizers, should be made conversant with the Competency Based Approach and taught how to use it, so as to accelerate the reduction of illiteracy in Nigeria and beyond through the department. It is important that in-service

trainings, workshops, conferences and seminars be organized for adult educators, supervisor's e. t. c. where they can share new ideas to improve their knowledge of literacy approaches.

Recommendations

Based on the findings of the study, the following recommendations are made:

- There should be adequate publicity on on-going literacy campaign and especially the value of being literate to enable every individual, especially the disadvantaged groups like the fishermen, nomads, regardless of their age or status to participate in literacy programme, since the result of the findings in hypothesis four shows that there is no significant difference in the age of the migrant fishermen.
- That literacy centers should be located within walking distances and should consider the occupation of adult learners (disadvantage groups like the fishermen) to encourage their participation and regular attendance to classes.
- That suitable literacy programmes relevant to the needs of adult learners be provided Competency-Based Approach as follow-up programmes to adult literacy classes, to ensure their permanent and functional literacy ability as identified in hypothesis one .
- That government and its agencies should support literacy education for fishermen and other disadvantaged groups by providing funds, materials and equipment to all literacy centers. This will motivate the fishermen to participate in literacy education for the overall development of the fishing community and the nation.

As identified in hypothesis two, government should encourage private and voluntary agencies carrying out literacy programmes for the fisher folks by way of assistance with finance, material and equipment that will increase their socio-economic status and literacy level.

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THE MEDIATING ROLE OF SELF-REGULATION IN THE RELATIONSHIPS BETWEEN PRE-SERVICE TEACHERS' SELF-EFFICACY, TASK VALUE AND ACTIVE PROCRASTINATION

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Abstract

This study examined the relationships between self-efficacy, task value, self-regulation and active procrastination; and the mediating role of self-regulation in these relationships. A total of 426 pre-service teachers (223 males, 203 females) studying in colleges of education in Nigeria participated in the study. A set of self-report questionnaire was used to measure the participants' levels of procrastination, self-efficacy, task value beliefs, and self-regulation. Structural equation modelling (SEM) using AMOS software was employed as statistical technique for data analysis of the study. The findings, based on the hypothesized structural model, which overall goodness-of-fit indices indicate good model fit, revealed that self-efficacy and task value beliefs were not directly significant predictors of active procrastination. However, mediation analysis, based on SEM or modern approach, indicated that there was an evidence of indirect effects of the motivational beliefs variables on active procrastination through self-regulation. Test of mediation by bootstrapping method established significant mediating role of self-regulation in the relationship between self-efficacy, task value and active procrastination. Theoretical and practical implications of the study, in addition to recommendations for future research, have been offered.

Keywords: procrastination, self-regulated learning, active procrastination, mediation analysis, pre-service teachers.

Introduction

Procrastination, a behaviour that is characterized by postponing, delaying, or avoiding tasks that ought to be done to a later time, attracts researchers' attention in the past few decades. It involves voluntary delay in beginning or completing an intended course of action despite expecting to be worse off for the delay (Steel, 2007). Procrastination is a prevalent practice among college and university students. For instance, estimates indicate that 80% to 95% of college students are found to be procrastinating, with about 50% of them procrastinate consistently and problematically (O'Brien, 2002; Onwuegbuzie, 2000; Steel, 2007). Research shows that procrastination negatively affects progress as it limits the quality and quantity of student work (Rakes & Dunn, 2010). It results in a number of negative consequences on students' academic performance and subjective wellbeing (Cao, 2012; Klingsieck, Fries, Horz, & Hofer, 2012).

As a result of its undesirable effect on students' academic achievement, procrastination has been extensively studied in academic realm. Research indicates that procrastination is associated with low levels of academic self-efficacy and self-esteem (Hannok, 2011; Wolters, 2003), lower task value beliefs (Gropel & Steel, 2008), fear of failure and perfectionism (Brownlow & Reasinger, 2000), and lower life satisfaction (Klingsieck et al., 2012). Steel's (2007) meta-analytic study of procrastination showed that task aversiveness, task delay, self-efficacy, impulsiveness, as well as conscientiousness and its facets of self-control, distractibility, and organization, were strong and consistent predictors of procrastination. Procrastination appears to be behaviour detrimental to the self that is aimed at avoiding or deterring achievement or success (Whatley, 2009). Furthermore, from self-regulated learning perspective (Pintrich, 2000; Zimmerman, 2008), procrastination is now viewed as the lack of self-regulated performance which involves cognitive, affective and behavioural components (Cao, 2012; Wolters, 2003). In this regard, Steel (2007) viewed procrastination as an embodiment of self-regulation failure. In spite of considerable efforts in describing its negative and harmful consequences, and curtailing this problem, the prevalence of procrastination appears to be increasing (Cao, 2012; Klassen et al., 2010). It is therefore clear that procrastination is not entirely understood and continued research into procrastination should be a priority (Steel, 2007).

From early 1990s, some researchers considered alternative approach to procrastination research by investigation the beneficial and adaptive values associated with procrastination (Ferrari, 1993). In line with this alternative perspective, Chu and Choi (2005) believed that not all procrastination behaviours are harmful or are precursors of negative consequences. Specifically, they identified 'positive' form of procrastination – active procrastination – which is characteristically different from traditional negative and passive procrastination. Although procrastination has been studied in terms of its negative consequences, observed Choi and Moran (2009), Chu and Choi (2005) highlighted that active procrastination has positive implications for individuals in terms of their self-efficacy beliefs, depression, stress coping, and performance; it is also positively associated with purposive use of time and perceived time control. The purpose of the present study, therefore, was to examine self-regulation and motivational beliefs variables of self-efficacy and task value as predictors of active procrastination; and whether self-regulation plays mediating role in these relationships.

Self-Efficacy

Bandura (1986) defined self-efficacy as “people's judgements of their capability to organize and execute courses of action required in attaining designated types of performances” (p.391).

It is concerned not with the skills one possesses but with judgements of what one can do with whatever skills one has. Self-efficacy theory (Bandura, 1997) holds that what we believe about ourselves strongly influences our task choice, level of effort, persistence, and resilience, and how we subsequently perform. Research has shown that self-efficacy is a strong and consistent predictor of procrastination (Hen & Goroshit, 2014; Steel, 2007; Van Eerde, 2003). The findings of Hannok (2011) indicated a significant inverse relationship between self-efficacy beliefs and procrastination. From positive or active procrastination perspective, Chu and Choi's (2005) study established that active procrastinators, who see procrastination as a positive learning strategy, have higher levels of self-efficacy in comparison to passive procrastinators who view procrastination in a traditional negative way.

Task Value

Eccles and Wigfield (2002) described task value as an incentive for engaging in different task. That is, individuals' beliefs about the value and importance of the task determine why they engage in such task. Pintrich, Smith, Garcia and McKeachie (1991) defined task value as the student's evaluation of the how interesting, how important, and how useful the task is. It relates to asking oneself "*What do I think of this task?*" Furthermore, Pintrich, Roeser and De Groot (1994) proposed that task value consists of three general aspects: interest, utility, and importance. In academic realm, for instance, task interest connotes students' personal interest or liking of the course material. Task utility refers to students' perception of how useful the course material is to them. Task importance involves students' beliefs about how significant the course content is for them and their future goals. People generally tended to delay the performance of tasks that are tedious and aversive in nature (Ferrari & Scher, 2000). For some students, according to Sokolowska (2009), procrastination may reflect lower task value – decreased interest and limited priority placed on a particular task and its final outcome. Specifically, "procrastination is particularly susceptible to how aversive, especially boring, we find tasks" (Gropel & Steel, 2008, p.407). That is to say, the more unpleasant is a task, the more likely one will put it off. The findings of Sokolowska (2009) study revealed that task-value affects motivational outcomes such as choice and/or level of intensity of a particular task.

Self-Regulation

Self-regulation involves the way individuals make use of internal and external cues to determine when to initiate, when to maintain, and when to terminate their goal-directed actions. Zimmerman (2008) viewed self-regulation as self-generated thoughts, feelings, and behaviours that are oriented toward the attainment of personal objectives. From academic realm, Zimmerman (2008) further offered that self-regulation involves the degree to which students are metacognitively, motivationally, and behaviourally active participants in their own learning process. This is further enunciated by Pintrich (2004) in which self-regulation is referred to students' monitoring, controlling, and regulating their own cognitive activities and actual behaviour. From self-regulated learning perspective (Pintrich, 2000), self-regulatory activities serve as mediators between personal and contextual characteristics and actual achievement or performance. That is, they can mediate the relationships between individuals and the context, and their overall achievement. Wolters (2003) opined that deficits in self-regulatory behaviours, such as cognitive strategy use and monitoring important aspects of learning, result in an avoidance of tasks. Thus, students' motivation and the extent to which they engage in procrastination behaviour were also significantly related with their learning

strategies (Pintrich, 2000; Zimmerman, 2008). Research indicates that students who tend to procrastinate were found to be not able to effectively manage their learning (Ferrari, 2001) by being unable to select and use effective strategies that required effort and time to develop (Howell & Watson, 2007; Steel, 2007; Wolters, 2003). Hence, they experience low academic achievement (Onwuegbuzie, 2004).

Active Procrastination

Introducing a new idea into the area of procrastination research, Chu and Choi (2005) address the possibility that not all procrastination behaviours have negative consequences. They conceptualized and distinguished two different types of procrastination: active and passive procrastination. Active procrastinators are type of procrastinators who use their strong motivation under time pressure to make intentional decision to procrastinate, to be able to complete tasks before deadlines, and achieve satisfactory results (Chu & Moran, 2009). In contrast, passive procrastinators are procrastinators in traditional way, who postpones tasks that ought to be done until the last minute because of the inability to act in a timely manner with feelings of guilt and depression, and are more likely to fail to accomplish tasks. Chu and Choi (2005) assumed that active procrastinators differ from passive procrastinators in cognitive, affective, and behavioural dimensions. Choi and Moran (2009) asserted that active procrastination is an observable behavioural characteristic that consists of an individual's affective preference for time pressure, cognitive decision to procrastinate, behavioural capacity to meet deadlines, and ability to achieve satisfactory results. Chu and Choi (2005) suggested that active procrastinators actually possess behaviours that correlate positively with self-efficacy and personal outcomes such as life satisfaction and higher grade point average (GPA). Research shows that passive and active procrastinators differ from each other in their degree of purposive use of time and perceived time control, self-efficacy, task value, test anxiety, GPA, and in level of self-regulation skills such as, elaboration, organization, time management, and effort regulation (Chu & Choi, 2005; Corkin, Yu, & Lindt, 2011; Shin & Goh, 2011). For instance, Seo's (2013) study shows that external regulation, on the one hand, was found to be a significant positive predictor of passive procrastination, on the other hand, it was significantly and negatively predicts active procrastination.

The Present Study

The present study examines self-regulation and motivational beliefs variables of self-efficacy and task value in relation to active procrastination from self-regulated learning perspective. Specifically, this study aims to explore whether self-efficacy, task value and self-regulation can predict active procrastination. Based on the previous research findings, this study hypothesized that self-efficacy, task value, and self-regulation would be positively related to active procrastination. Again, since most of the models of self-regulated learning assumed that self-regulatory activities are mediators in the relationships between personal and contextual characteristics and actual achievement or performance (Pintrich, 2000), this study hypothesized that self-regulation would mediate the relationships between self-efficacy, task value and active procrastination.

Method

Participants

A total of 426 pre-service teachers, who were being prepared to become teachers at the lower and middle levels of the education system, from three colleges of education in North-Western Nigeria participated in the study. The respondents included 223 males (52.3%) and 203 females (47.7%). Their ages ranged from 19 to 33 ($M=22.12$, $SD=2.67$).

Measures

Motivated Strategies for Learning Questionnaire (MSLQ). The MSLQ (Pintrich, Smith, Garcia, & McKeachie, 1991) was used to measure the participants' levels of self-efficacy, task value and self-regulation. It is a self-report instrument designed to assess college students' motivational orientations and their use of different learning strategies for a college course (Pintrich et al., 1993). It is a widely used instrument in educational research (Rotgans & Schmidt, 2010) employed to measure a large number of motivational and self-regulated learning constructs. All items are scored on a 4-point Likert type scale, from 1 ("Strongly Disagree") to 4 ("Strongly Agree"), which was a slight modification of the original scale. The 8-item self-efficacy scale, a component of the MSLQ, was used to assess participants' levels of self-efficacy. Example of the items includes "I am confident I can understand the most complex material presented in this course" and "I am certain I can master the skills being taught in most of my courses." The reported coefficient alpha reliability of the scale is .93. The alpha reliability for the self-efficacy scale for this sample is .81. Likewise, the 6-item task value scale of the MSLQ was employed to measure the respondents' level of task value. Sample items for this scale include "I think I will be able to use what I learn in this course in other courses" and "I am very interested in the content area of this course." The coefficient alpha reliability of the scale is reported at .90, while the alpha reliability of the task value scale for this sample is .80. Furthermore, the self-regulation level of the participants for this study was measured by the use of the items from metacognitive, time management and effort regulation subscales of the MSLQ. Thus, the self-regulation scale used for this study consists of 22 items some of which include "If course materials are difficult to understand, I change the way I read the material" and "When I study for course, I set goals for myself in order to direct my activities in each study period" (Metacognitive); "I make good use of my study time for courses" and "I make sure I keep up with the weekly readings and assignments for my courses" (Time Management); and "Even when course materials are dull and uninteresting, I manage to keep working until I finish" (Effort Regulation). For this sample, the Cronbach's alpha reliability estimate for self-regulation scale is .83.

Active Procrastination Scale. Choi and Moran's (2009) Active Procrastination Scale was used to assess the participants' level of active procrastination. It is a 16-item scale designed to measure four defining characteristics of active procrastinators. These four dimensions are outcome satisfaction (e.g., "I don't do well if I have to rush through a task" [Reversed]); preference for pressure (e.g., "It's really a pain for me to work under upcoming deadlines" [Reversed]); intentional decision to procrastinate (e.g., "I intentionally put off work to maximize my motivation"); ability to meet deadlines (e.g., "I often fail to accomplish goals that I set for myself" [Reversed]). All the items were scored on 7-point Likert type scale from 1 ("Not at all true") to 7 ("Very true"). Composite measure of these four subscales was used to assess the overall level of the tendency of individuals towards active procrastination. The reported reliability coefficient of the scale is .80; and in this study the reliability was .77.

Results

This study was conducted to examine self-efficacy, task value, and self-regulation as predictors of active procrastination and looked into the mediating role of self-regulation in the relationship between the predictors and the outcome variables. In doing this, structural equation modelling (SEM) using Analysis of Moment Structure (AMOS) software was used. The use of inferential statistics requires that certain assumptions, such as assessment of normality, must be met. Structural equation modelling, as other statistical procedures, assumes multivariate normality (Byrne, 2010). The assumption of normality was assessed by examining the values of skewness and kurtosis in the distribution of scores of the major variables (Field, 2009). Byrne (2010) observed that since SEM is based on the analysis of covariance structures, evidence of kurtosis is always of interest. Byrne further suggests that values equal to or greater than 7 to be indicative of early departure from normality; and Kline (2005) offered that skewness value of less than 3 is acceptable. Therefore, the values of skewness and kurtosis for the variables of this study were checked and they are found to be within the acceptable range.

The means, standard deviations, and correlations of the variables involved in the study are shown in Table 1 below.

Table 1. Means, standard deviations, and correlations of the variables of the study (n = 426)

Variables	M	SD	1	2	3	4
1. Self-Efficacy	26.09	3.85	1.00			
2. Task Value	21.00	3.22	.48***	1.00		
3. Self-Regulation	73.33	11.18	.59***	.55***	1.00	
4. Active Procrastination	49.18	8.76	.17**	.16**	.38***	1.00

Note. *** $p < .001$, ** $p < .01$.

Table 1 above shows zero-order correlations for scores on active procrastination, self-efficacy, task value, and self-regulation. Most of the respondents for this study were at the moderate level of active procrastination ($M = 49.18$, $SD = 8.76$), high levels of self-efficacy ($M = 26.09$, $SD = 3.85$), task value ($M = 21.00$, $SD = 3.22$), and self-regulation ($M = 73.33$, $SD = 11.18$). The correlation analysis indicates that active procrastination scores were significantly associated with self-efficacy ($r = .17$), task value ($r = .16$), and self-regulation ($r = .38$). Furthermore, self-regulation was found to be significantly and positively related to both self-efficacy and task value ($r = .59$ and $.55$ respectively), and the correlation between task value and self-efficacy was significant and positive ($r = .48$).

To examine whether predictor variables (self-efficacy, task value, and self-regulation) predict active procrastination; and whether self-regulation mediates the relationships between the predictor and the outcome variables, SEM using AMOS programme was employed. SEM was selected for its ability to simultaneously estimate multiple dependence relationships (Hair et al., 2010). The overall structural model provided a good model fit with fit indices in an acceptable range: $\chi^2 = 322.926$; $DF = 164$; $\chi^2/DF = 1.969$; $GFI = .93$; $CFI = .96$; $NFI = .93$; and $RMSEA = .05$. Table 2 below shows the unstandardized and standardized regression weights for the hypothesized structural paths.

Table 2. Unstandardized and Standardized Regression Weights in the Hypothesized Paths Model Predicting Active procrastination

Causal Path	B	SE B	Beta	CR	P
Active Procrastination <---- Self-Efficacy	.04	.05	.06	0.82	.411
Active Procrastination <---- Task Value	.02	.06	.02	0.30	.762
Active Procrastination <---- Self-Regulation	.20	.07	.44	2.88	.004

Notes: B = Unstandardized Regression Weight Estimate; S.E = Standard Error; Beta = Standardized Regression Weight; C.R = Critical Ratio; P = Significant Alpha

According to Table 2 above, the hypothesized relationship between self-efficacy and active procrastination was not supported ($\beta = .06$, C.R = 0.82, $p = .411$). This shows that there is no significant relationship between self-efficacy and active procrastination. Which means that self-efficacy is not good predictor of active procrastination. Furthermore, the results indicate that the relationship between task value and active procrastination was found to be non-significant. This means that, according to the findings of this study, task value was not a good predictor of active procrastination ($\beta = .02$, CR = 0.30, $p = .762$). However, the association between self-regulation and active procrastination has been supported by the hypothesized structural model, as revealed in Table 2. The results demonstrate that self-regulation was a good predictor of active procrastination ($\beta = .44$, CR = 2.88, $p = .004$).

