

Indian Ocean Comparative Education Society

Promoting Peace, Harmony & Development through Education in the Indian Ocean Region

IOCES 4TH CONFERENCE | 16-17 JUNE 2015

St. Joseph's College, Bangalore, Karnataka, India



EDITORS:

Dr. Kanishka Bedi – President | Dr. (Mrs) T.M.S.S.K. Yatigamma Ekanayake- Vice President
Dr. Swaleha Sindhi - Vice President | Dr. (Ms) P.R.K.A. Vitharana - Secretary & Treasurer



**We dedicate the Fourth IOCES Conference Proceedings
to our Esteemed Founders – Dr. Sunethra Karunaratne,
Dr. Nina Dey Gupta**

&

Dr. Giovanni Pampanini





**INDIAN OCEAN COMPARATIVE EDUCATION SOCIETY-IOCES
FOURTH INTERNATIONAL CONFERENCE**

*Promoting Peace, Harmony & Development through Education
in the Indian Ocean*

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Chief Editor's Note

Welcome to the fourth IOCES conference proceedings, which we are dedicating to our esteemed founders – Dr. Sunethra Karunaratne, Dr. Nina Dey Gupta and Dr. Giovanni Pampanini. I am pleased to include a cluster of selected papers that our worthy members and participants had presented during the third IOCES conference held at Khon Kaen University, Thailand in 2013. This combined volume contains the abstracts and papers presented during the 4th IOCES organized in collaboration with Authentic Learning Associates (ALA) and St. Joseph's College (Autonomous) Bangalore, Karnataka, India on 16-17 June 2015. The submitted papers/abstracts by participants in the field of education and other disciplines mostly covered the themes of peace, harmony, development, educational policies, curriculum discourses, comparative education, secondary education, ICT, religion and education, etc.

The main theme of the 4th IOCES conference was *“Promoting Peace, Harmony and Development through Education in the Indian Ocean”*. Peace and development through education have gained significance in recent times. There is a great need to reconsider the objectives of education to ensure that the principles of right living and nonviolence are incorporated into the very process of education. Peace education undoubtedly offers us the themes that touch our lives every day by resolving conflicts, upholding values and ethos of unity and diversity. This volume of proceedings brings out myriad of themes reflecting that peace, harmony and development are highly contested concepts and peace education as an emerging academic field (and as a practice) provides resistance to the prevailing structural violence and perpetual chaos. It is noteworthy that there is a rich body of literature available on diverse themes around education for peace, comprehensive peace education, peace research, peace organizations, etc, upon which many philosophers and educationists like John Galtung, Jane Adams, Maria Montessori, Ian Harris, John Synott, Paulo Freire and many others have contributed either directly or indirectly.

This edition of proceedings is certainly a team effort and I would like to extend my heartfelt gratitude to the entire IOCES editorial Team especially Prof. Kanishka Bedi, Dr. Sakunthala Ekanayake and Dr. Pushpa Vitharana who worked tirelessly to compile this edition. Last but not the least, I would like to thank all the authors/delegates who have contributed to this edition. Wish you all happy reading!

Dr. Swaleha Sindhi

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**ABSTRACTS OF
4th IOCES CONFERENCE**

ROLE AND RESPONSIBILITIES OF EDUCATION FOR PROMOTING CULTURE DEMOCRACY AND CHILD-CENTERED EDUCATION IN INDIA

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Arising from the Progressive education movement in the late nineteenth century, child-centered education philosophy places students at the center of the learning process. Globally, child-centered pedagogies have been considered as a basis for human development as they emphasize on harmony and development through democratic learning environments. In India, the idea of child-centered education has been an important component of education policy. The recent Right to free and compulsory Education (RTE) Act, 2009 clearly mandates 'learning through activities, discovery and exploration in a child-friendly and child-centered manner' along with 'making the child free of fear'. In order to operationalize this child-centered vision of the policy, Activity Based Learning (ABL) approach has emerged as a potential model over the last decade. In this light, this paper presents the unique findings drawn from a longitudinal mixed method study* of ABL programs across seven states in India. In doing so it attempts to analyze the findings in light of the child-centered policy mandates, to establish whether or not the program has a positive bearing in creating democratic classroom environments.

Keywords: Democratic Education, Child-centered education in India, Activity Based Learning (ABL)

*Supported by UNICEF, this study was undertaken at Educational Initiatives. The author is a core researcher for this study.

**A STUDY ON THE EXTENT OF THE BILINGUAL PRACTICES AND METHODOLOGY
APPLIED IN BILINGUAL SCIENCE CLASSROOMS: A CASE STUDY IN BADULLA
DISTRICT**

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Sri Lankan Bilingual Education is a newly implemented program in selected schools in Sri Lanka. It is equally novel to both bilingual students as well as teachers in the education system. The objectives of the study were to ascertain how co-operative learning occurs in bilingual science classes, how the parents' involvement affects in bilingual science classes, what the bilingual teaching learning method was, how far the bi-literacy gets developed in bilingual science classes and how code switching occurs in bilingual science classes. The study was conducted in selected six schools in Bandarawela and Badulla districts. In each zone, three schools including two mixed schools along with one boys' or girls' school were used to collect data for the study. All schools were 1AB, urban schools. For analyzing purpose both quantitative and qualitative data were used by the researcher. A questionnaire given to bilingual students was analyzed for quantitative findings while class observation, interviews with students and teachers and field notes of the researcher were used in qualitative purpose. Quantitative analysis supported the conclusions of parents' involvement, most used bilingual teaching learning method, bi-literacy level of students, and code switching and how frequently it is switched are being found. Parents' involvement has no affect with any variable, school affects the teaching learning method and bi-literacy development, number of siblings has no effect with bilingual science learning, scholarship has an effect with bilingual learning and residence has no effect for the learner are some important qualitative findings. Also co-operative learning happens in group learning, teacher dominated classrooms, teachers using more second language for instruction and teachers switch the code within every two minutes are important qualitative findings. It is a good study to find how the original concept being applied in other districts, too.

Keywords: Bilingual Education, co-operative learning, code switching, bi-literacy

HOW EFFECTIVE LANGUAGE GAMES ARE IN IMPROVING VOCABULARY AMONG PRIMARY STUDENTS

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An action research was carried out with twenty students in Grade 3 with a very poor vocabulary as they were not exposed to the English language to build up their vocabulary when they were in Grade one and two. In my observation, it was found that the students have short time attention, easy to forget things quickly, cannot pronounce new words correctly, shy and uncertain to join the activities although they have mixed ability levels. Questionnaire, informal interviews, pre test, post test, reflective journal, students' reactions, observation were used to collect data. In the intervention, a novel technique the effectiveness of language games were helped me to improve English vocabulary among students. Data was analyzed quantitatively and qualitatively to identify patterns. The findings were used to enhance the quality of the students through language games to make them with rich vocabulary.