Mediation Analysis

One of the objectives of this study was to determine the mediation effect of self-regulation in the relationships between the two predictor variables and the dependent variable. From self-regulated learning perspective (Pintrich, 2000; Zimmerman, 2008), procrastination is now viewed as the lack of self-regulated performance which involves cognitive, affective and behavioural components (Cao, 2012; Steel, 2007; Wolters, 2003). Based on this perspective, the present study sought to establish whether self-regulation mediates the relationships between self-efficacy, task value, and active procrastination. Thus, this study employed the use of modern or SEM approach (Preacher & Hayes, 2008) in the mediation analysis. This is against the commonly used Baron and Kenny's (1986) causal steps approach. This is because "mediation analysis as practiced in the 21st century no longer imposes evidence of simple association between X and Y as a precondition" (Hayes, 2013, p.88).). Indeed, Bollen (1989), as cited by Hayes (2013), asserted that "lack of correlation does not disprove causation" and "correlation is neither a necessary nor a sufficient condition of causality" (p.52). The idea behind modern approach to mediation analysis is that "there need not be a significant zero-order effect of X on Y, r_{xy} , to establish mediation" (Zhao, Lynch, & Chen, 2010, p.199). Hence, the mediating analysis for this study is based on the modern approach, as popularized by Preacher and Hayes (2004, 2008) and Hayes (2013).

Hayes (2013) noted that when empirically testing causal process involving mediation components, of primary concern is the estimation and interpretation of the direct and indirect effects along with inferential tests thereof. Thus, the mediation analysis focused on the estimation and interpretation of the indirect effects as well as the inferential tests to determine the significance of the effect. The standardized regression weights for the indirect effects are presented in Table 3 below.

Table 3. Standardized Regression Weights for the Indirect Effects

Hypothesized Path	Indirect Effect
Self-Regulation <----- Self-Efficacy	.252*
Self-Regulation <----- Task Value	.180*
Active procrastination <----- Self-Regulation	.370*

Note: * $p < .05$

Based on Table 3, there is an indirect effect in the relationship between self-efficacy and active procrastination through self-regulation. The estimate, as indicated by the standardized regression weight, shows that there is significant effect self-efficacy on self-regulation ($\beta = .252, p < .05$); and that self-regulation, in turn, significantly affects active procrastination ($\beta = .370, p < .05$). Also, task value is shown to be indirectly related to active procrastination through self-regulation. The standardized regression weight shows that the causal paths between task value and self-regulation ($\beta = .180, p < .05$) and between self-regulation and active procrastination ($\beta = .370, p < .05$) are significant.

Therefore, based on the evidence of the presence of indirect relationships between the independent (self-efficacy and task value) and the dependent (active procrastination) variables through the mediator (self-regulation), as presented in Table 3 above, the significance of indirect effects of these relationships were to be tested. That is, to see whether “chance” factor can be discounted as a plausible explanation for the indirect effects obtained. To establish mediation, observed Zhao et al. (2010), all that matters is that the indirect effect is significant. Drawing conclusion about the significance of the indirect effects for this study, bootstrapping method was employed based on the 95% bias-corrected confidence interval (CI). Bootstrapping is a resampling procedure used for estimation and hypothesis testing by which the original sample is considered to represent the population (Byrne, 2010). The decision criteria follows that when zero (0) is outside the CI indirect effect is significant, otherwise the effect is insignificant (Byrne, 2010; Hayes, 2013). Results of the indirect effects test of significance are presented in Table 4 below.

Table 4. Results of the standardized indirect effects test on active procrastination through self-regulation based on bootstrap bias-corrected 95% confidence intervals

CONSTRUCTS	SIE	SE	BOOTSTRAP BC 95% CI		
			LB	UB	P
Self-Efficacy	.093	.031	.041	.165	.000
Task Value	.067	.025	.023	.125	.005

Note: SIE = Standardized Indirect Effect Estimate; SE = Standard Errors; LB = Lower Bound; UB = Upper Bound; BC = Bias Corrected; CI = Confidence Interval.

The bootstrap estimates, as presented in Table 4 above, are based on 5000 bootstrap samples. The interpretation of these results is that self-regulation did mediate the effects of self-efficacy and task value on active procrastination. That is to say that there is significant indirect relationship between self-efficacy and active procrastination through self-regulation. From the bootstrap analysis the mean indirect effect was found to be .093, and the 95% confidence interval lies between .041 and .165. This means that since zero is outside the CI, the indirect effect is significant. Thus, when examining the indirect paths, as shown in Table 3, the results mean that a unit increase in self-efficacy increases self-regulation by .252; and a unit increase in self-regulation increases active procrastination by .370. Therefore, the findings of this study indicated that self-efficacy is indirectly related to active procrastination through self-

regulation. Also, the indirect relationship between task value and active procrastination through self-regulation was also tested. The results revealed that the indirect effect (.067) between the two variables was found to be significant based on the 95% bootstrap CI of .023 to .125. As the lower and upper limits of the CI did not include zero, there is 95% confidence that there is significant positive indirect effect of task value on active procrastination. Hence, self-regulation mediates the relationship between extrinsic goal orientation and active procrastination. Specifically, when examining the indirect paths, as shown in Table 3, the results mean that a unit increase in task value increases self-regulation by .180; and a unit increase in self-regulation increases active procrastination by .370. Therefore, the findings of this study indicated that task value is indirectly related to active procrastination through self-regulation.

Discussion

This study investigates the predictive ability of self-efficacy, task value, and self-regulation on active procrastination among pre-service teachers in colleges of education, and tried to look into the mediating role of self-regulation in these relationships. Based on the structural model, the analysis of the direct relationships between the predictor variables and the outcome variable, as presented in Table 2, shows that self-efficacy was not a good predictor of active procrastination. These findings contradict Chu and Choi's (2005) study which found significant positive relationship between self-efficacy and active procrastination. In addition, Cao (2012) found that active procrastination positively predicts educational psychology self-efficacy. However, when compared with passive or traditional procrastinators, Cao found no significant difference in self-efficacy beliefs with active procrastinators. Furthermore, Gendron's (2011) study found no significant relationship between self-efficacy for learning and performance and active procrastination, which provide no support for the hypothesis that active procrastination would be positively related to self-efficacy beliefs. These are in line with the findings of this study. Furthermore, the results of this study indicate that the relationship between task value and active procrastination was found to be non-significant. This result is in harmony with the findings of Cao (2012) study that task value was not found to be a good predictor of active procrastination. While making comparison, active procrastinators reported a significantly lower level of task value than non-procrastinators; furthermore, Cao (2012) found no significant difference in task value between active and passive procrastinators. Contrary to the findings (Anderson, 2001; Sokolowska, 2009; Steel, 2007) that task value is a predictor of academic procrastination, active procrastination was not found to be related to task value. Thus, the results of this study did not support the hypothesis that task value is a good predictor of active procrastination.

However, when self-regulation was regressed against the outcome variable, the relationship was found to be significant. The findings demonstrate that self-regulation was found to be a good predictor of active procrastination. Self-regulation alone explained 17% of the variance in the outcome variable. This is in line with the observation of many studies that self-regulation is an important variable associated with academic procrastination (Klassen, Krawchuk, & Rajani, 2008). Steel (2007) further described procrastination as a "quintessential self-regulation failure" (p.65). Again, the findings were in line with the claim that deficits in self-regulatory behaviours, such as cognitive strategy use and monitoring important aspects of learning, result in an avoidance of tasks (Wolters, 2003). Thus, students' motivation and the extent to which they engage in procrastination behaviour were also significantly related with their learning strategies (Pintrich, 2000; Zimmerman, 2008). However, Gendron's (2011)

study did not find significant relationship between the global score of active procrastination and measures of self-regulated learning.

Moreover, based on the self-regulated learning (SRL) perspective (Pintrich, 2000; Zimmerman, 2008), the hypothesized indirect relationships of the independent and dependent variables through self-regulation have been tested. The result revealed that self-regulation, as mediator, plays a significant role in the hypothesized indirect relationships between self-efficacy, task value and active procrastination. This also supported by the fact that the two predictor variables explained 42% of the variance in self-regulation, which in turn, explained 15% of the variance in active procrastination. Thus, the findings of this study lend some support to the Steel's (2007) assertion that procrastination is essentially a failure in self-regulation.

Conclusion and Implications

Based on the findings of the present study, the conclusion is that procrastination is essentially a failure in self-regulation (Steel, 2007); and that the results lend a strong support to the theory of self-regulated learning which assumed that "self-regulatory activities are mediators between personal and contextual characteristics and actual achievement or performance" (Pintrich, 2000, p. 453). As the findings established the mediating effect of self-regulation in the relationship between the independent variables and active procrastination, this underscores the importance of self-regulation in procrastination research. One significant theoretical implication of this study is the shift in the procrastination research focus by viewing procrastination as a failure in self-regulation which involves cognitive, affective and behavioural components. In practice, the significant role played by self-regulation in relation to procrastination, as demonstrated by the findings of this study, could be of great help. Thus, ability to self-regulate plays an important role in the dynamics of procrastination. Self-regulation may be a key to understanding procrastination. In this regard, active procrastination, contrary to the Chu and Choi's (2005) claim that it is a 'positive' form of procrastination, may be a form of self-regulation strategy employed by individuals to attain desirable outcomes. Therefore, for better understanding of active procrastination, the focus of future research should be on examining its relationship with self-regulation strategies.

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The Möbius strip - An intuitive approach to advanced mathematics

by Pakkinee Chitsakul, Rattanasak Hama, Pipatpong Chansri and Sorin V. Sabau

Abstract.

Due to the apparent difficulty of abstract formulas used in the teaching of mathematics at the high school level, not only in Thailand, but also in Japan, many students avoid choosing mathematics as their favorite subject. For example, one of the most difficult subjects is geometry and related topics, like topology at higher education levels. We report here an attempt to appeal the attractiveness and beauty of advanced mathematics by teaching the geometrical properties of the Möbius strip without any prerequisite mathematical notions, but only using intuitive methods.

Keywords: Möbius strip, geometry and topology, mathematical education, advanced mathematics

1. Introduction

In geometry and topology one speaks about orientable and non-orientable surfaces, namely surfaces with two sides and surfaces with only one side, respectively. More precisely, the *orientability* is a property of surfaces embedded in the 3-dimensional Euclidean space that estimates whether it is possible to make a consistent choice of the normal vector at every point. For example the round sphere and the torus are orientable surfaces while the Möbius strip and Klein bottle are non-orientable surfaces. However, understanding the geometry and topology that lies behind this definition, or the more general definitions on abstract manifolds, is not an easy task even for bachelor students in the Department of Mathematics.

We report here an educational project whose aim is two folded. Firstly, we aim for an intuitive understanding, through intuitive experiment, of some of the geometrical object, and topological properties of a non-orientable surface embeddable in the 3-dimensional Euclidean space, namely the Möbius strip. Secondly, we aim for developing imagination and teamwork skills needed to solve problems and surmount the challenges of such a project.

We have involved in this project 149 Thai students ranging from G6 to G12 and 17 BS students from King Mongkut's Institute of Technology Ladkrabang (KMITL) who have attended the Science Expo held at Faculty of Science, KMITL in the period 19-20 August 2013. The students were divided in groups of 3-5 people and asked to participate in the experiments. Finally we have asked the participants to fill out a questionnaire. All the explanations at the Science Expo and the questionnaire were in Thai.

2. The lesson

2.1 The Möbius strip

The Möbius strip (also called Möbius band or Möbius loop) is a surface with only one side and only one edge, i.e. a classical example of a non-orientable surface. Taking a paper strip, giving it a half twist and then gluing the ends of the paper together to form a loop one can easily construct a model. As mentioned already this is a non-orientable surface with remarkable mathematical properties with applications not only in chemistry and engineering, but also in art and literature ([1]). Due to the fact that the geometrical shape of the Möbius strip suggests a cycle or re-cycle, it is used to illustrate postal stamps of Brazil, Nederland, Belgium, or the recycle symbol (Figure 1).



Figure 1. A postal stamp of Brazil and the recycle mark.

2.2 Materials

Since our main purpose here is learning through discovery we do not assume any advanced mathematical background and no textbook. In order to attract the interest of students we have used knots, computer graphics and other materials (due to limited time, not all these materials were shown to all students).

For making Möbius strips we have prepared scissors, paste and 12 mm paper rolls to be cut in pieces of approx. 1 m length. We have also prepared in advance few Möbius strips with different number of half twists, different colors magic pens as well as a simple presentation of the topic.

3. Learning through discovery

3.1. A magic show

The teacher takes three pieces of roll paper of 1 m length and shows them to the students, then glues one obtaining a cylinder (half twists number $m=0$) and asks to the students to think what it is obtained if cut in the middle. The answer is obvious: two separated rings. The teacher secretly prepares another two strips ($m=1$, $m=2$) and asks the students to cut these three strips in the middle (if the paper rolls are long enough the students do not notice the difference). Two separated rings, as predicted, one long ring (double length) and two linked rings are obtained, respectively. The teacher asks now the students to think about this.

3.2. A surface with only one side and one edge

The teacher explains about surfaces with two sides and four edges (an A4 piece of paper) or two edges (a cylinder, $m=0$). Then he explains the little trick in the previous magic show. In this way the teacher can introduce intuitively the concept of orientability and normal vector to a surface.

Next, divide the students in 2-3 groups and ask them to construct Möbius

strips with $m=0$, $m=1$, $m=2$, $m=3$ number of half twists and then ask them to color opposite sides and opposite edges with different colors. The $m=0$ and $m=2$ strips will have opposite sides and opposite edges colored differently while for $m=1$ and $m=3$, when trying to color strips with different colors, the students will meet on the way.

All these will lead the students to the first mathematical result.

Theorem 1.

The Möbius strips with odd number of half twists $m=2k-1$ have only one side and one edge, i.e. they are non-orientable surfaces, while in the case of an even number of half twists $m=2k$ the strips will always have two sides and two edges, i.e. they are orientable surfaces.

Some of the students have seen and experimented with the Möbius strip for the first time, so they were attracted and interested.



Figure 2.

3.3. Rings and knots

In the next task the teacher asks to the students is to cut in the middle a Möbius strip ($m=1$) and then, to cut again the child strip in the middle (Figure 2). By paying attention to the half twists number before and after the cutting, the students are lead to the following:

Theorem 2.

Let us consider a Möbius strip M with m half twists.

1. *If $m = 2k$, then M has 2 edges and 2 faces. When cut in the middle we*

get 2 rings each having m half twists and linked together $m=2$ times.

2. If $m = 2k - 1$, then M has one side and one edge. When cut in the middle we get only one large ring with $2m + 2$ half twists. If $m > 1$ the result is knotted.

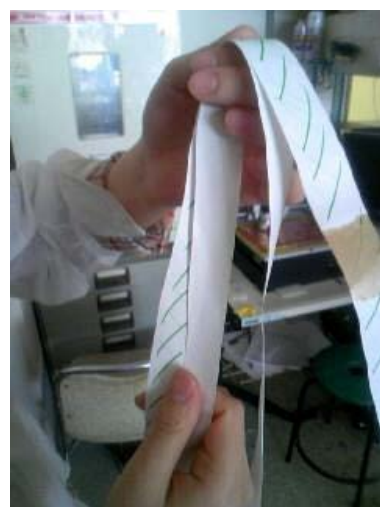


Figure 3.

Another interesting task is to ask students to cut Möbius strips with $m=1$, $m=3$, i.e. non-orientable surfaces, at a third and explain the result. For example, for $m=1$ one obtains one double length strip ($m=4$) linked with another strip of same length as the parent strip ($m=1$). A similar result is obtained in the case $m=3$ (Figure 3).

The students can now summarize: if m is even number, the surface is orientable, hence regardless the cutting place the result is the same.

Another interesting challenge is to fold back as a sandwich the child strips obtained when cutting the $m=1$ parent strip at a third (Figure 4).



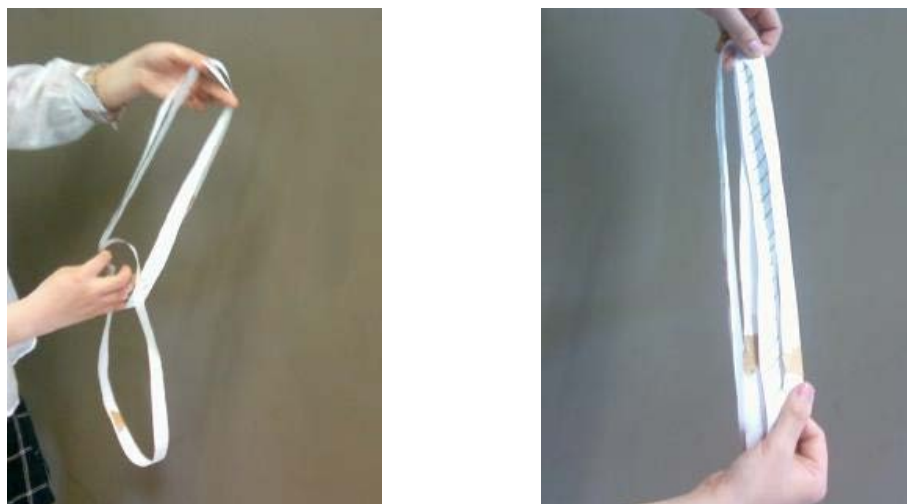


Figure 4.

This challenge is interesting because it requires imagination, spatial view and a good understanding of Möbius strips' geometrical properties.

The students can be lead now to the notion of *topological invariants* of a surface. In particular one gets the invariants of the Möbius strip, that allow precise prediction of the geometrical and topological properties of the child Möbius strips, in this case: the number of half twists m , number of cuts and place of cut.

Based on the experiments and the theoretical results, the students are finally asked to fill in the last row of the table in the Appendix A. They are shown in this way that the mathematical results can be different from what the intuition would suggest.

4. Conclusions

After the lecture we have asked 77 Thai high school students, 15 male (19.5%) and 62 female (80.5%) to fill in a Questionnaire about the lecture (see Appendix B). Our conclusions here are based on their answers.

4.1. Thai vs. Japanese students

We have conducted a similar project in Japan in 2010 for students of the Fourth Tokai High school, Sapporo, Japan and after the lecture the students are asked to answer a similar questionnaire. Here is some exploratory comparative analysis of the answers.

Firstly, 38% of all Thai students find the lecture “*very interesting*” (that is 40% of all male students, 37% of all female students) and 57% “*interesting*” (53% male, 58% female), comparing with 38% and 28% of all Japanese students, respectively. Hence, this kind of intuitive approach to advanced math can be appealing to high

school students. Thai students find the project more interesting than the Japanese ones.

Next, 40% of all Thai students have said that they can “*understand very well*” the math in this lecture (that is 27% male, 44% female) and 52% that they can “*understand*” (that is 67% male, 48% female), comparing with 18% and 59% of all Japanese students, respectively. That is geometry and topology is very good subject for showing the beauty of math and that can be understood by the majority of high school students if taught intuitively. Thai students are more confident in their understanding of the subject than Japanese students.

Moreover, 23% of students have said that their “*interest for studying math has clearly increased*” after this lecture (27% male, 23% female) and 42% have said that their “*interest has increased a little*” (40% male, 42% female) comparing with 27% and 18% of Japanese students, respectively. A 30% of Thai students said “*no change*” comparing with a 41% of Japanese students. The interest for math of Thai students is partially stimulated in a larger percentage than in the Japanese students, while the resistance to change is larger in Japanese students than in Thai.

After this lecture a 25% of Thai students “*like math more*” and a 44% “*like it little more*” comparing with a 38% and 29% in Japanese students, respectively. The relatively large amount of Japanese students that like math more shows that the math education in Japan should emphasize more the intuitive approach to math.

After this lecture 23% of Thai students “*feel*” and 40% “*feel little that they would like to hear more about math*” comparing with 18% and 9% in Japanese students, respectively, a 27% of Thai students and 45% of Japanese students “*can’t say anything*” about this. Thai students have more scientific curiosity than Japanese students.

This lecture “*helped*” 27% of Thai students and “*little helped*” 52% in “*deciding their plan after graduation*”, comparing with 23% in Japanese students. On the other hand, 19% of Thai students “*can’t say*” anything, comparing to 50% in Japanese students. Thai students seem use better the information for planning the future.

Finally, 30% of Thai students would “*definitely want*” and 45% “*maybe would like*” to hear in future similar lectures comparing with 45% and 36% in Japanese students. The Japanese students are more willing to hear this kind of lectures in future because the intuitive approach to math is almost absent in Japanese math education.

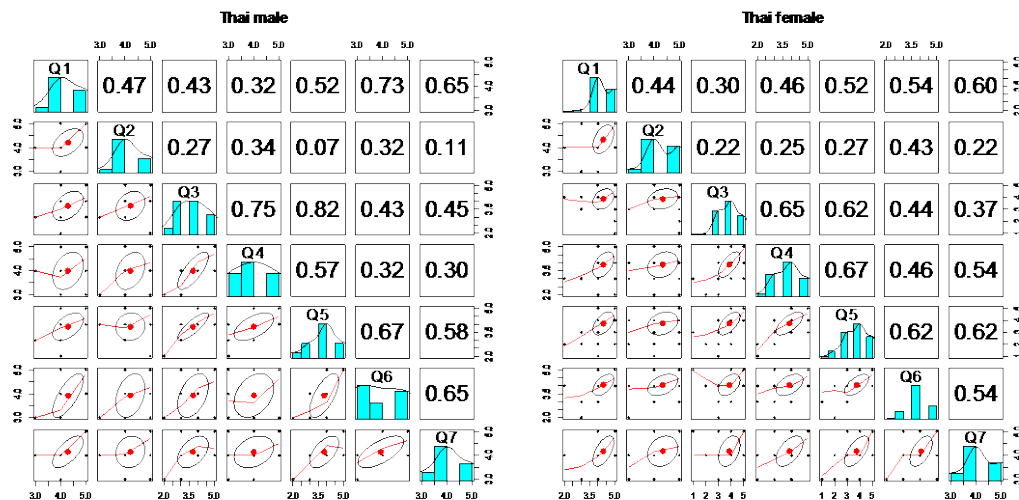


Figure 5. A scatter plot of matrices, with bivariate scatter plots below the diagonal, histograms on the diagonal, and the Pearson correlation above the diagonal obtained by the Psych package in R. Linear regression fits are also shown.

However, even finding the subject interesting and even having a certain understanding of the math in it, this is not enough to commit the students to pursue a mathematical career. In future we will add more applications from the real world show that math is indispensable for the research and development of any field of science.

4.2. Thai male vs. Thai female students

Next, we perform a statistical analysis of the data in the questionnaire of Thai male and female data (Figure 5).

A good correlation can be seen between Q3, Q5 (correlation coefficients 0.82 and 0.62 for male and female students, respectively), Q3, Q4 (0.74 male, 0.65 female), Q1, Q6 (0.73 male, 0.54 female). Students whose interest in math increased would like to hear more about math in general and Geometry in particular, they also like math more. The students, who find this lecture interesting, also find it helpful in deciding their plan after graduation. A medium correlation between Q1, Q7 (0.65 male, 0.60 female), Q5, Q7 (0.58 male, 0.62 female) can be seen.

We remark that the correlation of Q2 with other questions is quite low, that is the level of understanding in Thai students is not correlated with the interest for math.

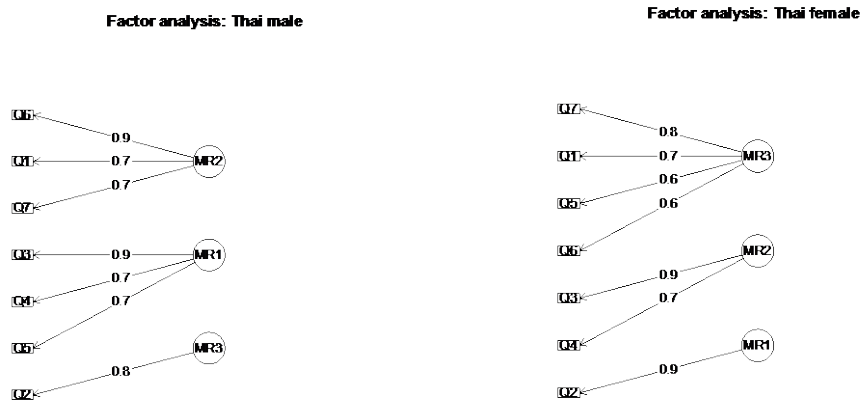


Figure 6. Factor analysis by Psych package in R.

Next, we have performed a factor analysis (varimax method) by the Psych package in R (Figure 5, Table I). The analysis has grouped the questions in 3 groups:

- math affinity factor : Q3, Q4, Q5;
- interest-development factor: Q1, Q6, Q7;
- understanding factor: Q2

for male students and

- math affinity factor: Q3, Q4;
- interest-development factor: Q1, Q5, Q6, Q7;
- understanding factor: Q2

for female students, respectively.

Male Thai students				Female Thai students			
Questions	Affinity	Interest-develop	Understan ding	Questions	Affinity	Interest-develop	Understan ding
Q1	0.19	0.74	0.41	Q1	0.17	0.67	0.31
Q2	0.14	0.17	0.76	Q2	0.10	0.19	0.94
Q3	0.93	0.28	0.13	Q3	0.86	0.18	0.11
Q4	0.73	0.14	0.27	Q4	0.65	0.45	0.10
Q5	0.72	0.63	-0.19	Q5	0.59	0.60	0.10
Q6	0.19	0.87	0.15	Q6	0.35	0.57	0.30
Q7	0.26	0.67	0.09	Q7	0.27	0.78	0.04

% of variance explained	39%	39%	17%	% of variance explained	36%	42%	23%
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Table I. The standardized loading pattern after Varimax rotation of principal components.

For male students the math affinity elements: *interest, preference for math and desire for further study* load together, while for female students *interest increasing, preference for math* load together. On the other hand, the math interest and development elements: *interesting content, carrier planning, scientific curiosity* grouped together for male students while *interesting content, desire for further study, carrier planning, and scientific curiosity* load together for female students.

We remark that the *desire for further study* grouped with *interest and preference for math* in male students, while in the female students it is associated with *interesting content, carrier planning, and scientific curiosity*. This might show the pragmatism of female students.

Finally, the *understanding* element forms an independent factor. Even without understanding all the details, students can be attracted to math by similar lectures based on the intuitive teaching than on formulas and graphs.

Appendix A.

Half twists (m)	How many cuts	Cutting place	Results (number of strips)
1	1	middle	Double length m=4 (one strip)
1	1	trisection	m=4(one strip), m=1(another strip)
1	2	middle	Double length m=4 (two)
1	2	trisection	m=4(two),m=1(one)
1	3	middle	Double length m=4(one)
1	3	trisection	m=4(three), m=1(one)

2	1	middle	m=2(two)
2	2	middle	m=2(three)
2	3	middle	m=2(four)
3	1	middle	Double length m=8 (one)
3	1	trisection	m=6 (one), m=3 (one)
3	2	middle	Double length m=8(two)
4	1	middle	m=4(two)
4	2	middle	m=4(three)

Table II. The relationship between number of half twists, number and place of cuts

Appendix B. The questionnaire

Q1. Was this lecture interesting for you?

1. Very interesting
2. Little interesting
3. Can't say
4. Not such interesting
5. Very boring

Q2. Did you understand the mathematics in this lecture?

1. I understood very well
2. I understood a little
3. Can't say
4. I couldn't understood very well
5. I couldn't understand at all.

Q3. Did your interest to further study Mathematics changed?

1. My interest for Math has clearly increased
2. My interest for Math has increased a little
3. No change

4. My interest for Math has decreased a little
5. My interest for Math has clearly decreased.

Q4. After hearing this lecture, do you like Mathematics more?

1. I like more than before
2. I like it a little more
3. Can't say
4. I hate it a little
5. I definitely hate Mathematics.

Q5. After hearing this lecture, do you feel that you would like to learn more about Math in general, in particular geometry?

1. I feel so
2. I feel so a little
3. Can't say
4. I don't think so
5. I definitely don't think so

Q6. Related to Q5 above. Did this lecture help you in deciding your plan after graduation?

1. It helped
2. Little help
3. Can't say
4. Not much help
5. Not help at all.

Q7. Would you like to hear in the future similar lectures?

1. Definitely yes.
2. Maybe yes.
3. Can't say
4. Maybe not.
5. Definitely not.

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**The Problems of Implementation of Educational Reform Initiatives after *Brown* and
Their Impact on African American Children and Their Community**

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Abstract

This paper is organized into five sections and the first section: presents the famous *Brown v. Board of Education* decision of the United States Supreme Court and discusses some of the problems with the implementation of *Brown*. Section two consists of a thorough discussion of the approximately 416 years of discriminations against African-Americans citizens and public school students in the United States. These discriminations include: slavery, *Plessy v. Ferguson*, and the ‘massive resistance’ movement to public school desegregation, which was a major problem for the implementation of the *Brown* decisions. Additional forms of discrimination against African-American public school students, such as school finance disparities, tracking, special education placements, and discipline practices are also discussed in section two. Section three is based on several of the educational innovations implemented in public schools to address the discriminations against African-American citizens and public school students, since the *Brown* decisions. These innovations include: charter schools, vouchers, and privatization, which began to be implemented in the public schools, during the 1960s, 1970s, and 1990s. Some of the problems with implementation of these strategies were also discussed in section three. Section four reviews some of the more recent efforts to improve public education for the nation’s African-American public schools students. These innovations were attempts at reforming and/or restructuring the public educational system. Also, section four addresses the question of accountability, which gained stature as the nation began to focus more attention on: results and holding the public educational system responsible for its efforts with African-American public school students. Some of the school reform and restructuring strategies discussed in this section include: *Leave No Child Behind* and the *Race to the Top*, which are Federal programs of advanced by Presidents George W. Bush and Barrack Obama. The fifth and final section of the paper is an analysis of the information presented in each of the other sections. It also includes ten recommendations from the author, which he believes are necessary, if the nation is to genuinely attempt to improve public education for African-American students. This, he maintains will not be possible without first fully appreciating the gravity of the 416 and more years of discrimination waged against African-American citizens and public school students in the United States. The longevity and scope of the discriminations against African-American people and public school students cannot be minimized, as it has in the past. Instead, the discriminations must be fully addressed with real strategies designed to fully ameliorate the cumulative effects of these discriminations.

Keywords: discrimination, school reform, accountability, restructuring, *Brown v. Board of Education*, privatization, *No Child Left Behind*, and *Race to the Top*.

Background

This paper is about selected educational reforms designed to improve the performance of African American public school students in the United States. The reforms, in question, took place after the famous *Brown* decisions of the United States Supreme Court (*Brown v. Board of Education*, 1964, 1965). Why has there been such an emphasis on improving public education for the nation's African-American public school students? The author maintains there are at least three reasons for this interest. First, research suggests that individuals and societies are better off, when the citizens are well-educated (Garms, W.I. 1978 and Hanushek, Woessmann, Jamison, & Jamison, 2008). Second, overtime there have been many governmental discriminatory actions against African-American citizens and public school students in the United States. These discriminations have made it difficult, if not impossible, for the majority of African-Americans to get an equal educational opportunity (The National Advisory Commission on Kerner Report, 1968, pp 15-17 and Kozol, 1991). Third, there is a very large academic achievement gap between white and African-American public school students and this gap favors the majority group (Lee, 2002). The paper contains five sections, which are: *Brown v. Board of Education*, discriminations, and educational innovations after *Brown*, accountability in public education, and analysis, recommendations, and conclusion. Since, this paper is about the famous *Brown* decisions, which were adjudicated by the United States Supreme in reaction to litigation brought by African-American plaintiffs, who desired to eliminate the longstanding practice of segregating students by race in public education. Because of this, background on *Brown* is essential to providing the context for our discussion of strategies to eradicate the effects of segregation in public education on African-American students. Further, a discussion of *Brown*, provides additional background for readers, who might not be familiar with efforts to improve public education for African-American public school students, since *Brown* and why? Understanding *Brown* is an important part of this effort and will be presented in the first section of the paper.

Section One- *Brown v. Board of Education*

The effects of racial isolation in the United States have: been well-documented and had a detrimental effect on the quality of education for millions of African-American public school students (Hanushek, Kain, & Rivkin (2009). The history of racial segregation in the public schools of the United States has been extensive. However, racial segregation in schools was not limited to any geographical region, although school segregation was much worse in the Southern section of the country. School racial segregation was an outgrowth of the institution of slavery, *Plessy v. Ferguson*, 1898, Jim Crow laws, and the “separate but equal doctrine”. These discriminations were against African-Americans, including public school students and controlled all social interactions between African-Americans and whites for many years. Futile efforts to eradicate the vestiges of racial segregation in public education were attempted, when the plaintiffs in *Brown* successively argued that segregation in public education violated the “equal protection clause,” of *The Fourteenth Amendment to the United States Constitution of 1787*. On May 17, 1954, at 12:52 P.M., Chief Justice Warren announced the famous and unanimous decision of the United States Supreme Court in *Brown* and ended the “separate but equal” doctrine (Raffel, 2002a, p. 23). During the hearing on *Brown*, there was considerable expert testimony from psychologist, Kenneth Clark, who presented compelling evidence that segregation was harmful to African-American public school students (Stephan, 1980a, p. 17). The original *Brown* decision did not result in the immediate desegregation of the public schools, because the Court called for ending the practice of admitting students to public schools on the basis of race, with “all deliberate speed.” Thus, the Supreme Court did not provide an immediate remedy for segregation in

public education; instead it remanded each case to Federal district courts for their review. The United States Supreme Court handed down another decision on school desegregation, one year later in **Brown II**. This decision gave the Federal district court's authority to: determine if dual public school systems should be eliminated, give local school districts and state government responsibility for implementing the decisions of the courts, and required the courts to monitor implementation of their orders (Stephen, 1980b, p. 16-17). Since, much of the nation was not in favor of the *Brown* decisions; whites developed additional governmental discriminatory actions to prevent African-American students from attending the same schools, as whites. These actions were referred to as the 'massive resistance movement', which was waged in the Southern region of the country and kept African-American students from attending the same schools with white students.

Massive Resistance. In spite of the bold ruling of the United States Supreme Court, the highest court in the land, racial segregation continued unabated in the public schools for an additional 16 years, due to the "massive resistance" movement, which began in 1954 and was organized to resist public school racial desegregation. This movement was centered in Richmond, Virginia, the former capital of the Confederate States of America and used state and local governments as instruments to keep public schools from becoming racially integrated. An example of this was the community of Farmville, Virginia, which closed its public schools in order to avoid racially integrating them. This was done in defiance of the Supreme Court's decisions in *Brown* and meant that African-American public school students in Farmville had no place to go for public education. On the other hand, white students were able to attend special schools created and funded for them by local and state government. Public school desegregation was not valued by many white citizens, especially in the Southern region of the country, whose educational system had been based a racial segregation. In recent years, the public schools in the United States have, once again, become racially segregated. Some reasons for the re-segregation of public education in the United States will be discussed in the next few paragraphs (Pratt, 1992a).

The Re-segregation of Public Education. The public schools in the United States have been in various stages of re-segregation every since the Federal district courts began to order them to be racially desegregated. There have been several reasons for this, including 'white flight', the longstanding practice of housing segregation, and several rulings against public school desegregation by the United States Supreme Court (Hunter, 2004, pp. 218-220).

White Flight. There have been a number of reasons why public schools have become re-segregated, including 'white flight', which was the practice of whites moving their children from racially desegregated public school districts to schools that had few, if any African-American students. These movements were to both public and private schools. As a former Division Superintendent of the Richmond (Virginia) Public Schools, I personally witnessed 'white flight' and its effect on student enrollments and the racial composition of a school district. Data on the Richmond Public School's enrollment and racial composition for a two year period are presented in the following table.

Table One: Enrollment and Racial Composition of Richmond (Virginia) Publics, 1970-1972 and 1971 and 1972

School Year	Total Enrollment	African-American Students	Percentage of Total Enrollment	White Students	Percentage of Total Enrollment
1970-1971	50,114	28,975	57.82	21,139	42.18
1971-1972	44,436	28,010	63.03	16,429	36.97

The numbers in this table indicate there was a decline of 4,710 white students in the first two years of public school desegregation in the Richmond Public Schools. Most of this decline was associated with ‘white flight’ and the remainder could be attributed to a reduction in the cumulative birthrate for whites in Richmond. Also, there was a decline of only 965 African-American children, during this same period, and this decline was mostly associated with a cumulative reduction in the birthrate for African-Americans children (Pratt, 1992b).

Housing Segregation. Racial segregation is still prevalent in public education in United States and the ‘separate but equal’ doctrine has been kept alive by the pattern of racially segregated housing. This practice continues, even after the United States Congress passed *The Fair Housing Law of 1968*, which prohibited discrimination in housing. Housing segregation has continued today primarily because of economic reasons, which has permitted the races to be segregated in neighborhood schools. This condition also has perpetuated the long established two-tier system of public education in the United States. One system is for economically better off white students and the other is for economically poor African-American students. Overall, this system ensures that white students receive a superior education; while most African-American students are consigned to a substandard one (Kozol, 1991 and Orfield, Schley, Glass, & Reardon, 1993). Several more decisions of the Supreme Court have had a negative impact on public school desegregation.