Key words: English language, Vocabulary, Action Research

PHYSICS FOR ALL OF US

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Students with hearing impairments often struggle to read and write. Some educators claim hearing impaired students fall behind their hearing peers because they have weak phonological awareness of the alphabet and this weakness correlates to their inadequacy with reading. Theorists have concluded that experiences in linguistics increases students' knowledge of how words should be read in a sentence. This reading will discuss research based on the concern of facilitating an inborn hearing impaired student in a normal stream class room while making sure the entire class was benefitted by the measures taken. This action research was carried out in a 9th grade science classroom for a period of 6 months. After seeking the history of the student's problem, great emphasis was put on planning necessary actions, implementing and reflecting which continued to scaffold all of them in their construction of knowledge. I was a participant observer in my own effort while taking actions namely "Projects on machine", "Practical based electricity", "Peer tutoring" which were offering meaningful learning experiences to everyone. This research presumes that there is a vital role of a teacher researcher can play towards the advancement of teaching learning process. There would be much more action researches done but not revealed all around our Indian Ocean region with the strong intention of changing students' life. We all would be highly benefitted by sharing and comparing these evidences among the region as ultimately teachers are building the future minds

Keywords: action research, meaningful learning, teacher researcher

PATH FOR A PEACE THROUGH MULTI CULTURAL AND MULTI RELEGIOUS SOCIETY

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My school is situated in a multicultural and multi religious society with in a small village far from the city. As well as this school is a mixed, environmental friendly school which the girls and boys do studies equally. Our major language stream used by all the minor nations as their study media. But we provide opportunity to learn the second languages as well through the curriculum. As I think countries development depend on respect other communities, accept them, listen to their needs, discussing their issues and honour their cultural events. We can experience them by researching on the developed countries. If we want to achieve that target we should provide equal opportunities without concerning their religion, status, customs, culture, their communication media, dress code historical based, rules and regulations. Our education reforms had invented by concerning those facts. As a main role, education can play a huge character to promote cultural peace through integrating peace and harmony in the curriculum of education. I wish to contribute a message to the community by engaging through the peace for a education friendly society from education.

Keywords: Peace, Society

THE SUPPORT OF MOBILE PHONES IN A PRIVATE NETWORK FOR SCIENCE TEACHING

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The use of mobile phones in education is being researched worldwide and the findings show that the mobile phones add a new dimension to science teaching and learning. The aim of this research is to investigate how the mobile phones can be supported for teacher in science lessons, when they are engaging in group activities. However, to minimize the issues emerged from the previous research on mobile phones, in this study a set of mobile phones that are connected to a private network was used. The methodological approach of the research is entirely qualitative. In a professional development workshop a purposively selected group of science teachers developed three lessons which were selected from grade 6-11 science curriculum while integrating mobile phones in a private network into learning activities. Next the lessons were subsequently implemented in real classroom settings. This paper described one of the lessons namely 'waves and their applications'. This is a lesson for Grade 11 students. During the lesson implementation, data were collected as observations using audio, video and field notes. Then the data were analysed using thematic analysis technique with the support of NVivo10 software. Two assertions were derived. According to the findings teacher who conducted the lesson valued the support of the mobile phones in a private network for providing instructions in a novel ways thus enhancing the quality of group learning activity while minimizing the students' misuse of mobile phones. The students engaged in the learning activity collaboratively and they appreciated the educational potential of mobile phone for understanding the characteristic of sound waves.

Financial assistance given by the National Research Council, Sri Lanka (Grant No:12-025 is acknowledged.

Keywords: Mobile learning, Private network, Science teaching

A COMPREHENSIVE KNOWLEDGE IN SINHALESE ALPHABET

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The three basic weaknesses of alphabet of Sinhala language of Sri Lankan school children are non-recognition of the order of the alphabet, the classification of the alphabet and the shape of the letters. The composition of the alphabet has been defined by various governmental organizations in different ways complicating the learning process. The action research analyzed the different approaches of alphabet, their usage at different class levels focusing on the performance of three sixteen year old pupils. The intervention was carried out with the teacher-in-charge of the language class, to achieve two aims: to develop the quality of teaching of alphabet and enhancing the knowledge and usage of the alphabet of the three pupils. Songs, games, specially printed formats were used. Due to the intervention, teaching techniques became more child-centred, novel and effective resulting the three pupils could read, classify and write the alphabet. The techniques can be applied in the teaching learning process of language classes.

Keywords: Alphabet, Sinhala language

**CONTENT ANALYSIS OF ACTION RESEARCH COORDINATED BY TEACHER
CENTER, NIKAWERATIYA**

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Content of Seventy four educational action research (AR) (Sinhala=66 ; English= 8) conducted by Teacher Center of Nikaweratiya during the period of 2010-2015 were analysed quantitatively and qualitatively to identify existing patterns and suggest measures for the further improvements. Focused areas of AR, specific features of AR models used, place given on reflective process, self understanding gained by practitioners and contribution to the system were the themes for analysis of the content. Further layout features including language patterns were analysed to see similar or dissimilar patterns. According to the findings focused areas are more on weaknesses on student learning in schools. Models with limited number of cycles of AR have been used. Although reflections have been quoted succinctly, less emphasis has been noted on linking researcher's reflections with the research process. Student achievement has been improved due to AR interventions. Reports were written using both first and third persons using rich data.

Keywords: Action research, Content analysis, Reflection

**MINIMIZE THE PERCENTAGE OF DROPOUTS AT THE GENERAL CERTIFICATE OF
EDUCATION [ORDINARY LEVEL] EXAMINATION AND TO MANAGE THE
CHILDREN TO GET THROUGH THE EXAMINATION**

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At the age of sixteen, students in Sri Lankan schools face the G.C.E. [O.L.] examination which is a land mark in their school life. Those who were not successful at this examination have to leave the school and the students who got through the examination can enter the G. C. E [A.L.] classes. Also the students, who have got higher results, can follow science streams: Bio- science or Mathematics. When applying for jobs in government service or in private sector G.C.E.[O.L] result is an essential qualification. Applicants must have at least an ordinary pass for Mathematics at this examination. Many special programs are conducted in schools to make the students to face for this examination. It is one of the duties of the teachers and the principal of the school to get necessary actions to prepare the students for this examination. As the deputy principal of a National college in Sri Lanka I had to get necessary actions to improve the passing percentage of the examination. With the necessary guidance of the school principal and the help of the teachers many activities were launched. Teaching learning period was extended for an extra hour. It was a voluntary service done by the teachers. Hence the students were well prepared for their examination. All the students of the Grade 11 in this particular school were taken as the sample. The aim of this study is to give the students opportunities to enter Advanced Level classes for their further studies. After one year the passing of the G.C.E. [O.L] Examination percentage was increased by 5.19 and after two years increase was 7.80.

Keywords: G.C.E. [O.L] Examination, Dropouts, Grade 11 Students

QUALITY HANDWRITING FOR BETTER LEARNING

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In the traditional education system *Welipilla* was used to mould the fingers of children so that they can write letters of the Sinhala language clearly and legibly. Contrary to this theory, however, in the present day school context, the reason for the low achievement levels in Sinhala language is the illegible hand writing of school children. To try out a solution, nine students from grades 6 to 11 were selected for an intervention. Their weaknesses in hand writings were analyzed using the techniques of content analysis of students' writings. Interventions related to the curriculum materials, teacher- parent-student roles were developed and implemented to improve the handwriting of the selected children. Based on "One script per an hour, daily" concept, the participants were directed to practise handwriting. As a result of the intervention, the quality of the written scripts of the participants was reached to the required competency level resulting a self-confident pupil with improved daily attendance to school. The intervention affected the level of achievements in all the subjects, positively.