More Recent Court Decisions in School Desegregation. Some of the more recent decisions of the United States Supreme Court have rejected the use of race-conscious policies to remedy past discrimination against African-American public school students, such as: *Bradley v. Richmond School Board*, 1974; *Milliken v. Bradley*, 1977; *Parents Involved in Community Schools v. Seattle School District No. 1*; and *Meredith v. Jefferson County Public Schools (Louisville)*, 2007. In the later decisions, public schools districts were restricted from assigning pupils to schools based on race, even if it reduced racial isolation and increased student diversity. Within the backdrop of other United States Supreme Court cases, this decision has dealt a fatal blow to public school desegregation and it is now leading the country away from racial and ethnic diversity (Wells & Frankenberg, 2007a). Asquith (2006) said legal experts predicted the U.S. Supreme Court would strike down the use of race-conscious admission policies in these cases. This change, they maintain was attributed to the appointments of Justices Roberts and Alito, who are: conservatives and opposed to using race as criteria to assign public school pupils to schools, even if it improves student diversity and addresses years of racial segregation. Some view the decisions of the Supreme Court in the Seattle, Washington and Jefferson County, Kentucky cases as shortsighted; on the contrary, public school districts like these were going against popular beliefs by maintaining a commitment to student diversity. The approach of using race, as a factor in student assignment decisions has never been popular in the United States, even after the landmark decision of 1954 in *Brown* and continues to be unpopular even today. Seattle and Louisville public school district’s efforts to achieve student diversity were laudable and designed to permit minority students to: attend schools out-of-their racially segregated neighborhoods and thereby improving racial diversity. Because of the Supreme Court decision affecting these school districts, they are more likely to become re-segregated.

We will continue our discussion by presenting several major historic discriminations that have limited the quality of public education for African-American students in the United States. These discriminations are why there are efforts to improve the education of African-American public school students in the United States. These discriminations will be presented in section two of this paper.

Section Two- Discriminations

Unfortunately, race has played an important role in the development of the system of public education in the United States, and the role of race in public education has been very detrimental to the quality of education for African-Americans (Clark, 1953). Limited space does not permit us to have a thorough discussion of all governmental discriminations waged against African-American citizens and public school students in this country. Also, it is not possible to present the discriminations in a purely chronological order, as many of them overlap and because of this, might appear as repetitive. Nevertheless, the discussion will begin with the most insidious form of discrimination and the one with the most profound and negative impact on the ability of African-Americans to receive a high quality public education in the United States, slavery.

Slavery. Slavery began in the United States in 1600, when thousands of Africans were brought to the colonies in America in overcrowded and unsanitary slave ships. They were brought to the country expressly to provide labor to support the economic development of this region. During slavery, hundreds of thousands of Africans were forced to: work for free and harvest crops, such as cotton and tobacco in the Southern colonies. They were also used to build the streets, roads, and the stately buildings that make up this region of the country. One such building was the White House built in 1792 and is now the current home of the first African-American President of the United States, Barack Obama (Martin, 2013 and Holland, 2007). Slavery, at best, was an institution of blatant racism with African-Americans being bought and sold in auction blocks throughout the South. They were: treated as animals, forced to breed, beaten and lynched; and their families were separated. Slavery operated continuously in the United States, until President Abraham Lincoln signed the *Emancipation Proclamation in 1863*, which gave slaves their freedom. During the approximately 263 years of slavery, it was unlawful to educate slaves. They were not supposed to read or write, which of course significantly hampered their economic, social, and cognitive development. Unfortunately, slavery was not the only period in our nation's history that provided discriminatory experiences for African-Americans citizens and public school students. For slaves, even after being declared as free; they were beset with additional governmental discriminatory actions, designed to deny them with full citizenship. This period of history has been referred to as Jim Crow.

Jim Crow. Jim Crow laws were put into place in the Southern region of the country and were designed to ensure that African-Americans were not given the same rights as white Americans. These laws supported legal racial segregation for African-Americans from whites and were enacted between 1876 and 1965. We could say, that Jim Crow laws continued the longstanding practice of 'white privilege' developed in slavery. Jim Crow laws also gave whites the upper hand, over African-Americans in public schools, colleges and universities, restaurants, hotels, housing, employment, railroads and other forms of transportation. These laws also kept African-Americans from using the same restrooms, drinking fountains, and from serving in the same United States military units, as whites. It is clear, that Jim Crow laws advanced opportunities for whites; while at the same time limiting them for African-Americans. During this period, whites received the best jobs and were paid

higher salaries for the same work (Kendell, 2012). They were also admitted to the best colleges and universities and were able to purchase the best housing (Hally, Eshleman, & Mahadevan, 2011). One of the additional detrimental governmental discriminatory actions against African-Americans in the United States was ensconced in the ruling of the United States Supreme Court, known as *Plessy*.

***Plessy v. Ferguson*.** The ‘separate but equal’ doctrine became the law of the land with the decision in *Plessy v. Ferguson*, 1896. It was the result of litigation brought by an African-American, Homer Ferguson, who was discriminated against by a railroad company, when he was denied a seat in the white section of the train. *Plessy* legalized the common practice of providing ‘separate but equal’ conditions for African-Americans in the United States, which affected all aspects of their lives, including public education. This doctrine made it legal to: separate public school students by race and provide them with different levels of education, as long as it was said to be equal. Most referred to this as providing African-Americans with a ‘separate but unequal’ education, as public schools were funded differently. White schools received more financial support and African-Americans public school students were given old hand-me-down textbooks from the white schools. The country operated under the ‘separate but equal’ doctrine for approximately 69 years. Some of the governmental discriminatory actions against African-Americans began to be addressed when President Harry Truman issued *Executive Order No. 9981 on July 26, 1948*, which desegregated the nation’s military. Other governmental discriminatory actions were addressed when the United States Congress passed *The Civil Rights Act of 1964*, which eliminated racial segregation in eating accommodations, etc. *The Voting Rights Act of 1965* finally gave African-Americans the right to vote in public elections. The governmental discriminatory action that permitted segregating public school students by race was addressed in *Brown v. Board of Education*, 1954, 1955. Still, another costly discrimination against African-American public school students was the disparity in public school funding, which goes on today.

School Finance Disparity. There are three levels of governmental funding for public education in the United States. They are the: Federal, state, and local levels with each, except the Federal level, providing funding based on the ability to pay. This system produces a huge funding disparity between wealthy school districts and those, who were situated in economically poor communities and who incidentally serve many African-American public school students. The uneven funding of public education in the United States has been an additional method of discrimination against African-American public school students. This system has supported a two-tiered public educational system, one for the rich, and primarily white; and the other for the poor and primarily African-American (Kozol, J., 1991b). Starting with the 1970s, numerous lawsuits were initially filed in Federal courts, but were determined to not have jurisdiction over public education in our country. Later, lawsuits were filed in state courts, which forced several states to reduce the funding gap between wealthy and poor school districts. It should be noted, that the discriminatory system of funding for public education in the United States has been going on for many years. These changes have made the system of financing public education in the United States less discriminatory against the nation’s African-American public school students (Alexander & Alexander, 2009). Other practices in public schools with a discriminatory effect on the education of African-American public school students, includes tracking, special education placements, and discipline, which will be discussed in the next paragraphs.

Tracking. For many years, public school students in the United States were placed in their classes, based on a rigid system of grouping, called tracking. Tracking is based on past student achievement and separates high achieving students from lower achieving students. The practice of tracking can also restrict students: exposure to high levels of the school's curriculum, quality of learning, ability to take advanced course, opportunity to score well on standardized tests. Historically, a disproportionate number of African-American students were placed in the lower academic tracks in schools. These placements have also carried a stigma that has limited the mobility of African-American students to higher levels of learning and university and college placements (Loveless, 2013, p.11).

Special Education Placements. Special education placements often limit a student's exposure to higher levels of a school's curriculum, limit their quality of learning, restrict their ability to take advanced course, and limit their opportunity to score well on standardized tests. A disproportionate number of African-American students have been placed in special education classes. These placements have also carried a stigma used to restrict access of African-American students to higher levels of learning and university and college placements (Sullivan & Artiles, 2011, pp.1535-1536).

School Discipline Practices. Public school students are disciplined for misbehavior in their schools, including receiving school suspensions, which keeps them from attending classes. Unfortunately, African-American public school students have been disproportionately suspended and even expelled from their public schools. Expelling a student from school is a very harsh disciplinary action and one that removes a student from the school on a permanent basis. These practices have limited many African-American students from learning, restricted their ability to take advanced courses, reduced their opportunity to score well on standardized tests, and even made it difficult for them to complete their education (Ferriss, 2013, 7). In section three, we will discuss some of the educational innovations designed to improve the quality of public education for African-American students, after *Brown*.

Section Three-Selected Education Innovations after *Brown*

There are many educational interventions that have been promulgated by various levels of government to improve the education of African-American public school students, after *Brown*. In the limited space available in this paper, some of these interventions will be discussed. Before doing so, the reader should understand that our system of public education,

differs considerably from other industrialized countries in the world. In the United States, public education is meted out by a Federalist system of three distinct layers of government, Federal, state, and local. According to the United States Constitution, public education is the primary responsibility of the 50 state governments, which have created approximately 14,000 local public school districts. There were: 50 million public school students, attending 99,000 public schools, with 591 billion dollars being projected to be spend on their education in the fall of 2013 (Guthrie & Schuermann, 2010 and the U.S. Department of Education, 2013). The system of public education in the United States is: cumbersome, inefficient, and characterized by duplication (Kirst & Wirt, 2009a). Our discussion of educational innovations after *Brown* begins with a discussion of elementary and secondary education.

The Elementary and Secondary of Education Act. President Lyndon Johnson launched a major initiative of the Federal government called the "war on poverty," which was designed to give job skills to poor African-Americans and other poor citizens. Unfortunately, the nation was not ready for this policy and it was not sustained, perhaps because of the Vietnam

War. An additional policy initiative of the Johnson administration was the *Elementary and Secondary Education (ESEA) Act of 1965 (ESEA) (P.L. 89-10)*, which was enacted by Congress and represented a major expansion of the role of the Federal government in public education. *ESEA* was implemented, while the nation was being confronted with the aftermath of decisions of the United States Supreme Court on public school desegregation. This compensatory education program was passed during the period of “massive resistance” to public school desegregation. *ESEA* was designed to address the deep educational deficits of many African-American public school students, which in a large measure, could be traced to some of the discriminations discussed in the second section of this paper. Federal funds to improve public education for underachieving students were given to states, and then through states, to public school districts. The funds were for students with limited wealth and poor academic success, many of whom were African-American (American Youth Policy Forum, 2005, p. 1; Robelen, E.W., 2005b, pp. 1 & 42). This legislation contained many regulations and made the Federal government a major player in public education (Wirt & Kirst, 1982a). An additional strategy to improve education for African-American public school students in the big cities was decentralization and community control.

Decentralization and Community Control. There were several models of school administrative decentralization, which were designed to increase parental involvement in their children’s education. Most models were created by boards of education; after they received complaints from African-American parents over the educational quality their children were receiving. These parents wanted to increase their role in public education and did so in school districts, such as Seattle, Washington; Baltimore, Maryland; Detroit, Michigan; Richmond, Virginia; and Washington DC. In the late 1960s and early 1970s, these systems began to cluster schools into sub-districts or decentralized administrative areas, which increased communication and gave parents a greater voice in their children’s education.

In the early 1970s, the author of this paper worked as a regional assistant superintendent in Seattle, Washington and as such was given responsibility for administering schools in the Central Region, a decentralized area of Seattle Public School District, No.1. This sub-district was created by a legal agreement between the Seattle Public School Board of Education and African-American community groups, including the Seattle Urban League. There was an elected parent for each school, who served on the Central Area School Council (CASC). This body met monthly with the administration in order to improve educational quality and communication with the parents. Also, the CASC was involved in providing policy guidance to the Seattle Board of Education (Hunter, 2008).

The most comprehensive example of decentralization was in New York City, the largest public school system in the nation, when the state legislature passed the *Decentralization Act of 1969*. This legislation created 31 sub-districts and resulted in 31 elected school boards, who were given authority to appoint superintendents and principals. Public school administrative decentralization in New York and elsewhere dramatically increased parent involvement in school administration (Murphy & Beck, 1995a, p. 127). A major controversy erupted in New York City’s sub-district, Ocean Hill-Brownville, where African-American parents were so dissatisfied with the efforts of several white principals and teachers that they issued dismissal notices to six administrators and thirteen teachers. This action resulted in the United Federal of Teachers (UFT) conducting three employee strikes, during 1968 (Fantini, et al., 1970, p.160; Campbell, et al, pp. 132-134). Another instructional strategy implemented in large urban public school districts was referred to as magnet schools.

Magnet Schools. Magnet schools became popular in the 1980s, as a means to achieve voluntary public school desegregation. They are highly specialized schools and offer programmatic choices for students, such as: science and mathematics, performance arts, law and justice, etc. They also offer greater choices to parents, regarding which schools their children attend. Several large public school districts offer comprehensive magnet school programs with elementary, middle, and high schools feeding into each other. The Federal also provides financial assistance to some magnet schools. An additional educational strategy designed to improve public education for African-American students was the Effective Schools Movement.

The Effective Schools Movement. The Effective Schools Movement begun in 1979 and was based on the research of Ronald Edmonds, which indicated that schools with high numbers of poor and African-American students could be successful, if their principals utilized five correlates in their administration of schools identified in his research. The mantra for the Effective Schools Movement was ‘that all students can learn’, which became very popular in urban school districts in the United States, many of which were experiencing low-student achievement and high concentrations of African-American students. The correlates for effective schools are:

“The leadership of the principal notable for substantial attention to the quality of instruction; A pervasive and broadly understood instructional focus; An orderly, safe climate conducive to teaching and learning; Teacher behaviors that convey the expectation that all students are expected to obtain at least minimum mastery; and The use of measures of pupil achievement as the basis for program evaluation” (Edmonds, 1979, pp.16-17).

Section three of the paper is on accountability and restructuring and is a presentation of additional educational strategies to improve public education for African-American public school students, after *Brown*.

Section Four- Accountability/Restructuring in Public Education

The nation was becoming very impatient with the rate of improvement in the public educational system. Some felt the whole system should be eliminated, while others maintained it should be radically restructured. According to Reed (1984), who at the time was Assistant Secretary for Elementary and Secondary Education in the U.S. Department of Education (USDOE), in the Reagan Administration, he maintained that the public school accountability movement, including school reform and restructuring was created by a report of the (The National Commission on Excellence, 1983). This report was the brain child of former Secretary of Education, Terrace Bell, who commissioned a blue ribbon panel of leaders to undertake a comparative study of the public education system in the United States with other industrialized nations in the world. This was done to dissuade President Reagan from introducing legislation to support vouchers; thereby using public funds, for private schools. In *A Nation at Risk*, comparisons of comparable student achievement data revealed that students in the United States did not compare favorably with their counterparts in other industrialized nations. The report also used extremely strong language to get the United States on the path to improve public education. Because of this, corporate and business leaders began to be more heavily involved in public education, as they saw a direct relationship to education and corporate profits. Many changes were discussed for the public schools, as a result of *A Nation at Risk*, such as: increased graduation requirements for high school students, a longer school day and year for students, and increased spending for public

education. Unfortunately, the increased high school graduation requirements resulted in the elimination of many vocational, art, and music courses, especially in the high schools. In spite of this, President Reagan still wanted the Federal government to provide tuition tax credits to taxpayers for private school tuition (Wirt & Kirst, 1982b).

School Vouchers. Supporters of voucher programs generally come from the conservative and business communities; as they are advocates for the free enterprise system and private school participation. These groups maintain vouchers will create educational market forces in public education, similar to the forces that drive private schools. Further, this system of competition will force public schools to compete for students; thereby requiring public schools to do a better job or they would not have any students (Coons & Sugarman, 1978; Chubb & Moe 1990). Levin (2001, p. 5) indicated school vouchers would permit families to make decisions about how public money would be spent on their children's education. While on the other hand, opponents fear vouchers would make it easier for middle-class parents to remove their children from public schools; thereby co-signing public schools to institutions for the poor (Brown, 2006a, p. 45). There has never been enough support to allow widespread voucher program implementation. Nevertheless, several efforts for parents to receive monetary vouchers from government for their children's tuition costs to attend private schools have been undertaken. These efforts include: small voucher pilot programs that have operated for low-income students in Cleveland, Milwaukee, and District of Columbia. Also, Florida provided \$4,500 per year vouchers for low-income parents, whose children were attending low-performing schools and enabled them to enroll in private schools (Kronholz, 2002, p. 28). According to Dillon (2005, p. A23), the Florida State Supreme Court decided the voucher program was unconstitutional and scheduled termination of the program in 2006. In 1989, Federal legislation permitted the Secretary of Education to launch a five-year pilot school voucher program. A total of \$14 million per year was provided to fund taxpayer grants of \$7,500 each per year for a total of 1,600 public school students. These opportunity scholarships were limited to children, whose families who earned up to 185 percent of the poverty level and attended low-performing public schools. The Washington, D.C. voucher program began in 2005 and reached full capacity with 1,733 students attending private schools in 2007 (Brown, 2006b, p. 46). There are several additional states with voucher programs. In 2011, Indiana began to offer vouchers for public school students to attend private schools with 3,919 participants in 2011-2012 and the number doubled in the 2012-2013 school year. In 2013-2014, the enrollment cap will be removed, so theoretically every public school student in the state will be eligible to attend the private school of their choice with government money. Participants in the program can take their per pupil amount to pay and use it for part of their private school tuition. The lifting of the cap and the per pupil amount being taken from the public school districts is of great concern to public schools (State Impact, NPR, 2013, p. 5). Another alternative is charter schools which have steadily expanded in the United States. They received support from the Clinton administration, who viewed them as a more acceptable alternative for restructuring public education, than school vouchers (Brown, 2003a, p. 5). Another effort to hold the public schools accountable for the quality of education offered to African-American public school students is charter schools.

Charter Schools. Charter schools are: generally located in urban areas and creations of state legislation. These schools attempt to provide smaller educational communities with fewer governmental regulations. Levin, H. M. (2005, p. 5) reported in 2003, there were 2,695 charter schools serving 684,000 students in 28 states with Arizona, California and North Carolina having the largest numbers. Generally, charter schools are small and serve disadvantaged elementary and middle school students, and they are funded by state and

Federal categorical funds to cover operational costs and in some cases transportation (Brown, 2003b, p. 6). Charter schools may also be operated by educational management companies (EMOs); for-profit or not-for-profit corporations and receive state and Federal funds to cover operational expenses. It may take several years to fully evaluate the effectiveness of charter schools. However, in general students attending charter schools do less well on standardized achievement tests, than their counterparts from traditional public schools. This is true except for charter schools that serve middle-class students (Zermike, 2001, p. 3 & Braun, 2007, pp. 23, 24). (Lubienski & Lubienski, 2006, pp. 651- 652) reported that all systems are failing to properly educate the children of the poor, including all types of public and private schools, and charter schools, as well as schools managed by for-profit companies. They also indicated that when socio-economic status is controlled that public schools do better with students, than charter and private schools. Another strategy of restructuring is school-based management.