Keywords: Handwriting, Sinhala language

PAINTING THE LIVES OF STUDENTS

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As a novice Art teacher in Sri Lanka, I faced the problem of students who were not doing their homework on Art subject. Since the students don't prefer learning inside the classroom and very much fond of drawing in the outside I took them to the nice environment surrounded by a lake near the school and let the students to draw freely. Then I recognized the change and children not even opened their mouth in the classroom were talking with me. I exchanged the ideas with them arousing their interest in Art telling autobiographies of famous artists and asked the students to get the good experience of their lives. I introduced the fantasy methods of drawing human figures such as drawing figures using sausages. Ultimately my targets were achieved and students were much interested in drawing and painting and they presented to the arts events for the school art competition.

Keywords: Art, Action research, Outdoor activities

INCULCATING INTEREST AND SKILLS IN VIOLIN PLAY

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Although both vocal and instrument play are included in the Music curriculum of Grade 10 students, they prefer only to sing avoiding instrument playing. As a result they cannot get 10 marks at the practical test at GCE (OL) examination. Further school has to hire outsiders as violinists to play instruments in the school music group. Identified two reasons were the less ability in finger-hand manipulation while playing the violin and unacceptable utterances (Ex: are you carrying a coconut scrapper?) by people towards the violin when the children carry it to the school. As remedial measures, according to action research method, two main interventions were planned and implemented. Community attitudes were modified using discussions with them and student skills in playing the violin were developed step by step from the beginning stage of violin play.

Keywords: Music, Violin, Exam.

**A STUDY TO FIND OUT REASONS TO MISBEHAVIOUR OF GRADE SIX STUDENTS
AND TO DEVELOP STRATERGIES TO OVERCOME THEM**

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Abstract

This study was aimed 1) To find out the immediate reason for the certain misbehavior of Grade Six students of a secondary school in the southern coast of Sri lanka. The objectives of the study were to identify the reasons of the such behavior patterns of the target group, who are still age 10- 11 years; 2) To develop strategies to overcome their problematic behavior. The action research was carried out with twenty (20) students whose behavior was quite different from the others. The Influential factors for the problematic behavior of the target group were find out through observation, Interviews, Friendly Discussions and case study. The close relationship between the participants and the researcher created a stress-free environment to proceed the study smoothly. The genuine responses of the participants were helpful to the success of the study. It was revealed that the parental influence for the Grade 5 Scholarship exam has created a dis-satisfaction in their childish mind. The unbearable burden of study –stuff also a major factor for the bad behavior of them. And the end of the time frame of the study, certain remedial action based on religious activities was acted out and the misbehavior children became changed personalities with much recognition and good manners.

Keywords misbehavior, reasons, Strategies, Overcome

USING POEMS AS A STRATEGY TO MOTIVATE SECONDARY LEVEL STUDENTS TO ACQUIRE SECOND LANGUAGE

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Abstract:

Learning English has become more essential than the other subjects in Sri Lanka for many years as a result of globalization. English language is a core subject in the curriculum along with five other subjects. However the performances of the students in English Language at the GCE ordinary level is at a low level nationally. The situation is same in my school though the teachers take much efforts every year. The research was carried out with 45 students; 23 males and 22 females of Grade 10 of a mixed school in the southern coastal belt in Sri Lanka. The objectives of the study were to find out the reasons for the reluctance of the students to acquire the second language in their class room and the success of application of poems as a strategy to overcome the problem. The influential factors for their slow learning were found out through observations, interviews, friendly discussions and questionnaires. When the marks of the term test were carefully observed, it was clearly shown that their achievement level was below the expected level and it made the students to be slow and reluctant to perform well in the class room. Lack of vocabulary was one of the major reasons for their low achievement. Further the study revealed that the methodology applied by the teachers did not lure the students. At the end of the study it proved that the simple poems can motivate and facilitate the Grade 10 students to acquire second language enthusiastically and successfully.

Keywords : poems, motivate, grade ten

HOW DOES THE CITIZENSHIP EDUCATION OF THE SECONDARY SCHOOL CURRICULM IN SRI LANKA HELP TO BUILD SOCIAL AND NATIONAL INTEGRITY

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Citizenship Education of grade 10 and 11 , and Life skills and Citizenship Education of grade 6-9 is analyzed and researched to study how they contribute to uphold the national and social integration. The main aim of this research was to uphold the national integrity and the steps which could be taken to ensure the relationship among various ethnic groups. It also has the aim of studying and resolving the obstacles that could arise when establishing the National integrity. Teaching Citizenship Education in secondary schools and starting secondary schools in the country is also another objective of this research. The contents of the teacher instruction manual of grade 6- 11 is analyzed by using the technique of “context analysis, we first analyzed the contribution of the Citizenship Education. To achieve this target sixty teachers from six provinces (Uva , south, East, Central, North west and Sabaragamuwa) were selected. The main concern was to observe whether the Citizenship Education could contribute to uphold the National integrity. These teachers were given a set of questions and gathered some data. Five out of eighty classes the above teachers were observed during their teaching, how they practically drilling the main concept. Furthermore the teacher instructors from the six provinces were interviewed and given a training on this matter. Thereinafter the teaching and learning process was observed to find whether it is successful or not. After that a set of questions were given to 25 principals and gathered data in the circulation and the programmes that are conducting to uphold the national integrity. An interview of the national curriculum board was taken from a modular and observed the objectives and aims of the above subject . It was done under the percentage analysis regarding the obstacles which are being faced when they are in process. The observation has revealed that 76.6 of classroom students were multinational. It is obvious that it has the most suitable atmosphere to uphold the national integrity. The contents of the syllabus of grade 6- 11 has satisfactory level of elements to uphold the National and Social integrity. But the contents of the text books of grade 9 -11 has not fulfilled the aims to approach the target. On the other hand the number of periods allocated for the practical activities are hardly enough and giving lecture type teaching has made the condition worse. The experience and the knowledge the teachers have and the spiritual bound negative attitudes of nationalism are also another barrier to achieve the goal National and Social integrity. The observation and research clearly revealed and I suggest all the Sinhalese

students' ability to use English and Tamil should be improved. A special attention should be given to improve the students' ability to use both English and Tamil language. Many more number of practical cultural activities and customs should be added in the school curriculum and teacher training programmes. On the other hand the number of periods should be increased. The students as well as the parents should be made aware of the importance of unity and co-existence among different ethnic groups. The teacher training programmes must be reformed to make aware of the different cultures, customs and their attitude. And also modern techniques and resources should be provided to gain this target.

Keywords: Citizenship Education, secondary school curriculum, National integrity.