School-Based Management. School-based management was an attempt to mirror the practices the high performing work teams of business and industry. This change was designed to give school principals and faculties greater control over decision-making and planning in schools, which was viewed as a means to increase productivity. School-based management became a buzz word in public schools, as school districts began to devolve the locus of control for decision-making to individual schools. However, according to Murphy and Beck (1995a) school-based management was not very successful. Nevertheless, the Illinois legislature passed *The Chicago School Reform Act*, 1988. This legislation included a provision to reallocate financial resources in the Chicago Public Schools (CPS) to local schools and created Local School Councils (LRC) in over 400 schools. LRC's were given sweeping responsibilities for schools, including the right to hire and fire principals and approve operating budgets. In the initial years, LRC's dismissed several school principals (Hess, 1991, pp. 106-111). The locus of control for public education continued to devolve in the United States, initially from public school districts to individual schools, and later to individual teachers. These strategies gave rise to a focus on accountability and a concerted effort to hold the educational system responsible for the results it achieves with public school students, many of whom are African-American. Another method of school restructuring was to privatize the public educational system.

Privatization of Public Education. Berliner & Biddle (1997, pp. 2-5) maintain there has been a well-orchestrated effort by segments of our society to systematically undermine the credibility of public schools. Bracey (2002a, p. 3) & Molnar (1996, p. 4) argue there is a war being waged on public schools. They identified the enemies are conservative foundations, media, higher education, business and industry, Christian and political conservatives, and the enemy within. Most groups mentioned do not require definitions; however, the enemy within is worthy of discussion. According to Bracey, the enemy within is comprised of governors, state boards of education, and legislators, who have created unreasonably high pass rates for state accountability tests for public school students. This, he maintains is part of the justification for privatizing public schools (pp. 13-14).

Interest in Privatization. Why is there so much interest in privatizing public education? Murphy (1996, pp. 66-68) identified several reasons for this, including the following:

- There is a rising tide of discontent about public education's ability to properly educate students.
- Citizens are concerned about the rising cost of government and want some relief.
- There is a perception that government is attempting to do more than it should.

- There is poor performance in the public sector, including education.
- People are disgruntled with the huge bureaucracy of government and education.
- Concern over the focus of government from providing services to now transferring income and wealth from certain groups to others, i.e. affirmative action.
- Prolonged budgetary pressures that cities and states are facing.
- Mounting pressure to address infrastructure problems in cities and states, i.e. the need to repair or replace bridges, roads, and schools.
- The resurgence of the political right and its increasing control over government.
- The backlash against government.
- The expansion of pro-market forces.
- Increase interest in the political system pointing us toward greater privatization of government services.
- The interest in the private sector to find new markets.

What is privatization? Kent (1987, p. 4) defines privatization as “the process of transferring functions previously performed by government, usually at zero or below full-cost to the private sector and reflects the full costs of production.” Kolderie (1986, pp. 286-290) says privatization is a process of transference, involving both “provision” and “production” from governmental units. Contracting out is by far the best known and most widely used form of privatization in public education, perhaps because it enables government to retain some control over services (Clarkson, 1989, p. 144). Privatization must also be viewed as political strategy designed to simulate educational improvements and is most often used in low-performing schools in urban communities. These schools serve students, who come: from predominately African-American and poor socio-economic backgrounds. The parents of these students do not have sufficient economic and political power to fend off the profit motives of persons, who want to privatize their children’s schools. In this case, “so-called” educational reformers, who are proposing radical solutions to the educational problems of urban schools, are in the traditional sense opponents if not enemies of the residents in these communities (Brown, 2006c, p. 39). Lieberman (1989, pp. 6-7) described the modes of privatization as including:

- Contracting with independent contractors
- Vouchers
- Load shedding
- Franchising
- Subsidies to nongovernmental suppliers
- Voluntary service
- Sale of government assets
- Construction or purchase of public facilities with leaseback arrangements.

Why Contract Out? There is a long history of contracting out in public education and most of these involvements are in non-instructional areas. These areas are numerous, have existed for decades and can be found in a significant number of public school districts, including pupil transportation, food services, energy management, building maintenance, custodian and ground services, and data processing (Hunter, 1995, p. 143). According to Beales and O’Leary (1993, p. 4) public school districts have spent \$78.4 billion on contracting out with private providers for non-instructional services. Ross (1987, p. 10) indicated the most common reason for contracting out was an anticipated cost savings on the part of government. This is because governmental agencies are strapped for money and

believe they will save funds by contracting out services with private providers. However, this is not always the case. Sometimes, government spends more on contracted services; than they would spend by providing the services themselves (Walsh, 1995a, p. 195 & Orr, 1999a, pp. 152 and 154).

Success of For-profit Companies. A primary interest of this paper is on the “soft services” contracted with for-profit companies in public education. How have for-profit companies fared in providing “soft services” by operating public schools? Have they increased efficiency, effectiveness, and reduced the cost of government by providing these services. For illustration, let us review what happened in one public school district that contracted with a for-profit company, Educational Alternatives, Inc. (EAI). EAI was to operate several public schools in the Baltimore City (Maryland) Public Schools for which they received a five-year contract. Walsh (1995b, p. 195) reported that EAI was given eight million dollars more in a two-year period to operate these schools, than the public school system spent to operate similar schools, within the same time period. Walsh’s view was supported by the work of others, who also reported the city of Baltimore spent more money on the EAI experiment, than they would have without it. And, student achievement in the schools managed by EAI, did not show a higher gain in student achievement than did other similar public schools in Baltimore (Bracey, 2002b, p. 109). These data, although limited, suggest that not all for-profit companies are able to achieve greater efficiencies and academic success than public schools. Recently, a blue ribbon panel in Philadelphia reported that private management companies, who have been managing schools in that city, had not been as successful in improving public education, as similar district managed schools. Moreover, this panel has called for a return to district management of the schools and the elimination of for-profit companies in Philadelphia (Parents United for Public Education (2009, p.1). Other methods to hold public schools accountable are the standards movement and state accountability models.

The Early Standards Movement and State Accountability Models. During the late 1980s and early 1990s, an education summit was conducted in Charlottesville, Virginia, for the nation’s governors and was conveyed by the first President Bush. The summit resulted in the “standards movement” and the development of comprehensive statewide systems of accountability. Most state accountability models developed during this period include the following elements:

- o Standards identifying what students were supposed to know and be able to do in all major areas of the curriculum.
- o Annual administrations of statewide assessments designed to determine whether students met state expectations on curriculum standards.
- o State report cards on each school presenting student achievement on statewide assessments.
- o Statewide rating systems to classify schools into groups indicating how well students performed on statewide assessments.
- o Systems providing technical assistance to schools that failed to meet established expectations on state standards.
- o Systems of rewards for schools that met expectations on statewide assessments, including pay bonuses for school teachers, etc.
- o Systems of sanctions enabling state government to takeover schools that performed poorly on statewide assessments (Hunter, 2002, pp. 4-5).

Another accountability strategy for public education has been school and district takeovers.

School and District Takeovers. School takeovers are a drastic step for an educational agency and consist of replacing the teachers and principals in a failing schools. This technique has been used by state departments of education to address low-performing schools in several public school districts, such as Baltimore City (Maryland) Public Schools, where the state took over several elementary schools. Large urban public school districts have also taken over low-performing schools. Prince Georges County (Maryland) Public Schools replaced the principal and teachers at low-performing schools in this district. Finally, state governments have passed legislation to permit takeovers of school districts, such as the large school district of Chicago, Illinois, and Detroit, Michigan, where boards of education were dissolved and school superintendents were replaced with chief operating officers (Hunter & Donahoo, 2001, pp. 21-23). The most comprehensive accountability strategy has been President George W. Bush's program called, *Leave No Child Behind*.

Leave No Child Behind. After receiving strong approval from a bipartisan Congress with votes of 87-10 in the Senate and 381-41 in the House of Representative, *The No Child Left Behind Act (NCLB) of 2001 (PL 107-110)* was signed into law by President Bush on January 8, 2002. NCLB was based on President Bush's educational reform agenda from when he was governor of Texas and was part of his 2000 presidential campaign slogan, "Leave No Child Behind." NCLB is clearly the largest education bill passed by Congress, consisting of 300,000 words and 1,100 pages (Jehlen & Winans, 2005, p. 1). President Bush submitted a request for \$56 billion in discretionary funding for the Department of Education in FY 2006, including funding for NCLB. This request increased spending for public education by \$25.3 billion and was up by nearly \$1 billion over the previous year's request. NCLB represents the reauthorization of several important pieces of Federal legislation, including *The Elementary and Secondary Education Act of 1965 (ESEA)*. ESEA, Title I is the largest program for which President Bush requested \$13.3 billion in FY 2006 and provides compensatory education for public school students from low-income backgrounds (U.S. Department of Education, 2005a). There are several components to NCLB that have made it so sweeping with regard to its impact on public education. Today, NCLB is still effect. Some of components of the legislation are listed below:

- State assessments are required annually for every state and school district in the nation.
- Student test data must be disaggregated by race, sex, and socio-economic status. These data must be widely reported.
- Adequate yearly progress of every student must be report against the requirement standards for performance and reported by every state and public school district. Schools and school districts must indicate if they have reached the annual performance targets established in the legislation.
- School and district report cards are published annually and indicate if the unit has met the required achievement goal or achieved Adequate Yearly Progress (AYP).
- School Improvement plans are required of schools or districts that do not make AYP.
- Sanctions and rewards must be provided for schools that fail to meet required standards and those who met the standards should receive rewards.
- States and school districts are given flexibility with regard to their use of the Federal funds they are provided.
- Schools and districts must use effect research in developing their school and district improvement plans.
- Schools and districts must employee highly qualified teachers and aides and report on those that are not qualified.

- School transfers must be provided to students who attend schools that do not make AYP. These students can transfer to schools that are making AYP.
- Supplemental educational services must be made available to students who are not making AYP.
- Students must be permitted to transfer from schools that are not safe to schools they are given free transportation must be provided to students who are opting out of the low performing or unsafe school or to receive supplemental academic services (Hunter, 2002b, pp. 4-5; U.S. Department of Education, 2005b).

President Obama's plan for public education is: called the "Race to the Top" and being implemented at the same time as NCLB, because he was unable to get Congress to revise *ESEA*, when it was scheduled for renewal (Michelman (2012, p. 1). A discussion of "Race to the Top" is presented in the next few paragraphs.

Race to the Top. President Obama used the 'carrot and stick' approach to improve public education and to hold the system accountable. The 'carrot and stick' approach can be characterized as the Federal government providing clear directions of where it wants public education to go and then by providing large sums of money to entice states and or school districts to accept the desired changes for taking the money. The Obama administration used over four billion dollars of discretionary funds from the *American Recovery and Reinvestment Act* to reform the nation's K-12 educational system. These funds are part of what is called by Secretary of Education, Arne Duncan, the *Race to the Top* and were part of the economic stimulus legislation enacted shortly after President Obama took office in January, 2009. Under this legislation, states are required to: establish more charter schools and eliminate the barriers that prohibit tying teacher pay to student test scores, thus permitting performance pay for teachers. California was prohibited from tying teacher pay to student academic performance by law. Because of this, the state was initially ineligible to participate in the Obama program. Also, the Obama administration required states to demonstrate increased school achievement results for students and for the states to specify how they will work with other states to develop common academic assessment systems. The Obama administration used most of the stimulus money to plug the huge budget gap in state funding for public education and to protect teacher jobs (Grunwald (2010a, p. 1). Because of the 'Great Recession', there was a tremendous need for funding in each state, which would envisioned would use the funds to keep teachers and other governmental employees from losing their jobs. Governors were anxious to receive these Federal funds and quickly proposed several educational reforms in their states. By making these changes, they became eligible for the Obama administration funds. In many cases, applicant states were required to pass legislation to: expand the number of charter schools, permit merit pay for teachers that was tied to the academic performance of students, and allow parents to transfer their children from low-performing schools. Of course, some of these changes were not popular with teachers, especially the large and politically influential teacher unions (Grunwald (2010b, p. 2). Dillon (2009, p. 1) reported that state legislatures in Florida, Illinois, California, New York, and Oregon introduced legislation to unionize teachers in charter schools. This was being done in anticipation of the requirement of Obama's *Race to the Top* to expand the number of charter schools in their states. Because of space limitations only two requirements of the *Race to the Top* program will be discussed in this paper. They are the common state standards and teacher pay for performance.

Common Core State Standards. The past year, Common Core State Standards (CCSS) have been developed by many states under President Obama's educational program called a *Race to the Top*. Leadership for development of the CCSS was provided by the Council of

Chief School Officers, which represents the Chief State Officers of the 50 states. Also, persons representing business and industry were involved in the development of the CCSS. These persons sought to provide a clear set of rigorous standards for English and language arts and mathematics. The process included the development of specific learning outcomes needed to assess schools ability to prepare students for college and careers in business and industry. By January, 2011, 40 states and the District of Columbia had formally or informally committed to adopt the standards. These states were also required to: develop new assessments and align their curriculums to the new CCSS. Federal funds through the *Race to the Top* initiative have been provided for the development of the new assessments. This effort represents a breakthrough for public education in the United States. Because of *Race to the Top*, there will be common core standards and assessments for approximately 40 out of the 50 states. Currently in the United States, each of the 50 states has their own set of curriculum standards and assessments (Kirst &Wirt, 2009b).

Teacher Pay for Performance. Even though there are several requirements for the Obama funding, the primary focus was on merit or performance pay systems for public school teachers. What systems have been used to compensate public school teachers in the United States? Is merit or performance-based teacher pay systems an entirely new educational reform strategy? Have there been merit or performance pay systems for teachers in the United States and where is the innovation coming from? What is the rationale, research, or experience that supports the enactment of such systems? Will the implementation of merit or performance-based pay systems result in improvements in student academic performance? Some of these questions are discussed in this paper.

Teacher Quality. Stonge, Gareis, and Little (2006) stated that:

“Teacher quality matters, it’s no doubt, individual, family, community, and other beyond-school factors dramatically affect student success. Nonetheless, of all the factors with influence on schools, teacher quality is among the most, if not the most, powerful variable affecting student achievement. Research and theory on motivation have carefully considered whether financial incentives are beneficial to productivity in the workplace. At some level, people do work because of the compensation they receive.”

There are a number of systems that have used merit to compensate teachers, including the traditional experience and education based salary schedule. Other forms of teacher pay are career ladders, extra duty pay, incentive pay, and of course merit pay or performance-based pay. In the United State most public school teachers are compensated by using the experience and education based salary schedule. This system permits teachers to receive higher pay for years of experience and additional courses and degrees taken, regardless of their performance with students. Career ladder systems pay teachers differentially based on their status, thus teachers who are identified as master teachers receive higher salaries. Correspondingly, teachers who have been designated as beginning teachers receive lower compensation. Criterion for these designations is unclear, and they are: very subjective, and usually not based directly on the academic performance of students. Extra duty pay systems have been created to compensate teachers for additional duties, such areas as coaching and leading various student activity programs, which are not usually based directly on the academic performance of students (Brandt, 1990, p. 147). Brandt and Ganander (1987, p. 150) stated that:

“By way of contrast, at least four of the eleven incentive pay programs in Virginia are barely selective at all, that is extra pay is not restricted to those who teach best but is given instead to a relatively high percentage of all teachers, 96 percent of all teachers in the two systems who meet other eligibility requirements on other factors.”

Merit or performance-based pay systems are relatively new and have been resisted by teacher employee unions. What is merit pay? Bacharach, Lipsky and Shedd (1984a) says that merit pay:

“A compensation system that links the salaries of individual teachers to the evaluation of their performance and generally ties salaries to assessments of the form and content of a teacher’s activities in the classroom, while new style merit pay system ties salaries to student scores on standardized tests. ”

Arguments in Support of Merit Pay. There are a number of arguments favoring merit or performance-based pay systems for teachers. Some believe the linking of rewards to student academic assessments will increase teacher motivation and performance. It could also give principals and other administrators an opportunity to exercise strong leadership control over teachers. Proponents of these systems also maintain that excellent teachers will remain in the classroom because of greater economic rewards. Also, some maintain merit pay or performance-based systems will allow a higher caliber of recruits to go into the teaching profession.

Argument against Merit Pay. Of course, there are arguments against merit or performance-based pay systems. Extrinsic rewards can harm performance, especially when teachers adopt an instrumental orientation toward their work with students. Because of this, intrinsic motivation becomes less important and high teacher performance based on more important values is lost. Also, the difficulty of coming up with effective ways to measure teacher performance is used as an argument against merit or performance-based systems Bacharach, Lipsky and Shedd (1984b).

The fifth and final section of the paper provides conclusions and an analysis of efforts to improve public education for African-American public school students after *Brown*.

Section Five: Analysis, Recommendations, and Conclusion

The author provides several observations in section four based on his analysis of the other sections of this work. This analysis was accomplished from the lens of an experienced public school superintendent, who practiced his craft in three large urban school districts with high concentrations of African-American public school students. Also, much of the writer’s administration in public education occurred during the period when some of the educational innovations presented in this paper were being implemented.

Observations on Discrimination. In section two of this paper, several examples of longstanding racial discriminations directed at African-American citizens and public school students were discussed. Unfortunately, these discriminations went on for many years and have had a cumulative and profound effect on educational quality for African-Americans. For purpose of illustration, consider the combined impacts of the three most insidious forms of discrimination against African-Americans citizens and public school students. These discriminations operated for a total of (416) years: slavery lasted for (263) years, Jim Crow

for (89) years, and *Plessy* for (64) years. In addition, there were several additional forms of discrimination presented in section two that are still: tolling and today are having a direct impact on the educational quality of African-American public school students. These include: school finance discrimination, tracking, discipline, special education placements, and so forth. Consider the combined effect of all these discriminations on African-Americans and their public school educational quality. Many take the position, that these discriminations have ended and today do not affect the quality of education for African-Americans. The author disagrees with this position; and he espouses the view that these discriminations have and will continue to impact on the quality of education for African-Americans for many years to come. This will certainly be true, unless something radical and responsive is done to systematically address the (416) plus years of discrimination. Unfortunately, the cumulative effects of the vestiges of segregation have continued unabated and have been passed on from generation to generation, such as poverty and poor education. Because of this understanding, the following recommendations are presented to address the magnitude of the discriminations faced by African-American public school students and to improve their public education (Cuban & Roden, 1971).

Recommendations Relating to Observations on Discrimination. One, the longstanding practice of discrimination against African-Americans citizens and public school students, in all of its forms, must end immediately. Two, reparations should be provided for African-Americans, whose roots can be traced to any two of the three major discriminations: slavery, the period of the *Separate but Equal Doctrine*, or the Jim Crow era. Reparations are necessary to put the country on record of acknowledging the many years of discrimination waged against African-American people and public school students. It represents an effort to atone for the many years of injustice in a meaningful and significant way. The reparations should be substantial at least a million dollars for each individual African-American. This award could be made by providing recipients with a combining the following: the purchase of land, vouchers for university or technical school tuition, including complete expenses, for housing, food, etc., the purchase of stocks and bonds, and cash. Three, educational funding in all public school districts should be totally equalized for every public schools and school districts in the United States, regardless of its geographic location.

Observations on Poverty. Another observation is the extremely high incidence of poverty among African-American citizens in the United States. Perhaps, President Johnson had it right in the 1960s, when he attempted to wage a “war on poverty”. If this effort had been successful, then perhaps today, we would not have all of the educational quality problems present in our educational system for African-American public school students. If, a war on poverty is to be waged anywhere in the world, it should be waged in the United States; for we are the most wealthy and powerful nation in the world. Further, we have: been vocal on the economic conditions of people in other nations and recommended that nations take steps to eliminate poverty in their countries. This has been done, while at the same time, we have permitted poverty to thrive in our own country. Past administrations of the Federal government have done little to eradicate poverty in the United States; instead they has pursued other policy objectives, such as waging wars in Iraqi and Afghanistan and giving huge income tax breaks to the wealthy. Finally, these changes are necessary, if we are to be viewed as the world’s leader for social justice and are to develop our social capital. For, as social capital grows so does human capital (Coleman, J., 1987, p. 35; Kozol, J., 1991c ; Hodgkinson, 1991a, p. 14; Coleman, 1998, p. 96). Today, statistics on poverty in the United States are staggering and have gotten worst. The poverty rate for all persons in the United States masks considerably the variation between racial and ethnic subgroups. Poverty rates

for African-Americans and Hispanics greatly exceed the national average. In 2010, 27.4 percent of African-Americans were poor, compared to 9.9 percent of non-Hispanic whites and 12.1 percent of Asians. Children are also a disproportionate share of the poor. In 2010, children were 24 percent of the total population, but 36 percent of the poor population were children (The U.S. Bureau of the Census, 2010). The high rates of poverty for African-Americans and for children make the job of public education extremely difficult for public schools. Because of this, the writer has offered the following recommendation.

Recommendation Relating to Observations on Poverty. Four, the Federal government should guarantee a living wage, that is well above the current poverty line, for each individual and an additional one for every family in the United States. These funds should eliminate the need for such services as welfare payments and unemployment insurance, which will reduce the cost of this recommendation.

Observations on Diversity. My examination of the data presented on public school desegregation is unsettling; particularly the role of the United States Supreme Court is playing in the re-segregation of the public schools. There is data that supports the importance of maintaining diversity of educational institutions, including the public schools. My experience with public school desegregation suggests that ‘white flight’ is a greater problem for city public school district, than it is for school districts that are countywide. People will move out-of-a-city, but rarely will move from the entire county, unless they have employment outside of these geographic areas (Hunter (2004, p. 2). Because of this, the writer has offered the following recommendation.

Recommendation Relating to Observations on Diversity. Five, the Federal government should require states to guarantee diversity and racially and socio-economically diverse student bodies in all public schools.

Observations on Comprehensive Education Agenda. My analysis of the educational policy initiatives implemented to address the vestiges of segregation and the problem of the achievement gap between African-American and white public school students, begs for a comprehensive long-term plan for public education. Many policies have been implemented and disregarded before they have had an adequate opportunity to succeed. Lee (2002, p. 8) reported t the achievement gap between white and African-American students was lower during the 1980s and 1990s, than at time he wrote his article. This information suggests that educational innovations, during this period, might have been working better than the strategies that replaced them. It takes time for educational change to be successfully implemented and some researchers indicated it takes a minimum of 3-5 years to successfully implement change in a school (Fullan, 1991). Consider the time it must take to successful implement a change at the school district, state, or national levels. This is in part, attributed to the political system and our process of replacing elected politicians every four years or so. New politicians often have completely different views of what needs to be done to improve public education, than the people they have replaced.

Another observation is that public educators are no longer a major voice in deciding which programs are going to be implemented in public education. This is evident in the discussion of school vouchers and the privatization of public education. Also, evaluation data indicate several initiatives are not successful. In spite of a lack of success, they are implemented because politicians and business leaders support them and believe they will solve the educational problems of African-American public school students. Some of these

initiatives have resulted in a less comprehensive public education for students today, as opposed to other times in the past. Today, many students do not study the arts and technical educational and this is because students are required to take too many academic courses to compete with other industrialized countries. The result of this has been a lack job entry skills for many of today's high school students. The author maintains a large and comprehensive educational policy agenda is needed. Further, that such as plan should be based on realism and good research. It should not be based on an individual's ideas, regardless of how influential the person is who generated them. Several additional recommendations from the author are presented and flow from this discussion and his analysis:

Recommendations Relating to Observations on Comprehensive Education Agenda.

Six, the Federal government should require states to develop a comprehensive educational program based on current research. Seven, public educators views should be the primary basis for the strategies presented in the comprehensive education program, referenced in the number sixth recommendation. Eight, the comprehensive plan should include specific strategies to improve education for mathematics and science, similar to the *National Defense Education Act of 1958 (P.L. 85-864; 72 Stat. 1580)*. Nine, the comprehensive plan should include specific strategies to improve the technical education or vocational training for high school students. Ten, adequate time should be allotted to give educational innovations time to work.

Conclusion

In conclusion, the author acknowledges these recommendations are costly, mostly because of a lack of commitment to: the plight of the poor and the needs of African-American citizens and public school students. Yet, African-American, who were systematically discriminated against must be made whole and government who created and sanctioned these acts has an obligation to deal with it. Also, it is the author's position that taking African-Americans out-of-poverty is necessary to give them an equal chance with the rest of the population, who have benefitted from their suffering and were given additional resources and time given to them by a corrupt system. Hodgkinson (1991b, p. 16) and Cuban (2003) wrote that for school reform to work, there is a need for a strong and sincere commitment with sufficient resources and understanding to address the bottom third of the students in our educational system. These are students, who have been the subject of this paper many of whom are African-American and face poverty on a daily basis. By: tinkering around the edges and not facing the problems head-on, we create the impression that something is being done to address the vestiges of segregation and it is not. Had we acted much earlier, it would have been easier and less costly; but today with poverty growing and only modest improvements in public education, it is going to take a major commitment on the part of the nation to improve public education for African-American public school students in the United States.

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Statement about the Author

Dr. Hunter earned his Doctorate of Education Degree from the University of California at Berkeley and is well-known in two fields of education, public educational administration and higher education administration. He spent approximately one-half of his career working in the public schools as a teacher, principal, assistant and associate superintendent, and as a district superintendent of three large urban public school districts in the cities of Richmond, Virginia; Dayton, Ohio, and Baltimore, Maryland. He has worked in several states, including California, Washington, Virginia, Ohio, and Maryland. His career in higher education was spent working as a Professor of Educational Administration and Head of the Organization and Leadership Department (EOL) at the University of Illinois at Urbana-Champaign (UIUC). The EOL Department consisted of two teaching programs, public school administration and higher education administration. He was also a Professor of Educational Administration and Program Coordinator of School Administration Program at the University of North Carolina at Chapel Hill. Dr. Hunter has also done international work in education as a teacher in Tokyo, Japan, where he worked for the United States Department of the Air Force; Associate Director for Education for the United States Department of Defense Education Activity; United States Fulbright Scholar at the Bahrain Teacher College at the University of Bahrain in the Kingdom of Bahrain; and presenter of his scholarly research at many international educational conferences in the Bahamas, China, India, Kingdom of Bahrain, Philippines, Spain, Turkey, Thailand, Vietnam, and the United Kingdom. He was also a trustee of St. Paul's College, an HBCU in Virginia; and was member of the Durham County Board of Education. In addition, he has served on many state and local community boards and received several awards, including the: Doctor of Humane Letters Degree from the University of Richmond and Good Government Award from the Richmond, Virginia First Club. Dr. Hunter has: given (55) academic presentations and written many publications, including (7) co-edited books, (28) book chapters, (45) journal and magazine articles, (18) monographs, and (2) grant applications.

The professionalization of university teachers and development

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Abstract:

In most countries in order to be able to teach in schools (elementary and secondary), people need to hold a specialist teaching qualification, and meet teacher registration standards. However, this is rarely the case for university teaching. Typically, employment at a university is by subject qualifications and experience. However, holding a university degree, even a Ph.D., and having expertise in a subject does not necessarily mean that a person has the knowledge and skills to effectively teach that subject. This paper explores the movement towards the professionalization of university teaching and the benefits that this brings for improved quality of graduates and for national development. It examines the policies and practices within Australia and elsewhere in areas of employment qualifications, university teaching qualifications, on the job professional development and performance review, and promotion criteria, and addresses some of the theoretical positions of university teaching and learning. It describes a Graduate Certificate programme within an Australian University, and provides an opportunity for discussion of the role that university education plays in national development and how the professionalization of university teaching can contribute to improve the quality of University education.

Introduction

Almost all professions have specialized training programs that prepare people for their profession. In addition, many professions have professional associations that act as bodies to recognize qualifications and often provide training courses of their own and professional accreditation. If someone trains to be a lawyer, there are university courses that provide this training, and then subsequently through the court system there are typically processes to admit people to various types of law practices. The same is said for medical training, where prospective doctors undertake University training and education, and then through internships obtained further experience and qualifications and registration as a doctor. In education, in most countries, prospective teachers undertake programs that are focused on the particular sector of education that people will work in. For example, if someone wishes to work in elementary schools they will undertake a teacher training program in a university or teachers College that will prepare them for teaching the elementary curriculum and using appropriate pedagogy for working in elementary schools and working with young children. Likewise, if someone wants to become a high school teacher, typically they undertake a training programme, which provides them with content background of the subject area that they will teach and skills and knowledge in teaching appropriate to their subject and the needs of the children that they will be teaching.

However, we very often have a different situation when it comes to the profession of university teaching. Typically, in order to be a lecturer in a university people typically need to have a high level university qualification. In many developing countries, and China is a good example, a Masters qualification is usually the minimum requirement. However, in many places in order to be employed in the University in a teaching academic role a Ph.D. is often the required or the desired qualification. Rarely are there professional university award training programs for university teaching academic positions.

This situation has evolved out of the culture and practices that define what universities are, and what they do. Central to a university is a focus on the generation of knowledge, through research and scholarship. Universities reward and recognise the importance of research, and of publication. There seems to be in many cases an assumption that if a person has a high level qualification such as a Ph.D., and some experience in their field, that the knowledge that they have of their profession is enough to be able to teach their subject. A Ph.D. is a qualification that recognises that the candidate has engaged in a sustained piece of research, and so therefore has research skills, and produced a detailed well-written thesis. They have a qualification in research, but in no place within a Ph.D. program, or even in other general master degrees, are people provided with knowledge and skills about teaching adults within a university

Now if we think logically about this there is a fundamental flaw. The fundamental flaw is that we assume that having achieved such a high level qualification surely equips a person with enough knowledge that they will be able to impart some of that knowledge. This is illogical, or at the least problematic and debatable.

If we think about the role of the university teaching academic they actually have two concurrent professions. First of all, they had the profession that is recognised in the

professional qualification and in the subject area of their study and previous work. So, if someone for example is a mathematician, and has undertaken a series of qualifications with a focus on mathematics; say a BA, an MA and possibly even a Ph.D., where they may have researched a particular highly focused problem of mathematics. This person is recognised as a mathematician. He or she has knowledge in mathematics and can apply that knowledge, and if they have undertaken a Ph.D. they have made an original contribution to the field of mathematics at the highest level. They would be recognised within the field of practice (profession) of mathematics. However, if this person is now employed within University, to conduct further research in the field of mathematics, but also to teach undergraduate and postgraduate students, then they have a second profession. The second profession is as a mathematics educator, in this case at the university level. Now, we recognise their qualifications that defined their first profession, a mathematician, however the professional practice requirements of a university level mathematics educator and the associated knowledge and skills of these are not well represented, or generally valued.

There is another issue. Those of you that have undertaken a university education probably have some memories of your university learning experiences. If like me these will be varied. I recall (only just) some of my lecturers at University as appalling. They would enter the lecture theatre, and read reams of notes, and students were expected to write furiously, soaking up every word. Some lecturers used the latest technology of the day, an overhead projector, to display copious notes, with students again writing furiously. I recall one lecturer who would walk into the lecture with the textbook, and start reading for one hour, and when the time was up putting a bookmark in the textbook, as the place that he would start next week. Now thankfully these people were rare.

I had other lecturers, who I believe were good teachers. They were organised, well presented and some of them engaged in interactive activities. Some of them also used motivating techniques to help generate interest. I cannot recall what qualifications these people had, and no doubt some had education qualifications, while others who were good teachers learnt the skills on the job or were just naturals.

Universities have changed significantly over the last twenty years or so. Last century universities were elite institutions, with only the highest school achievers having the opportunity to undertake a university course. This natural filter ensured that the calibre and quality of students entering university was high, and very often such students, because of their abilities, were able to engage in learning, often despite the poor attention to teaching that they received. This situation has changed. In many countries there has been significant growth in university enrolments. Following universal primary education and secondary education, now in place in most countries, governments have provided increased funding to their university sector and opened up places. Such expansion is in response to improving standards of living and educational achievement, and demand from citizens for university education opportunity. However, this growth also reflects in many countries the expansion of various sectors and industries and the need for highly qualified and skilled workers.

Education is good for national development. All countries are interested in national development. National development is a broad term that incorporates a whole range of social, health and economic issues. Primarily is about improving the lives of people who make up the country. This is one of the purposes of government, to create

environments, systems and processes that will lead to an overall improvement of developmental indicators, and the consequences of this it is more often an improvement of the individual lives of citizens. Education helps individuals by providing them with knowledge and skills to improve their lives, and the lives of their families. National development is also about economic development. About facilitating resources and mobilising people as skilled workers so that industries can grow and per capita GDP increase. Economic development also results in greater cash resources for governments through taxation, which further allows governments to provide resources for their people. Increasingly, education and training of the population, which goes beyond basic education, is necessary. The modern industrialised world requires educated and skilled workers. In this context, universities are becoming increasingly important as a place for high-level education and skills training, and the provision of specialist manpower, necessary in modern economies. The university sector is now an important component of a country's national development.

In 1970, only 3% cent of Australians held bachelor degrees. In 2012 almost 37% young Australians had degrees, and this rate is growing towards a target of 40% that the Australian government is set to achieve by 2025 (Davis, 2013. p13). Such numbers and substantial growth may not be the same in other countries but the trends of growth are similar across many. Within every country there are many more universities today than they were fifty years ago, and the numbers of students undertaking undergraduate and graduate programs have increased considerably. In some cases institutions themselves have grown significantly with increased enrolments and to accommodate these numbers universities have built more buildings and in some cases more campuses. Expansion of the university sector across Asian nations through the establishment of new universities and the expansion of existing universities is a feature of the development of these Asian countries (Levin, 2010).

There are several consequences to the expansion of the sector. First of all, as is indicated above, there is pressure on infrastructure and facilities and this requires significant investment, typically from government in order to accommodate growth. This is an expensive exercise, and so therefore what is also happened is that institutions have been pushed into having to often provide education and training in more efficient ways, such as through expanding class sizes and increases in staff workloads.

Another consequence is that with an opening up of admission to university, despite the fact that the quality and output of high school graduates has improved, there has been less of a filtering affect then was in the past. Consequently, many more are now entering university who may only have a minimum set of knowledge and skills enabling them to engage in University learning. This is putting additional pressure on teaching and quality learning outcomes. In the past when universities accepted elite students ensuring their education was relatively easy, even under poor teaching and learning conditions. However, with increasing numbers of students who may well be marginal in their knowledge and skills, or indeed may have gaps in these, universities need to become more focused on ensuring that such gaps are field and that teaching within the University is of a high calibre leading to better facilitation of student learning.

Governments as well are becoming stretched within their ability to fully fund their university sectors. And, given the amount of funding involved, governments are particularly keen to ensure that they get value for their money. That is, there are improvements in the quality of university teaching leading to better student learning outcomes. Governments are also keen to ensure that the greatest levels of efficiency are achieved, and through restricted funding and grants this puts back on the University pressure to increase quality, decrease cost per student and increase efficiency.

In addition to government funding, in many cases students are required to either pay for their tuition or make a contribution to this. In Australia, free and open higher education became available in 1974, and this continued until the late 1980s (Chapman & Nicholls, 2013). In 1989 this driving government introduced the Higher Education Contribution Scheme (HECS), which required students to make a percentage contribution through the taxation system to their education. That is, they were given a part loan against their fees which they paid back later in life when they were employed. Over the years the percentage of the amount required to be paid back has increased substantially, and as well universities have been able to run full fee paying courses that allowed students to enter a course even if the government funded quota for it was full.

Students then have become a key stakeholder in the funding of their own education, and consequently they have a vested interest in ensuring that they get value for their dollar. The student voice has also been further amplified as universities have sought to increase the quality of the learning experience, students have opportunities to provide comment and feedback and criticism. The University as a business enterprise is dependent upon student enrolments. If students are unsatisfied, then the bad news travels fast, and this may impact future student enrolments, and directly impact university funding either through government subsidies attached to student enrolments or the reduced student fee paying contributions.

Australian universities therefore have a very real interest in ensuring that the learning experiences of students is not only optimised and efficient but also provides an experience that the learner wants and needs. The consequences of not doing this can impact on universities budget, and this in turn impacts employment of staff.

The professionalization of university teaching

The professionalization of university teaching has its roots in the contextual descriptions above. But other factors have also impacted on changes that are taking affect. Over the last thirty years or so there has been much more interest in the area of researching teaching and learning in colleges and universities. Adult education theory has made a contribution to this and there had been other studies more directed to higher education specifically. Numerous books and papers describe the range of theories and practices in higher education teaching and learning (Biggs & Tang, 2011; Moore, 2013; Smart & Paulsen, 2011;). This research is born out of the need to understand higher education teaching and the learning but also to improve practices. The area of distance education in particular has also made a significant contribution to research in university teaching and learning (Hauser, 2013). One distinguishing feature of all professions is that they have a research and a literature base. This is certainly the case now for higher education teaching and learning.