Social integrity

IMPROVING THE EFFECTIVENESS OF TEACHING LEARNING PROCESS BY GUIDING STUDENTS FOR PROPER PLANNING

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The purpose of this paper is to describe the action research conducted on getting the students to work for a plan in their daily routine. Having not planned and prioritized work had avoided the students from succeeding their school education. It had become an obstacle for the success of the teaching learning process. Therefore the students were guided to prepare their daily plans each day at school by spending about 10 to 15 minutes. They were guided on planning and prioritizing their work by leading them to think on what they really want to achieve; short term and long term goals. A gradual positive development could be seen with this. The students tend to actively involved in the learning process with a self-motivation. Doing their homework neatly and in time, behavioural changes and gradual development of the marks they obtained for tests could be recognized as the perceptible outcomes of the ongoing quantitative action research.

Keywords: planning and prioritizing, self motivation

PARENTING PARENTS: THE IMPACT OF PARENTAL INVOLVEMENT IN SUSTAINING BILINGUAL EDUCATION PROGRAMMES IN SEMI URBAN SCHOOLS

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Bilingual education has been a recent initiative in Sri Lankan schools. The number of bilingual schools in the system, however, records a small percentage. One of the factors that causes this small percentage is parental resistance to this programme. The objective of this paper is to study the impact of parental involvement in sustaining bilingual education programme in semi urban areas where exposure to the second language English, in bilingual education, is minimal. Epstein's 6fold framework on parent involvement was the model adapted in organizing parent involvement programmes. Parenting, communicating and decision making illustrated in the model were adapted in parent involvement programmes. Focused group discussions are one of the strategies used in awareness programmes. A gradual increase in the number of bilingual pupils in bilingual classes was evident as an outcome of the programme.

Key words: parenting, communicating, decision making. Epstein

Epstein. J.L. (1984) Single Parents and Schools: The effects of marital status Parent and Teacher Evaluations.

ASSESSMENT OF GRADE TEN STUDENTS' UNDERSTANDING OF LIGHT CONCEPT

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Assessment is an integral part of teaching learning process. The aim of the research is to use scientific diagrams to assess grade ten students' understanding of 'light' concept. Data were collected with the use of a two-tier test and a teacher questionnaire and analyzed qualitatively and quantitatively. A sample consisted of 125 grade ten students and seventy teachers. It was revealed that students provided more than eighteen diagrams for each question instead of correct diagram. The highest number of incorrect diagrams (32) was reported related to the concept of plain mirror reflection while the highest percentage of correct diagram was reported in refraction through a plate of glass. Providing a large number of incorrect diagrams with incorrect explanations was an evident of lack of understanding of light related concepts among students. Use of students' drawing is an effective technique of understanding science knowledge instead of traditional paper pencil test items.

Keywords: Assessment, Diagrams, Light, Understanding

UPLIFTING SCIENCE RESULTS IN SCHOOLS

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The concern of the research was the low performance of five selected schools in Nikaweratiya Education Zone, Sri Lanka. The pass rate of Science Subject in these five schools at the General Certificate of Education (Ordinary Level) examination throughout four continuous years was below 30%. It was observed that the methods used in science classes by the teachers were inappropriate and ineffective.

The intervention was begun with a study of learning styles of the students of four schools. Next step was guiding and facilitating the science teachers of all the four schools. Difficult areas of the syllabus were taught at the Teacher Centre, role of which is to facilitate teachers to improve their teaching skills, using special teaching aids and multi-media facility. The research was carried out from 2008 to 2013 and the pass rate increased from 30% to 80%. The techniques invented will be disseminated at the grass root school level and policy making central level.

Keywords: Science, Teacher education

GIVING NUMERICAL CONCEPTS TO A 16 YEAR OLD CHILD

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In 2013, among the fresh students at the special education Unit, I found a 15 year old child without the knowledge of basic numerical concepts. In order to make him comprehend in the concepts, I did the Action Research. First I gathered data on his personal and educational background and observed his behavioral actions and sought opinions of experts to get ideas. Then I mapped out a plan consisting of small units of activities.

In the assessment done during the intervention, not much progress could be witnessed. Therefore, I changed the previously planned activities and resorted to strategies that would suit for the occasion. I fulfilled my target after exercising much effort with lot of repetitive exercises to the child. My next move was to improve the state of money, time, frame and the language skill that would greatly benefit his social life. I could experiment multifarious studies and identify many shortcomings.

Keywords: Special education, Action research

**EDUCATION AND DEVELOPMENT OF WOMEN IN INDIA: ANALYSING GAPS
BETWEEN POLICY AND PRACTICE**

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Traditionally, education has been an important instrument for socialization across the wide and varied spectrum of the society. Such an instrumental value still continues to be significant in the contemporary social structure and its processes. The proposed paper aims to discuss these linkages, by exploring and examining the programme of 'Mahila Samakhya' in India established in 1989. The main vision of Mahila Samakhya was to enable gender equality in India. The key towards reaching this vision was to empower women through basic literacy and hence enhancing their capabilities to overcome larger social, economic and cultural barriers in the society. In order to substantiate this phenomenon, the paper discusses the case of Mahila Samakhya in the district of Mysore, Karnataka, India while exploring the shifts in policy discourses in the last three decades. We extend an argument that education through literacy is one of the most significant enabler for empowerment and emancipation of women in particular and social development in general. Case study method and discourse analysis constitute as methods for examining the above mentioned aspect of education and development.

Keywords: Literacy/Education, Empowerment, Development and Capability

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ACTION RESEARCH TO BRING INNOVATIVE SOLUTIONS TO PREVAILING CLASSROOM OPERATIONS

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As the Deputy Principal in charge of educational development in an urban school, I observed the less space within the school to implement activities related to two subjects Practical & Technical Skills and Health & Physical Education which resulted in no-implementation of practical aspects of the subjects hindering the development of psycho motor domain of the curriculum. As a result teachers used traditional chalk and talk methods in the overcrowded classrooms. Interviews with teachers and students and formal observations were used for the fact findings on the situation and based on the facts, it was found the limitations of space in the school and also the mindsets of the teachers. Action plan with three major steps and sub steps within the three steps were developed and implemented with Grade 6 students and teachers to overcome the limitations. Results of the interventions are the identification of school specific curriculum implementation techniques. Acknowledgement: Association for Educational Research and Development, Sri Lanka.

Key words: Action Research Curriculum implementation, Teacher role

**FULL PAPERS OF
4th IOCES CONFERENCE,
2015**

UNDERSTANDING THE EFFICACY OF WAQF EDUCATION IN INDIA: A SOCIOLOGICAL PERSPECTIVE

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Abstract

Waqfs or Islamic endowments are perpetual welfare institutions and majorly fell in three categories, viz., religious waqfs, philanthropy waqfs and education waqf. The concept of waqf education is as old as Islam and waqf of education can be understood as a community initiative to support the Muslim community by establishing the institutions of education that offer both Islamic and general education to promote the Islamic values, worldly knowledge and skills, etc.,. Needless to say India has the largest number of auqaf (4.9 lakh and waqf lands of six lakh acres) in the world having a market value of 1.20 lakh crore with a potential of generating Rs 12,000 crore per annum as per Sacchar Committee, however most of such waqfs continue to remain unattended and untapped and the current income generation is a meager 163 crore per annum. The need of the hour in India is the proper development auqaf and particularly of the waqf education system so that the development of 17.18 crore Muslim community of (14.2%) and millions of waqf properties are properly developed, attended and monitored.