Much of this research and literature deals with approaches to teaching and learning in higher education. Higher education context are more complex today than they were in the past. The massification of higher education means that institutions and teaching staff need to deal with students with a much more diverse range of skills and needs (Shaw, 2005). Learning theory also prescribes that deep learning occurs when students are actively engaged in their learning and in participation (Weigel, 2002). Learning theories often prescribe the need for teaching to be learner centred such that the needs of the learner are incorporated into the pedagogical models used (Wright, 2011). Theories of Constructivism, originally applied in school contexts are increasingly being found in higher education teaching and learning (Cobb & Steffe, 2011). More recently research has focused on the application of technology within university teaching and learning environments where universities are increasingly using Information Communication Technology (ICT) in support of learning and for off-campus teaching (Beetham & Sharpe, 2013).

There is evidence that affective university teachers choose specific approaches linked to a desire to improve this student learning (Chalmers, 2008) and where teachers are motivated to teach well they will be generally affective (Feldman, 2007). It is therefore important at the recruitment level to take into account these characteristics if a university is interested in improving student learning outcomes.

However, typically University recruitment of academic teaching staff does not focus on teaching performance but more often on research performance. Despite the fact that in most cases staff are expected to conduct both these roles. The whole culture of the university sector is still dominated by a prestigious view of research above teaching, despite the fact that by far the dominant funding of university activity is linked to teaching. The criteria for promotion typically use in universities also frequently works against a focus on teaching. By simply changing the way that universities recruit staff, and the priorities of qualifications and experience in this process more waited to good teaching performance would have a positive effect on any university.

In the past University academics rarely received focused training and preparation for their teaching roles. In many cases they were just dropped into the job and expected to pick up what to do through trial and error. Rather than starting from the point of view of learning, learning needs and pedagogy, they typically started from their deep knowledge of their subject and their subject expertise, and drew upon their own experiences and observations of university teaching. Such an approach clearly has its limitations and is inappropriate given the changing nature of universities and the learning requirements that now exist. University teaching requires a professional approach, an approach grounded in contemporary theories and practices, and teachers cannot depend upon their own experiences, many which are inappropriate in today's contexts. University teachers need to learn to teach in university.

It is also quite ironic that universities have a focus on preparing their students at the highest level as competent and well rounded in their discipline and professions, often themselves do not prepare their own teaching staff in the same way or require the same kinds of quality benchmarks.

A changing international approach

There have been changes occurring in different countries in the professionalization of University teaching. Increasingly we find in many Western universities programmes to better select, orientate, support and even train academic teaching staff. In addition, the culture is changing. Teaching, and support of teaching excellence is becoming a feature of some universities. This is reflected in things like centres for and learning and teaching, which provide support and training and resources for teaching. Additionally, many universities have teaching and learning grants to promote innovation, excellent teaching awards at school, faculty and university level. In Australia, we have a national University Teacher of the Year award presented by the Australian Prime Minister. Initial teacher training as a requirement for teaching academics is now established in several countries such as Norway, the United Kingdom, and Finland (Postareff, Lindblom-Ylänne, & Nevgi, 2007). Some countries have registration boards for university teachers. One such country is the United Kingdom with their Higher Education Academy providing academic staff with professional recognition. However, despite these few initiatives, there is still much need internationally for a further change in thinking and practices.

However, simply putting in place these kinds of initiatives is not enough. In order to further develop the professionalization of university teaching recognised systematic processes need to be in place. Central to these is the need for university teachers to undertake a formal, comprehensive course that provides them with essential knowledge and skills, and recognition of this through a university award. Many Australian universities now offer a Graduate Certificate in University Teaching. These programs are typically equivalent to 6 months study and normally offered part time, and inflexible modes to allow maximum opportunity for engagement. However the vast minority of the Australian teaching academics has formal qualifications in how to teach (Edwards, Bexley & Richardson, 2011)

Charles Darwin University

Charles Darwin University may be considered as an example of the professionalization of university teaching in Australia. A formal certificate program in university teaching has been in place now for over 15 years. However, over this time the program has adapted and changed in order to meet particular requirements. The current program is a Graduate Certificate in Higher Education Teaching and Learning. It comprises of four courses. These are:

- EPL410 The Practice of Teaching and Learning
- EPL411 Teaching and Learning Methods and Media
- EPL412 Assessment, Evaluation and Support
- EPL413 Independent Professional Practice

Every new staff member that is appointed as a lecturer at the University at the levels of Tutor, and lecturer (grade A&B) must either have an equivalent qualification or be willing to undertake the qualification as a part of their probation. However, lecturers that are appointed at level C (Senior Lecturer) are not required to undertake the course nor are Associate Professors or full Professors. These requirements are built into the

University's regulations. There is no clear rationale as to why some teaching staff are required to undertake the course while others are not.

In addition, the University promotion policy now incorporates a compulsory section where any teaching staff member must have the Graduate Certificate even at the Professor levels in order to get promoted. This has further increased the recognition and value associated with the Certificate. With these requirements and incentives the enrolments in the programme has steadily increased, although many staff have not undertaken the programme.

The first course, The Practice of Teaching and Learning, focuses on an introduction to the theoretical principles underlying contemporary university teaching and student learning. It also provides an opportunity for the participant to think about their teaching role, and identify skill and knowledge gaps which they can then put in place a plan to address. It also has some specific skill development and application activities. For example, participants need to identify an area of teaching, choose an appropriate pedagogy and plan a sequence of activities. They then implement this teaching having a peer or colleague sit in and provide critical feedback through discussions afterwards. There are a number of these activities, the idea being to help academics to identify the nature of their teaching and to place them in an active role as a self-directed learner within a support structure to improve their practice.

The second course, Teaching and Learning Methods and Media, further develops the participant's knowledge and skills about contemporary pedagogy and particularly focuses on the use of ICT in education. The University uses a Learning Management System (LMS) as a primary interface for teaching and learning for both on-campus and off-campus students. It is essential for staff to have a good understanding of how the technology works and how to best use it. In addition other media is examined such as various rich media and synchronous and asynchronous tools that lecturers can use in their teaching and in the facilitation of student learning.

The third course, Assessment, Evaluation and Support, provide students with information about contemporary university assessment approaches. At the University we are trying to get away from dominance of end-of-semester examination approach. In almost all courses a process of continuous assessment is used. Some of this assessment is formative, while there are other summative assessment tasks. The LMS provides some tools, which assist in assessment processes. Participants are given examples of assessment regimes and approaches. They are asked to critique the assessment approaches that they by using or that are used in the course that their teaching, and then to reconsider assessment approaches used. One issue that is discussed is how to ensure that their students have an opportunity to demonstrate achievement of course learning outcomes while at the same time not having an onerous workload for students and staff. Teaching and learning evaluation is an important part of contemporary university practices. Students are invited to provide feedback to the University on individual courses and their learning experience. Participants are also provided with information and processes on how to get feedback on the effectiveness of their teaching practices.

The fourth course, Independent Professional Practice, is a supervised project. Usually this is done as the last course in the Certificate program. Students are asked to identify an aspect of the teaching and/or student learning and to complete a project activity

around this. Typically the project constitutes an Action Research Project where the participant identifies an area of practice, sets in place an action to improve the practice, and then collect data on this, usually in the form of critical self reflection. One of the options that but disciplines have in this activity is to write up their report in the form of a journal article. Through this, we are trying to encourage staff who would normally just published in their specialist subject area, to consider publishing in Higher Education Teaching and Learning journals. Increasingly, staff are taking up this option. This is a further reflection of the professionalization of Higher Education Teaching and Learning, where practitioners engage in research and publication within their professional practice.

Discussion

In considering the issues that had been presented above there is still a question that remains as to why such changes in the recognition and professionalization of university teaching and learning are so slow in coming about. As indicated above, one of the reasons for this is the strong culture of practices that many university systems and people in them hold to. Universities typically are independent and self-regulating institutions. Additionally, very often their funding is by block grants that are untied and with no specific requirements for the expenditure, and as independent institutions they can determine the priorities of their expenditure. Under these circumstances, where you have a strong embedded culture and where you have an independence of thinking and action, and also where you have localise control over funding, bringing about change of the core culture of the institution is difficult.

Still, there are other countries where the university sector is strongly embedded into other functions of government and there is less independence. China is an example of this where universities are under the supervision of the Chinese Government either centrally or through the various provinces. In this case, the overarching political and philosophical foundations of the nation further impact the conservative nature of university practices, and in respect of this paper on the professionalization of university teaching. A traditional conservatism of the role and work of universities and of the position of university of lecturers dominates in China, which works against change of university culture.

In the case of Australia and other Western nations changes have been occurring. However, these are typically because of other changes. In Australia these changes are primarily in the way that universities are funded. Australian universities are still independent organisations however, when their funding is tied to student enrolment, and when student enrolment is fluid, there is increased pressure on the institutions to ensure that the "customer" gets what they need and want. The Australian Government is also very concerned to ensure efficiency and that the money is spent effectively, particularly under the tight economic conditions current with the Global Financial Crisis.

However, this paper has not been about the financial problems and issues that face universities. It is about recognising the profession of university teaching in similar ways in which other professions are recognised. If universities are about providing a good education, and every university will claim this, then a university needs to engage in processes that will achieve that goal. Having well-qualified, well-trained and

professionally recognised staff will certainly work towards achieving better educational outcomes.

The situation though in Asian countries seems to be that while university teaching staff are highly valued and respected, there is still not a movement towards the professionalization of these staff. Indeed, when this issue is raised in meetings and in discussion with academics from Asian institutions, typically a ‘rolling eyes’ response and indifference is received.

Conclusion

That the world is changing is undeniable. That international universities are changing is also undeniable. Numbers continue to grow, universities expand, and because of competing job markets, and limitations on employment prospects, the demand for quality further increases. Universities in all countries will have no choice in the future if not already, to address in a more substantial and sustained way improvements in university teaching and learning practice. Such changes are required in order to ensure that countries continue to develop along with communities and the individuals they come up. Within this agenda, further professionalization of University teachers, through the provision of professional qualifications and registration will inevitably be the result.

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Biography of Greg Shaw

Professor Greg Shaw is Associate Dean of Teaching and Learning at Charles Darwin University. He provides leadership under a portfolio of activity relating to teaching and learning. He also co-ordinates and teaches in the Graduate Certificate in Higher Education Teaching and Learning. His research interests include Adult Education, ICT and Education, Developmental Education, and Rural Education. His Ph.D. examines learners experience within a professional development program.

University teaching in China and Australia: a personal, critically comparative, narrative inquiry

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Abstract:

University teaching and learning in China has undertaken significant reform in recent years. University enrollments have expanded dramatically. Policies have required a reconsideration of pedagogy. Increased numbers of citizens with university qualifications is a central component of China's developmental strategy. However, significant issues and problems remain to be addressed and universities are yet to embrace some contemporary international university teaching practices. This paper draws on over 20 years experience of teaching, and leadership in English teaching in a regional Chinese university. It also draws upon a recent one-year visiting scholar experience at an Australian regional University, where it was possible to compare and contrast issues faced by this university with my own, particularly in respect to teaching and learning. This paper uses a comparative narrative research methodology to present and discuss differences in university teaching and learning. It revisits some fundamental questions about the nature of university teaching and learning, the roles of the teacher and learner, the impact of built environments on pedagogy, the impact of learning cultures on teaching and learning and issues and opportunities of using Information Communication Technology in university teaching and learning. It provides an opportunity for sharing experiences and highlighting issues.

University teaching and learning has undergone significant changes since the last century. This change is an international phenomenon, though some countries have experienced more changes than others and some countries have undertaken little change and are still practicing approaches that were used over a century ago. In this article a Narrative Inquiry paradigm (Trahar, 2009) is used to explore differences and similarities of approaches to teaching and learning in China and Australian university. A Narrative Inquiry approach is based upon critical reflection on the stories of the experiences that people have. This paper is primarily based upon the stories of my experiences and my reflection upon these, in an attempt to better understand the context in which I work in, and my practices and the practices of my colleagues and my institution.

My own experience as a university teacher over the last 24 years provides me with an opportunity to consider the changes that have taken place in university teaching in China, particularly in English language teaching where I work. In addition to my experience as a teacher at university in China, I recently had the opportunity of a one- year visiting scholar experience in Australia, which allowed me to observe and experience teaching and learning in that context and also to reflect upon my own practices and the practices of my institution.

This paper provides a critically reflective opportunity using a Narrative Inquiry to investigate and comment upon contemporary university teaching and learning in China. The paper also makes some comments about lessons that can be learnt from practices in both these contexts. Additionally, it also provides me with the opportunity to think further about my work as a university teacher and how I can further develop my own practices and also help others who are working in my institution and more broadly think further about university teaching and learning.

University teaching in China

As is well known, China is a very large country with a very large population – over 1.37 Billion people. Over the last 20 years there has been an explosion of University education in China. Statistics show that by the end of 2012 there are over 2,500 universities and colleges in China, with more than six million new enrollments and nearly 24 million enrollments in total (China Statistical Yearbook, 2013). Over 60% of Chinese high school graduates go on to university study, which is up from 20% in the 1980s (The New York Times, 2010). Undergraduate and graduate student numbers from Chinese universities is increasing at approximately 30% p.a. since 1999 with the number of university graduates quadrupling between 2002 and 2008 (Li, et.al., 2008), and under the current policies and trends this shows no sign of abating.

This boom in graduates in higher education in China has helped provide skilled professional labor for the developing and growing economy. However, for society generally significant

issues have also emerged because of this boom. First, there is evidence of a qualification creep linked to graduate unemployment across many sectors in China. The strong economic development of China continues. However, the number of graduates of universities has outpaced generally the number of jobs available to them. In the past, a bachelor degree may have been quite adequate for employment in a well-placed job. However, increasingly because of the number of bachelor degree graduates, employers are taking the better graduates or graduates with master degrees. Thus, there is increased pressure on graduates to continue on to a master degree in order to be able to get a job, and increased growth in graduate programs. These days though even having a master degree is not the automatic guarantee of an appointment in a favorable position that was the case only a few years ago. We are starting to find a situation where graduates with master degrees have to take lower level appointments or take positions in ‘unfavorable’ rural and isolated areas, and some graduates are not able to get employment (Kuo, 2013).

The second issue is that with increased numbers attending universities, and limited growth in the numbers of universities, program numbers and class sizes have increased dramatically. Academic staff numbers in universities have increased as well, however, academic staff increases have generally not kept pace with the growth in student numbers, and therefore there has been an expansion in individual teaching workloads. Increased workloads and increased student numbers have required some adjustment to pedagogy used. However, many teaching at Chinese universities follow a ‘traditional’ lecture and transmission model approach (Van Dijk, et.al., 2002).

Universities, and the staff teaching in them are under pressure to increase the number of graduates, and increase the quality of student learning. Additionally, as Chinese universities strive to gain international recognition, university teachers are under pressure to increase their own academic standing, such as through research and research publication particularly in international journals and conferences.

As a university teacher in my institution I am expected to improve my own practices and help other colleagues improve their practices to achieve better outcomes for our department and the university. In order to help facilitate improved quality of university teaching the Government provides funds for staff to upgrade the qualifications and to gain experiences, knowledge and skills. These new skills and knowledge can then be passed on and be of benefit to other staff and students. I was recently fortunate in being allocated a one year scholarship by the China Scholarship Council to visit an Australian university as a Visiting Scholar for a year. The idea of the scholarship was to provide me with a sustained period of time to undertake learning and research and have experiences within an Australian university context that I could then draw upon, learn from and apply to my own teaching as well as to

share with colleagues.

A critically comparative Narrative Inquiry approach

Research in education can generally be classified under two broad categories: quantitative research and qualitative research (Ary, et.al, 2010, p22). In China, quantitative research is by far the dominant paradigm. However increasingly qualitative research approaches are being recognised. Qualitative research is about trying to understand the details of phenomena.

It is about trying to understand the meanings and nuances of what is going on. It is not about numbers and statistical analysis but is about the meanings and understandings that people apply to the world as they see it. Typically qualitative data is in the form of text, which is analyzed in various forms and ways. There are numerous approaches within qualitative research, with some approaches more common than others.

Narrative inquiry assumes that we can come to an understanding, and express and give meaning to our lives through stories (Andrews et.al, 2008). Narrative inquiry draws upon hermeneutics and phenomenology and involves gathering of narratives (written, oral, visual) that are focusing on the meanings that people give their experiences, seeking to provide "insight that (befits) the complexity of human lives" (Josselson, R., 2006, p.4). Narrative inquiry is inherently personal and it is conducted from the perspective of people and their stories. In the case of this research paper it is conducted from my perspective. Therefore, the research and the reporting of it here is primarily from a first person perspective, which is typical (Said & Zhang, 2013, p221).

The research that this paper describes involved me engaging in the process of developing "narratives" based on my experiences including my past experiences over 24 years as a teacher at university and my experience during the one-year visiting scholar program. Either concurrently with the development of the narrative or subsequently I engaged in processes of critical self-reflection during my period as a visiting scholar and subsequently on my return to China. In part these reflective processes were assisted by conversations with others; with colleagues and peers, and with other university academics within the Australian university.

I first engaged in a process of attempting to articulate, in writing, my understanding of my perceptions and also my recollections of my experiences. Having collected this writing I further developed my understanding of my views through the discussions that I had with others that helped me to challenge assumptions and in this activity I engaged in processes of critical self-reflection. A reading program that I undertook also assisted this process of critical self-reflection.

Having the luxury of one year at a university as a "scholar" and without having administrative or teaching responsibilities provided me with some wonderful opportunities to engage in

literature. In this experience my supervisor and other academics made suggestions of general readings. However, the engagements of my inquiries lead me into researching other literature that could help me understand and provide meaning. This rich journey of engagement across a whole range of literature that I had not had previous opportunity to access, nor had the time nor inclination to read, opened my mind to both a greater understanding of teaching and learning and education in general, and also raised more questions. The more I read the more I realized I needed to read more.

Reflecting and learning

My reflections began soon after my arrival in Australia.

When I first arrived at the university I was both curious and confused at what I saw and felt. Many things were different to my previous experiences, and I had some problems matching my expectations based on my experiences in China. For example, I desired to take photos of the university gate but I could not find "a gate" like we have in China, where universities typically have walls around them and a defined gated entrance. When I looked for shops on campus to buy my daily necessities and food, there was none. The whole campus was extremely quiet at seven in the evening. Even the architecture was different. Most of the buildings were oddly-looking, neither cube-shaped nor rectangular block. The tallest building on campus was no more than four levels and some looked a little shabby outside, but the university seemed well equipped and spacious inside and out, though I thought it was hard for any strangers to find their way around easily. (From reflective Journal)

I was unfamiliar with the environment that I had come to. At first this unfamiliarity was with the physical environment, but as time went on other aspects of the teaching and learning environment contrasted with my experience.