The working paper explores the prevailing waqf practice/intervention in education sector and need for a developed waqf education system in India. Also the paper argues how such a sustainable and developed system can contribute to the overall welfare of the marginalized Muslims and also contribute to the welfare of the country in terms of enrolment of children, employment, vocational education, etc.,. The paper also investigates what are the issues and challenges beset to the waqf education system and how such a system can be transformed into a model and contributing education.

Key Words: Auqaf, Endowments, Waqf Education, Indian Muslims,

Introduction

Education has a vital role in the socio-economic and political development of any society. Muslims are the largest minority in India (18% as per 2011 census) but are still lagging behind in almost all areas of development. Undoubtedly, without the uplift of socially and educationally backward

sections of the society, a state can't prosper. The Prime Ministers High Level Committee (2005) commonly known as Sachar Committee headed by Justice Rajender Sachar, revealed the pathetic conditions of Muslims in the country and suggested empirical measures to the empowerment of this neglected populace. However, the fact remains that the Government of India and state governments till date are lagging behind so far as the effective developmental policies or the affirmative actions are concerned. Waqfs in Islam are the religious and charitable endowments which should be utilized for the benefit and welfare of the Muslim community. Sachar committee also revealed that there are five lakhs of registered auqaf which are scattered all over the country bearing tremendous potential if explored. As, there are about five lakhs of registered Wakfs with 6 lakhs of acres land and Rs. 6000 crores book value. But the gross income from all these properties is only 163 crores. The Gross Enrolment Ratio (GER) of Muslim youth in higher education is only 4.5%. This is the lowest among the all other communities in India. It indicates the need of educational activities and effective community intervention in the community. The waqf can be utilized for the common good of the society, especially for educational empowerment activities. This paper is an effort to explore how Waqfs can be utilized for the educational empowerment of Muslim youth and how Muslim community can launch a Wakf movement with the mass support that will leads to the socio-economic, political and above all educational emancipation and empowerment of crisis torn Muslims in the state.

Understanding Waqf

In Arabic language, waqf means to hold, confinement or prohibition. The word waqf is used in the meaning of holding certain property and preserving it for the confined benefit of certain philanthropy and prohibiting any use or disposition of it outside that specific objective. The idea of Waqf is as old as humanity. Muslim jurists argue that the first waqf ever is the scared building of Ka'bah in Makkah since the Qur'an mention that it is the first house of worship set for people (3:96) The Holy Qur'an says: "The parable of those who spend their substance in the way of God is that of a grain of corn: it growth seven years, and each ear hath a hundred grains. God gives manifold increase to whom He pleaseth: And God creath for all and He knowth all things".(Qur'an, Surah Al- Baqrah 2:261)

Waqf literally means tying up of a property for some pious object recognized by Shari'ah to gain divine pleasure in such a way that the asl(corpus) remains intact and only its usufruct is spent on the named object. It is recognized by the Islamic law as religious, pious or charitable donation which is perpetual, inalienable and irrevocable in nature. It is a permanent dedication of movable or immovable properties for religious, pious or charitable purposes as recognized by Muslim Law. In other words, once the properties are dedicated in the name of Allah and endowed to Waqf they are

perpetual, irrevocable and inalienable and thereby once a Waqf it always remain a Waqf ¹"Waqf is a permanent dedication by a Muslim of any moveable or immovable property for any purpose recognized by Muslim Law as pious, religious or charitable²"

Indian Waqf Scenario: A Glimpse

India has the largest Muslim population in the world after Indonesia. The Prime Minister's High Level Committee headed by Justice Rajender Sachar revealed that there are five lakhs of registered awqaf which are scattered all over the country. It can be said that India has the largest number of awqaf in the world. In the last eight hundred years, a large number of movable as well as immovable properties have been dedicated as waqf in India for purposes recognized in Islam as religious, pious or charitable. In India there are about 5 lakh registered *Wakfs* with 6 lakhs acres of land and Rs. 6000 crores book value. But the gross income from all these properties is only 163 crores. As the book value is half a century old, the current value can safely be estimated to Rs. 1,200 lakhs crores, If these properties are developed and a return of even 10% is presumed to be earned, the income would be about Rs.12, 000 crores per annum. This will be enough to utilize the educational empowerment activities of the Muslim community. This shows that Waqf can be a massive institution and play a major role in the uplift of the Muslim community. Be it charity, socio-economic development of underprivileged Muslims, education, health or Madrassa development, awqaf can be utilized tremendously towards the betterment of the overall Muslim society.

The major problems which awqaf in India faces are:

1. Encroachment on waqf properties.
2. Mismanagement by Mutawallis.
3. Adverse effect of rent control laws
4. Prohibition of the offering of prayers in mosques under the Archeological Survey of India.
5. Very poor performance of Central and State Waqf Boards.

These problems faced by awqaf in India and the solutions to overcome them are very deliberately discussed in the Report of Justice Rajender Sachar Commission.

¹ Khalid Rasid Syed. 2002. *Awkaf Experiences in South Asia*. IOS. New Delhi.

² Khan, Imtiaz Ahmad. (1988). *What is Wakf?*. Idarah-i-Adabiyat-i-Delli. New Delhi.

Auqaf in India: Current Scenario

In November 2006, a Report on the Social, Economic and Educational Status of Muslim Community of India- was submitted to the Prime Minister of India by the Prime Minister's High Level Committee headed by Justice Rajender Sachar. It contains a chapter on "Leveraging Community Initiatives, The Case of Wakfs". (Page No.217-234).It discusses the economical potential of awqaf assets in India, problem faced by awqaf and initiative to overcome these. The report carries current data of the total numbers of awqaf in each State of India, their valuation and income. It's also a critical evaluation of the performance of the existing statutory institutions administering awqaf in India. It is indeed very valuable data. The report has recommended the exemption of Waqf properties from the operation of the Rent Control Acts of the different States in India (p.231) which may substantially boost waqf income. The report also cover the important problem which innumerable Waqf properties face, mainly mosques, "despite being place of worship and religious reverence, (and as such) cannot be touched by the Waqf Board because (these are) declared as protected monuments and are under the control of the Archeological Survey of India.

The waqf boards are so fragile that there is still the lack of interest to claim on the Waqf lands which are being grabbed by government and masses and only after alienation of major chunks of land or public hue and cry, waqf boards begin the process of acting against such issues, reflecting the ailing work culture and mismanagement of Waqf boards, inefficient administrators, lack of efficient polices and ample laws and legislations to prevent such acts. Talking of the huge assets of Waqf in India, a plethora of these properties need some basic renovation, repair and some basic investment to be able to turn to income generating assets which can give a greater fillip to Waqf development in the long run but Waqf boards have utterly failed to craft lacs of assets into income generating sources? There has always been the lack of will or just paper work or a created artificial paucity of funds against the proper maintenance of a major portion of Waqf assets round the country. Also the interference of self claimed local management committees of our major shrines for vested interests, lack of a stringent central control and supervision panels, dearth of proper and efficient and computerized record maintenance and objective monitoring and assessment of the working of Waqf boards, leading to a dull, careless and haphazard waqf condition.

The Waqf panorama today is something deprived and the poor up keeping and rampant corruption associated with Waqf management, lack of safeguarding and efficient management of the Muslim institutions be it *Dargah's*, *Khanqah's*, *musafir Khana's*, *mosques*, etc, has lead to a hopeless perceptional change among Muslims which is mostly characterized by sense of alienation and lack of egalitarian feeling among fellow citizens of other religions.

There is a dire need of Muslim youth to take interest in such matters which have a greater role play in the holistic Muslim welfare. There has emerged a greater need to gauge and monitor the purity of intent of those responsible for the management of Awqaf at all levels. Seeing the general chaos and lack of accountability and waqf land alienation prevailing in India, the bigger question today remains whether *Mutawallis (care takers)* discharge their duties fairly or they are by themselves encroaching Waqf lands or looting its assets and if it is so, what can Muslims do to improve the situation? It also becomes worth pondering whether Waqf is serving or promoting the canons of Islam and if not, how to reform it for common good? As we see the dearth of Islamic courts, Islamic education through Waqf for poor, charity for the destitute Muslims, dearth of waqf run orphanages, Waqf sponsored science and technology institutions for backward Muslim students, well maintained and enough graveyards besides other necessary institutions, it seems there is a significant role of Muslim youth to play in this regard to give a clarion call for reforms in the holistic institution.

Today when waqf managers have turned hostile and following their will and Waqf boards still unable to get the alienated land back worth corers, what can be the best possible ways to achieve our lost assets back? The mal-administration of Waqf property is today's alarming challenge to Muslim community in India because we have a big dearth of Muslim administrators and we lack efficient staff in waqf boards, the question arises, aren't our youth ready and talented enough to run their own institution efficiently and honestly and overthrow the existing tainted system? What are contemporary Muslim think tanks doing on waqf and what are their suggestions to reform this ailing institution is yet to come to surface. The plight of waqf institution as a whole is really worthy of concern, despite having Waqf Boards in every state of the nation, managed by a Central Waqf Board with Central Waqf Council acting in an apex advisory capacity, constituted under a Department of Waqf of the Government of India. Also being a quasi-judicial body and empowered to rule over Waqf-related disputes, what are these Boards actually doing on the ground as disputes are increasing rather than any redressal and achievement. The other factor is the acute political interference in waqf affairs, which has marred the whole institution throughout the country be it appointment of significant officers, distribution of funds, etc.

Waqf And Higher Education: Some Success Stories

Waqf in holistic India needs certain measures to be undertaken in order to be more contributing in educational field, especially the area of higher education that is the need of the times for Muslim youth to create their space in the public sphere and participate in the decision making by reaching to the upper levels of government jobs. Higher education still is too dismal as far as the Muslim community in India is concerned. The Gross Enrolment Ratio (GER) of Muslim youth in higher

education is only 4.5%. This is the lowest among the all other communities in India. It indicates the need of educational activities in the community. The waqf can be utilized for the common good of the society, leading examples by some state waqf boards like Haryana waqf board, J&K Muslim waqf board and Tamil Nadu state waqf board, etc,. Some success stories are as:

Waqf Engineering College in Haryana

With the aim of providing higher technical education to the Muslim community, the Haryana Wakf Board has established Mewat Engineering College (Wakf) at Village Palla, Tehsil Nuh, Distt. Mewat, Haryana. The Mewat Engineering College has been established by the Haryana Wakf Board as one of the institutions for knowledge and learning of Muslim minorities. Looking into the vast potential of industrial development in the state, the Board has taken a conscious decision to establish technical institutions, particularly in the minority concentrated and educationally backward areas of the state, to produce skilled and trained manpower in the emerging areas of technology.

Waqf Medical College in Tamil Nadu

The Tamil Nadu Wakf Board is planning to set up a medical college cum hospital of 300 beds in collaboration with a madrasa in at Needur, near Mayiladuthurai. The college, which is estimated to cost around Rs 60 crores for first two years, is likely to become operative last of 2012. The Waqf Board initially avail 23 acres of land as donation from Jamia Misbahul Huda Madarasa, as joint venture, and 30 acres of land is likely to be added further. The estimated expenditure for two years will be around Rs.60 crores.

Bibi Halima College of Nursing and Medical Technology in Srinagar, Kashmir:

This College was established in the year 2005 by Jammu and Kashmir muslim waqf board during the period of Mufti Muhammad Syed with the sole purpose to impart Nursing Education to the youth of the valley keeping in view the dearth of Nurses in the State of J&K. Two courses are being studies in the College i.e. B.Sc. Basic and Post basic Nursing. Forty students are pursuing for Post Basic Nursing and 50 students for B.Sc. Basic Nursing. The college is affiliated with Kashmir University and Indian Nursing Council Punjab besides King Fehd Medical City, Riyadh.

Islamic University of Science and Technology in south Kashmir:

The proposal of establishment of Islamic University of Science and technology was firstly approved during MAT(Muslim Auqaf trust, Kashmir)regime by the then Chairman of the Board (Dr. Farooq

Abdullah Later-on with the takeover of Wakf Board in 2003, the site was changed from Ganderbal to Awantipora of South Kashmir. In one of Board of Directors meetings it was decided that University will be establishment by raising local donations as the Board is not financially sound. Afterwards, abruptly Islamic University Act was enacted by the State Legislature where-under Board has to provide yearly financial assistance of Rs. 2.00 crores. Neither there is any accountability of this huge amount nor is the Wakf Board getting anything in return being a unit of it. The Wakf Board is totally unaware about the staff, salary, income; expenditure etc. of the University even nowhere in the Islamic University the name of Wakf Board can be seen. Waqf run Islamic university is the biggest contribution of auqaf in jammu and Kashmir and has lead to a considerable social transformation and catering to the educational needs of youth in Kashmir to a considerable extent. (Source: education report of J&K Muslim waqf Board).

Waqf Run Schools:

Besides other states, in J&K state of India, Jammu and Kashmir Muslim Waqf Board runs a chain of schools, madrassas spread all over the valley where education is being imparted to the Muslim children mostly poor and downtrodden. A nominal fee is being charged to the students studying in these Waqf Schools. The efficient teaching and non-teaching staff exists in these schools and quality of education is at par with other privately run schools. The Ministry of Human Resource Development, Government of India, has a scheme in which they are providing grants for modernization of Madrasas throughout the country which has contributed a lot in terms of quality and infrastructure development. The idea behind the scheme is to impart contemporary education along with religious teachings which has taken pace in these schools and seminaries.

Issues and Challenges in Realising the Educational Goals

The Muslim education in holistic India is still not praiseworthy and is beset with a plethora of issues and challenges amidst the proper exploration of huge waqf assets that otherwise could have addressed the educational and employment related problems faced by Muslims in the country. Some of the major issues are as under.