The university was located in a moderately sized town and provided research and education services to the region. The university serviced an extremely large area comprising one fifth of the total landmass of Australia, but beyond that the university had substantial student numbers coming from all across Australia and also from overseas. In China nearly all students attend university full-time on campus, and live in dormitories on campus. Face-to-face attendance at classes is compulsory. However this is not the case in Australia. At my Australian university over 70% of the students were not located in the town of the university and consequently could not attend face-to-face classes. The university has developed an alternate to face-to-face teaching using Internet based technology and other approaches. I found this very difficult to understand. My own experience as a student then subsequently as a teacher at university presented such a contrast in teaching modes compared to this Australian university. I could not understand how students could effectively learn if they were not in a

physical classroom and listening to and interacting with a teacher. As an English teacher, being able to hear and see students and provide feedback on their responses is important to me. Additionally, I could not understand how it was possible to “trust students” that they were actually paying attention and learning.

In order to actually come to a better understanding of what was going on in these “classes” that were taught at-a-distance, I attended several sessions presented by a number of different lecturers. This required me to use my computer to log-onto to a Learning Management System (LMS) that was used for the interface between students and teacher. The LMS allowed text communication, audio communication and video communication between the participants over an Internet connection. Activities in these classes typically comprised a lecturer presenting some information, raising questions, and requiring students to engage in “discussion” either using the audio/video feature and/or a texting box similar to what might be used in social networking software. In addition, within this LMS the lecturer had placed articles and texts and other information online that the students were expected to access and read. There were also exercises and activities located in this space that students were expected to complete, some of these being part of students’ assessment.

One of the things that struck me with this online learning approach was that participation (“attendance”) in most cases was not compulsory. Indeed, of all the classes that I observed less than half of those students actually enrolled in the course attended timetabled class sessions, and yet some of these students went on to successfully complete all of the assessment tasks and were allowed to pass the course. Much of the learning that was taking place was occurring outside of the actual “class” experience. I found this disturbing because my own experience and my beliefs, and these practices were certainly not the practices of my own university.

In addition to observing and experiencing online teaching and learning, I participated in a number of face-to-face classes on campus. I also had the opportunity to observe students on campus and their behaviour in and out of class.

Students’ behaviors surprised me too. They were free to come and go during class hours. Some wore slippers to enter classrooms with boys wearing shorts and girls wearing Spaghetti straps. Some middle-aged or even gray-haired students are seen on the campus studying for a Bachelor’s Degree and this is hardly seen in Chinese universities where people in their thirties are rarely seen doing undergraduate study except for some special training programs. (From reflective Journal)

The Australian university has about 25,000 students. However, since a large percentage of these are studying at-a-distance the actual number of students that might be expected on

campus would be about 7,000. Additionally, approximately 65% of the students are undertaking the course of study part-time, and many of these were mature age, with families and were already in employed work. There never seemed to be a large number of students on campus. This was unexpected to me as at my own university during a teaching semester the campus abounds with students. Just like at my own university there are student amenities such as a cafeteria, coffee shops, post office, a bookshop, medical center and gymnasium and also a student club. However, at my university in China there are many more of these amenities including, canteens, banks and coffee shops, supermarkets, a gymnasium, a post office, some bookshops and bakeries, small shops selling snacks and grocery, a hospital for both students and staff, several outdoor public sports facilities, several printing houses, many newsstands. Just as is in China, students in Australia were seen frequenting on campus venues, although sometimes there seemed to be more staff than students at these facilities.

Face-to-face class activity also had some familiar as well as some quite unfamiliar elements to them. As is indicated by my extract above I was quite taken aback by the dress codes and behaviors of students. Students dressed very casually, and some as if they were going to the beach or a party rather than attending classes. Even some teaching staff dressed very casual and I did not consider this very 'professional'. This was different to my experience where students are expected to dress to certain standards, even if the standards are not written down. Female students are expected to be quite reserved in the dress code and both male and female are expected to be neat and tidy. At my university most staff dress in very 'professional' ways wearing formal or semiformal attire reflecting what I believe to be the professional standard of a university lecturer.

It was not only the ways in which students and staff dressed that disturbed me but a more general sense of informality that seemed to reflect the culture and the environment of the institution. I observed that often some students came late to class. At my university in China this is frowned upon and students are usually disciplined if they do come late, and in any case it infrequently happens. However, in Australia it was typical for students to wander in after the class had started, and even leave during the timetabled class or prior to the class finishing. Although, I did note that some students had at least the courtesy of letting the lecturer know that they were leaving. Also, the Australian academics did not mark an attendance roll. At my Chinese university this is a formality observed in every class at the beginning and or at the end of the class, where class attendance is noted in a formal roll and students who do not have permission to be absent need to provide a reason for that absence to the lecturer with the attendance records collected by the department head. In my university class attendance is a critical and essential part of the university learning experience and indeed constitutes part of the assessment. Students that do not attend classes are unable to pass that course, whereas in Australia attendance was more often not compulsory. Such considerations of attendance may

also reflect differences that I observed in teaching practices and pedagogy.

Besides differences in teaching practices and pedagogy, there are also some similarities. In both universities academics prepare a course outlines, which indicate the learning outcomes to be achieved, assessment tasks to be completed and assessment requirements and an indication of the content to be covered. The teaching academics in the Australia university were generally well prepared for their teaching, as are my colleagues at my home university. However this preparation is somewhat different. In the Australian university, as I have indicated, a LMS is used as a place for academics to locate information about the course as well as content and links to content on the Internet. Preparation then requires the academic to prepare, develop and collect materials and locate these within this LMS space sometime before the class is actually taught. The content, by and large, is not central to the actual “class” teaching, but students are directed to this as a part of the course experience and are expected to engage in it. However, at my university lecturers prepare an outline of the course to be covered indicating the assessment details etc. and an overview of content. The actual content though is taught during the class sessions and students are expected to take notes. Occasionally, handouts of printed material are also prepared and distributed in class. Often these materials come from courseware available on CDs for teachers that are attached to textbooks. Content presentation is a central part of class activities at my university.

There were also differences in approaches to teaching and techniques used. Within my university the face-to-face class is the central and dominant location of teaching, whereas in Australia, the online LMS is used, ‘teaching’ takes on a broader form. Because of the limited time available and the amount of content to be covered Chinese university classes tend to be more often information presentation sessions. However, in my English classes in addition to the presentation of information I also allocate time for activities, particularly to practice spoken English following forms and models that I introduce. The Australian university classes that I observed, while they did have some information presentation, tended to have more time to class discussion and student responses.

One feature of the learning environment and culture, that was different across the two institutions was that in Australia students seem to be more willing to engage in discussion than my Chinese students, to make comments, and to raise questions and issues, even at times questioning or taking counterpoints to those of the lecturer. This rarely happens in China where the teacher is held up in respect of his or her knowledge and it is the teacher that is expected by the students to hold the knowledge and transmit this knowledge, whereas in Australia there seems to be a greater focus on knowledge generation by the class with the teachers role being more the facilitator.

Issues

Since the 1990s, there has been increased empirical research on teaching and learning within Confucian-culture backgrounds (Watkins & Biggs 1996; Watkins & Biggs in 2001; Chan & Rao in 2009). These, and many other publications are helping our understanding of the differences in learning environments and pedagogical approaches between Chinese and Western contexts. However the research has been dominated by studies in Hong Kong and other non-mainland Chinese contexts. Little attention though has been given to understanding the impact of cultural on learning environments and comparing Chinese and western university teaching and learning contexts.

Learning environments

The concept of learning environments is important and basic preconception of many learning theories, and it is particularly important under constructivist learning (Duffy, et.al., 2012). Some writers described learning environments as incorporating physical (constructed elements), historical, cultural, and political and ideology components, as well as incorporating the ecology of the learning environment including student characteristics of school social system and the culture in which it is embedded.

Other scholars define the conception of learning environment directly. Hiemstra defines a learning environment as “...all of the physical surroundings, psychological or emotional conditions, and social or cultural influences affecting the growth and development of an adult engaged in an educational enterprise” (1991, p. 8). Also similarly Fraser states: “Learning environment refers to the social, psychological and pedagogical contexts in which learning occurs and which affect student achievement and attitudes” (1998, p. 3).

In more recent years, and as is evident from some of the description above the concept of learning environments now comprise virtual as well as physical spaces. “The ‘spaces’ where students learn are becoming more community-driven, interdisciplinary, and supported by technologies that engage virtual communication and collaboration” (Johnson, et.al., 2010, p. 4). ICT and the Internet are increasingly playing a central role in university teaching and learning (Jamil & Shah, 2011).

For some time two distinct modes of university education were recognized: on-campus and off-campus modes. However, recently the concept of blended learning is increasingly being recognized and actively addressed within pedagogical approaches. Blended learning involves teaching and learning activity that include both face-to-face and at a distance teaching and learning. While there has always been an aspect of “blended learning” in any university learning experience—in that students engage in learning outside of the class—it is only recently that educationalists plan explicitly to use blended learning approaches. This is involved adaptation of existing distance education approaches with the use of the Internet and

ICT.

Learning is something that happens within an individual and normally only happens when an individual is inclined towards learning. While learning can occur in a range of environments and can happen under a range of approaches, there are optimal environments and approaches that have been identified. The relationship between optimal learning environments and effective learning are well established. Effective learning environments have a strong connection to student achievement (Harrington & Enochs, 2009; Ellis, 2005; Biggs, 1994 & 1996) and to student motivation (Busse & Walter, 2013).

Culture and learning

As I engaged in processes of critical reflection I tried to understand the experiences that I had in Australia, and contrast these with my experiences and professional work in China. I came to a realization that culture is fundamental to not only my own beliefs and practices but also to those of the staff within the Australian university that I spent a year at and those of my colleagues in my university. However, many aspects of these cultures were different.

Bull (2005, p. 167) states “Culture is not only the way we do things. It is our attitudes, thoughts, expectations, goals and values. It is the rules of our society—the norms that tell us what are acceptable and not acceptable in our society.” My own beliefs and practices were formed and informed by my own culture, and my experiences. This includes my broader culture of being brought up as a Chinese citizen, and experiencing a formal Chinese education that drew its roots from *Marx and Lenin* philosophical position, and my informal cultural education through my life experiences in Chinese society, where the norms and values, while also drawing to some extent on *Marx and Lenin* philosophical positions, also draw upon Confucius ideologies beliefs and practices.

In a general sense, social norms tell us which of our actions are permissible. Social norms keep our daily lives in an ordered and patterned existence (Zhang, 2005, p. 237). Social norms are also described as “expectations for proper behavior” and “typical behaviour that is considered appropriate” (O’Donnell, Reeve & Smith, 2012, p. 195). As such, the social norms that we hold within the society in which we live guides us in what are appropriate or inappropriate behaviors.

Cross-cultural research over the last couple of decades has contrast the culture and social norms between East and West cultures. Four contrasts can be identified from this research. The first is individualism versus collectivism. Hofstede (1980; 1986; 1991) develops a four-dimensional model of cultural differences and collectivism versus individualism is one of them. Many researchers recognise China as a collectivistic culture, which sees harmony as one of the utmost importance over anything else, and Australia is seen as an individualistic

culture (Zhang, 2005, p. 33).

The second contrast is modesty versus self-assurance. Modesty, as a virtue, is highly valued in China. Zhang (2005) suggests that modesty is a universal quality of human beings and it is regarded as one of the factors that lead to success in Chinese society. Bond (1994, pp. 41-46) concludes generally that Chinese culture gives more attention to modesty than typically occurs in Western cultures. In Chinese culture, being modest is often a way to show respect to others. So it is not surprising to find that many Chinese students in Western classes have introverted personality, which sometimes clashes with the pedagogy and what their Western teachers want.

The third contrast is shame versus guilt. Cheung (1986) lists this as a popular distinction between Chinese and Western cultures, commenting that Chinese society is shame-oriented. Yeung and Tung (1996, p. 57) observe that Western societies, influenced by Christianity, operate on the basis of guilt. Zhang (2005, pp. 37-38) notes difference which lies in "...how the members of the two cultures perceive self and others; the Chinese people are more concerned about how they are viewed by others. Therefore, there is a greater degree of face saving effort than in individualistic societies such as Australia."

The concept of "face" or "*mianzi*" in Mandarin is often roughly translated as "honor, respect, prestige and reputation", but in fact, it is more than all these. Ting-Toomy (1988, p. 215) defines "face" as "a strategy that protects self-respect and individual identity." In China, people always put high value on saving "face" and maintaining "face" remains at the very core of a person's being. On the other hand, loss of "face" will be avoided at all costs to save individual and family humiliation. So typically Chinese students will strive to avoid loss of "face", both theirs and others. This explains why Chinese students more often ask clarifying questions rather than taking controversial positions or challenging their teachers' authority.

The fourth contrast is effort versus ability. Under the influence of Confucian philosophy, Chinese culture emphasizes endurance, hard work and great effort (Yang, 1986), and Chinese people typically consider that these virtues lead to academic success (Watkins & Biggs, 2001).

Teaching is a cultural activity. It occurs within cultural complexity and requires sophisticated use of language, which is also culturally bound. Therefore, in order to optimize teaching and learning it is critical to have understanding and appreciation of the cultural context in which it occurs (Chan & Rao, 2009, p.172; Biggs, 1996b).

Examination orientation

In Chinese culture formal examination is a key component of education. This is in part

derived from the Imperial Examination System established in the seventh century. National examinations dominate the Chinese school system, and teaching and learning are centred on achieving success in these examinations (Lewin & Lu, 2012). Because of the dominance of examination, teaching and learning in schools tends to be driven by the examinations. There is a general focus on information delivery, on content cramming and on mastering extermination techniques (Huang & Chen, 2008). Chinese students learn knowledge acquisition while students in Australia have a great focus on problem solving.

My culture, my practices, my thinking

My teaching practices and beliefs about education have been formed by my own experiences and my culture. My current practices are focused on helping students learn English and so I have a high level of focus on skills acquisition. Reading, writing and translation tasks dominate the English curriculum that I teach and there is an emphasis on grammar, whereas listening and spoken English activities are not strongly represented. While students get a good grounding in English they do not necessarily have a good grounding in applied English and in understanding the cultural contexts that English is evolved from and used in. While I believe, and it is my experience, that my teaching is efficient, I am not convinced that a depth of understanding is achieved in the student learning. One reason for this is the examination processes that we use, which tend to be paper-based, summative and “academic”.

English as a second language teaching in Australia uses similar approaches and techniques to those that I use. However, constructivism is a dominant educational pedagogy that is used in Australia and in Western educational context generally. Chan (2001, pp. 181-203) examines the effects of constructivist instruction, popular in Australia, on Chinese students’ learning and understanding. She indicates that the different constraints imposed on teachers by the educational contexts limit their beliefs and practice. Because of the focus on examinations in China, I have to make sure that my students still perform well in their examinations. Now, as a result of my scholarship and my observations of constructivist approaches used in Australia I now better understand the educational advantages of this approach. However, it would be difficult for me to implement constructivist approaches in the same way at my university, as there is still a high level of incompatibility with the cultural beliefs and practices of my colleagues and the institution. Chan notes:

“For whatever instructional innovations, teachers play a pivotal role in the instructional process. If the approaches were implemented without teachers’ understanding, it (the practice) would not work whether it is based on the Eastern or Western traditions” (2001, p.198).

Teaching is about achieving student learning. If our goal is to have good teaching then we need to be focused on effective learning and to do this we need to consider the student, their

ways of thinking, their previous experiences, and their cultural expectations.

However, what is understood as “good teaching” varies across cultures as well. British students describe a good teacher as “...to arouse the interest of students, explain concepts clearly, use effective instructions, and organize activities” described a good teacher (Jin & Cortazzi, 1998, pp.740-756). Whereas some Chinese students describe a good teacher as: “...the ability to deliver a high quality lecture distinguishes a good teacher from a poor one a good teacher”; and also, a good teacher has “...a well-prepared and clearly structured presentation with the intent to help learners understand the content step-by-step, has deep knowledge, is able to answer questions, and is a good moral model” (Chen & Bennett, 2012, p. 684).

So what does this mean?

It is rare in our work as university teachers that we have the opportunity to take time out to think about what we do. A packed timetable, large classes and structured programmes and curriculum dominate my life as a university teacher. Having time to observe practices in another institution in another country, and taking further time to engage in a program of reading provided me with opportunities to critically reflect upon my own practices and also the practices of my institution and more broadly practices of universities in China. My initial experiences in a different country and different institution and different cultures and practices were quite confronting. However, this confrontation, including having engaged in research literature, has helped me further think about my own practices and those of my colleagues and university.

There are some practices and trends that are reflected in Australia, and in Western context more broadly, that I believe will have implications in China. First of all, Chinese culture is changing. I do note that some of the traditional forms of respect paid to teachers are changing, and students are dressing in much more casual and western ways. The opening up of China to Western media such as television and movies etc. has resulted in young people increasingly taking on some aspects of Western culture.

In terms of university teaching Chinese universities have by and large followed Western models. Indeed, Chinese universities in many ways are similar to universities found in other countries, particularly as China continues to internationalize Higher Education. Chinese universities have followed international curriculum and pedagogical approaches, though typically these changes have lagged significantly in time behind those of leading universities in the west. Pedagogical approaches in Chinese regional universities have not changed a great deal over the last 50 years, and it is in this area that I believe some of the most significant changes will occur and need to occur. My experience in Australia has showed me the opportunities that can be provided in using ICT and the Internet in university education, and

the role of software and systems such as a LMS. I have also seen the opportunities that online teaching and learning provides and that blended learning provides in terms of broadening an educational experience, and increasing access to a university education, particularly when coupled with appropriate pedagogy. I hope such changes are soon broadly taken up and implemented in more and more regional or ordinary universities in China. The culture of higher education is currently practiced in China is deeply embedded in both staff and students, and also more broadly in the community. Changing culture is difficult and takes time. A dominant element of this culture is the pre-eminence given to formal examinations and knowledge acquisition and the consequential knowledge transmission approaches used.

However, significant and rapid changes in Chinese university education practices are possible. The school education system in Shanghai is an excellent example of this possibility. Most Shanghai schools have been transformed and more importantly the quality of student learning outcomes significantly increased where today Shanghai middle school education is recognised as the world leader in terms of student achievement in core academic subjects (Sellar & Lingard, 2013). It is quite possible for Chinese university education system to achieve a similar quality improvement outcome. Indeed, as China continues to develop as a world leader, and in order to continue to see living standards improve, it will be critical for further improvement of Chinese university teaching and learning practices.

Such changes to practices will require significant policy leadership and action. Some of this is occurring through current planning and investment in Chinese universities. However, the changes that need to occur are at the program level and are about the practices of university teaching staff. As a university teacher, and as a consequence of my processes of critical self-reflection of my own beliefs and practices, I am beginning my own process of change and renewal in the way that I facilitate learning in my own students. It is my hope that as I continue to reflect on my practice, to improve my practice, that I might be able to influence others' thinking and practices, such as my colleagues and my students, to further improve the quality of Chinese university education for the benefit of all.

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