- ***Poor quality of cheap accessible/affordable education and thus lack skills for employability***
- Quality of education delivered in most government schools/institutions is very poor and thus leading poor Muslim youth go astray. waqfs have not been doing the needful round the country and never catered to the educational needs of the community.

- Education is a seller's market – lack of competition – no incentive to provide quality education. Waqf schools/colleges too face tremendous problems in terms of funding and sustenance.
- Lack of attractiveness in teaching as a profession – there is clearly a lack of educated educators – Teaching is not an attractive profession – it's a last choice in terms of career. Waqf run institutions do not provide sufficient salary and educational infrastructure thus still a long way to go in the area of Muslim empowerment.
- A handful of waqf run educational institutions and the huge needy population of youth.
- Poverty and culture of poverty among majority of the Muslim community and absence of affordable waqf sponsored institutions adding last nail in the coffin.
- Poor infrastructure of the already few waqf run educational institutions. Also Huge demand supply gap – not just in terms of number of seats available but more so in terms of seats available in institutions who offer quality education
- Huge saturation and meritocracy in the contemporary educational market
- High competition in general universities and colleges in the country.
- Dearth of a sufficient number of professional and general educational institutions to cater the need of rising Muslim population in the holistic country.
- Lack of employment for majority of the Muslim youth where waqf could have played a major role.
- Number of Ph.D.s produced each year is very low among Muslims and waqf studies yet to be explored by Muslims.
- A bigger dearth of empirical waqf research and lack of reliable literature on auqaf.

Suggestive Rectifications/Measures

Waqf in holistic India needs revival/proper exploration and certain measures to be undertaken in order to be more contributing in educational field. some of the suggestive measures that need to be adopted can be:

- Appointments of experienced Administrative Officers which can boost educational administration in all waqf run educational institutions.
- MoU's to be signed by waqf colleges with IGNOU and other open universities as most of the students aspire for higher education but hardly get place and access.
- Speedy allotment of land for more professional and training Colleges run by waqf boards to boost Muslim education and tackle Muslim un employment in India
- Besides Central Waqf council, Ministry of Human Resource Development should be approached for funding construction of the hostels for Muslim students in every big city especially girls'

hostels in education hubs like New Delhi, Bangalore and other places. More Importantly the Construction of College buildings and Hostels by central waqf council for providing accommodation to outside students which would help in increasing the roll of the Muslim aspirants in colleges.

- Frequent visits of the Chief Executives and other waqf administrators to the waqf run Colleges and schools should be made a priority and proper supervision should be maintained to check chaos in education in waqf run colleges and schools.
- Computerizing the waqf records and Publishing of Admission Notices, etc, of the Colleges on the Internet for increasing the roll and access of students should be followed.
- Constitution of a country level joint Muslim committee for assessing the requirement for continuance of the affiliation of waqf run professional colleges with standard Universities should be followed.

The education and pedagogical aspects of the Darul-ulooms and darsgahs should be revisited. The Wakf Boards does not know anything about syllabus taught, examination system, results etc. of these Dar-ul-Uloom and Darasgahs. The overall administration of these Dar-ul-Uloom and Darasgahs should be looked-after by the concerned Administrators strictly.

- English being International Language should also be taught in these Dar-ul-Uloom so that these students do not feel inferiority complex in the society.
- The Dar-ul-Uloom should be directed to submit results of the last five years so that working of these institutions come to lime-light.
- The concerned Administrators should be directed to submit quarterly reports regarding working of these institutions.
- External sources should be approached for grant in aid as was being done previously when 60.00 lacks were received from HRD GOI as education aid under Modernization of Madrasas Scheme.

Conclusion

To make the administration of waqf more effective and result oriented, there is an urgent need of International Waqf Institute, which will lead the waqf administration activities of the various countries. Some initiatives have been started by Islamic Development Bank, Jeddah. Under the leadership of this type of Institute, the waqf administrative activities can be monitored and guided to a bright future. So many projects like Waqf Financial Corporation should be planned and executed accordingly. The Waqf Administration should be decentralized by constituting district/ Thehsil / Village Monitoring Committees under the concerned State Waqf Boards. Awareness about the waqf

should be given to the common public through the Mass Electronic Media which will lessen the encroachment and misusing of the Waqf properties. As suggested by Professor Syed Khalid Rashid in his book³, the need for A waqf journal to make waqf a rich literary field is important. Waqf journal is yet to come and waqf related publications either occur in economic journals or educational magazines.

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ENGENDERING PEACE EDUCATION: EXPLORING SELF COMPASSION IN PRESERVICE SECONDARY SCHOOL TEACHERS

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Abstract:

“Disputes may be inevitable, but violence is not.” (Unicef, 1999). In a world riddled with conflict, children’s exposure to violence is pervasive and observed across all age groups. (Finkelhor et. al, 2009). Peace education assumes crucial importance to help children manage their violent tendencies and have the option to choose non violence in thought and behavior. The goal of peace education is to foster peace and non-violence towards self and others, through kindness and acceptance. The foundations of peace and compassion towards others lie in the feeling of peace and compassion towards one self. Self compassion involves being open to and moved by one’s own suffering, experiencing caring and kindness towards oneself, taking an understanding, non-judgmental attitude towards one’s inadequacies and failures and recognizing that one’s experience is a part of the common human experience (Neff, 2003). Hence, self compassion at an intrapersonal level is crucial for the choice of non violent thoughts and behaviors at an interpersonal level. Teachers are key players to model self compassion, as well as facilitate self compassion in children. The present paper explores self compassion in pre-service secondary school teachers. Various dimensions of self compassion like Self Kindness, Common humanity and Mindfulness are analyzed. The implications of the self compassion measures for Teacher education are also discussed.

Introduction:

History is replete with instances of cruelty and violence of human beings against fellow human beings and indeed against all life forms as well as the environment. At the same time, the world is held in balance due to the unique tendency of the human mind to show compassion. The violence that we observe around us throughout history as well as in present times is offset by the instances of compassion exhibited by people throughout the ages. Hence, compassion is the mainstay of peace, and consequently of peace education.

The goal of peace education is to foster peace and non-violence towards self and others, through kindness and acceptance. This assumes increased importance in the current times, where children are exposed to various forms of

violence through the media. A commitment to nonviolence and a choice of nonviolent thoughts and behaviors is the long term goal of peace education. The foundation of nonviolent interactions with others stems from an attitude of non violence towards self. This attitude of acceptance, caring and kindness towards self may be conceptualized as Self Compassion.

There is strong evidence to prove that self compassion leads to greater life satisfaction, social connectedness, emotional intelligence, and happiness and less anxiety, depression, shame, fear of failure, and burnout (Barnard & Curry, 2011). Thus self-compassion helps to achieve the implicit goal of education to help people suffer less, while empowering them thrive as well.

Educators with a sense of self compassion can exude peace within themselves, and may be expected to model the development of inner peace for their learners. With this objective, the present paper aims to study self compassion of preservice secondary school teachers, and suggest strategies to foster the dimensions of self compassion.

Conceptualization of Self Compassion:

Compassion is defined in the Websters online dictionary as “the humane quality of understanding the suffering of others and wanting to do something about it.” Dalai Lama (1995) defines self compassion as openness to the suffering of others with a commitment to relieve it.”Self compassion involves offering this kindness, caring and acceptance to self.

The construct of self compassion has been explored by psychologists mainly from the Buddhist perspective. Dr Paul Gilbert and Dr Kristen Neff have carried out ground breaking research to explore the construct.

Dr Paul Gilbert (2010) advances an evolutionary perspective and specifically the attachment theory as the basis for conceptualization of self compassion. Gilbert (1989, 2005) asserts that self compassion has its roots in an evolved mammalian physiological system which guides attachment and care giving behavior. He proposes that individuals access the feeling of connectedness and soothing in either external ways (through other people’s behavior) or internal ways (through self directed thoughts and emotions) of kindness and caring. Self compassion is conceptualized as an interdependent set of motives and competencies that relate to prototypic caring termed as ‘The compassion circle’ - Concern for individuals’ well-being, sensitivity to individuals’ distress and needs, sympathy, distress tolerance, empathy, and non-judgment. These competencies are directed towards self as well as others. Dr Kristen Neff has pioneered a body of research in this area and has

conceptualized the dimensions of self compassion. Dr Neff explains self compassion as being open to and moved by one's own suffering, experiencing feelings of caring and kindness towards oneself, taking a non-judgmental attitude towards one's inadequacies and failures and recognizing that one's experience is a part of common humanity (Neff, 2003).

It has been conceptualized as having three interrelated components, with each component having one part which indicates self compassion by its presence (positive component), while the other part indicates self compassion by its absence (negative component).

The three components are explained in detail below:

1. Self kindness versus self judgment:

This involves being caring and understanding towards oneself, as opposed to being harsh and critical in self judgment. In times of pain and strife, the self is held in warm, unconditional acceptance, while acknowledging the need to change aspects that lead to the pain. This is characterized by the absence of harsh, critical self talk. Self kindness refers to being moved by one's distress and to hold a desire to heal and alleviate one's own suffering.

2. Common humanity versus isolation:

This considers the features of self forming a broad, inclusive and interconnected perspective to humanity. Life's struggles are viewed as a part of the common human experience, as opposed to experiencing the isolation of being the only one in pain. It involves recognition and acceptance of the imperfectness of all human beings and that all fail, make mistakes and engage in unhealthy behaviors.

3. Mindfulness versus over-identification:

Brown and Ryan (2003) define mindfulness as being aware of the present moment experience in a clear and balanced manner, so that one neither ignores nor ruminates on disliked aspects of oneself and one's life. Mindfulness involves observing and labeling thoughts and emotions rather than reacting to them (Kabat-Zinn, 2003).

It involves a sense of detached and objective viewing of one's own experience. It entails a relating of self in which one aspect of self can give compassion to another aspect of self. Over-identification on the other hand involves being carried away by one's own experiences of pain. It is the tendency to self ruminate and fixate on negative thoughts and emotions so that the mental space needed for self compassion is not available (Neff, 2003).

Neff (2003) asserts that the three components are conceptually distinct, but also overlap and tend to engender each other. Each component also serves to strengthen the other components.

- Self kindness may foster mindfulness and common humanity: An individual who is caring and accepting towards oneself may be more unlikely to withdraw on perception of failure or flaws in self, is more inclined to observe that others go through similar situations. Being patient and understanding towards oneself may allow a person to stay mindful in a painful present and adopt a balanced view of one's thoughts, emotions and behaviors.
- Common humanity may foster self kindness and mindfulness: An individual who observes imperfectness as a part of shared humanity may be more accepting towards themselves and have a mindful, clear and balanced awareness of failures and weaknesses.
- Mindfulness may foster self kindness and common humanity: A mindful awareness of one's flaws may create the space to observe that this is a shared human experience, and this observation may lead to more acceptance and caring towards oneself.

Thus, it is evident that the three facets of self-compassion enhance one other and also help to distinguish self-compassion from other constructs such as self esteem. Barnard and Curry (2011) reviewed the empirical literature on studies in this conceptualization of self-compassion and concluded that though it is clear that the three components strengthen each other, more research is needed to determine the theoretical interrelationships between the three and their contributions to self compassion. The question of whether one could be self compassionate without having all three components needs to be investigated.

A model for engendering Peace Education through self-compassion:

Peace education deals with empowering learners to create peaceful alternatives during conflict situations. This is achieved through a humanizing process of helping individuals manage their violent tendencies and prefer non-violent pathways of conflict resolution. The objective of peace education is to build peace in the minds of students. In order to explore ways in which peaceful modes of thought and behavior can be inculcated as preferred choices, one needs to examine the reasons for resorting to violence. When viewed through the evolutionary lens the origin seems to lie in the systems that regulate human emotions. Paul Gilbert (2009) in his path breaking research explains the three types

of systems that regulate human emotions. Each system has a distinctive function and tends to balance and counterbalance the other two.

1. Threat and Self protection system:

The function of this system is to pick on threats quickly and alert the individual to take action against the threat. This leads to violent and uncomfortable emotions like anger, hostility, anxiety and disgust. Since a threat is perceived to personal safety, an activation of this system as the predominant system may lead to adoption of violent modes of behavior commonly referred to as the 'fight' response to mitigate the threat.

2. Incentive and Resource seeking system:

The function of this system is to guide and motivate the individual to seek resources to survive and prosper. The positive emotions aroused helps steer the individual to achieve important life goals. An over driven individual may lapse in to anxiety or frustration if there are perceived blocks to achievement of the goals. This will lead to the activation of the threat focused system, which may lead to violent actions to overcome the obstacles.

3. Soothing and contentment system:

Contentment refers to being happy with the way things are and feeling safe. It denotes an absence of striving and wanting. This system helps an individual to restore balance by creating a space of contentment, safety and kindness. This brings about a sense of inner peace, and is also linked to affection and kindness for others. Self compassion , which is the practice of experiencing feelings of kindness and acceptance towards oneself is rooted in this system.

Proposed model for engendering peace education through self compassion:

When the incentive/resource focused system is activated, the individual may face blocks to the achievement. In this case, the threat-focused system again gets activated. Similarly, conflict situations involve the perception of threat to the individual and therefore activate the threat focused system. A fight response to these threat situations culminates in the choice of violent means of action. If the individual has a tendency to predominantly activate the soothing and contentment system, even in a situation of threat, the individual may shift relatively quickly from the threat activating system to the balancing soothing and contentment system. This will offer a choice of non violent alternatives to resolve the conflict, which is the aim of peace education. A teacher who predominantly activates the soothing and contentment system through self-compassion may exhibit behaviors conducive to peace,

and would serve as a role model to inculcate similar skills and attitudes in learners. Eg. When faced with a conflict situation in the classroom, like disruption of classroom discipline, a self compassionate teacher may tend to take a more balanced view of the situation and the involved students, and may be more likely to try and resolve the conflict through peaceful dialogue, with mutual respect, instead of resorting to violent means of maintaining discipline. The model is depicted next.

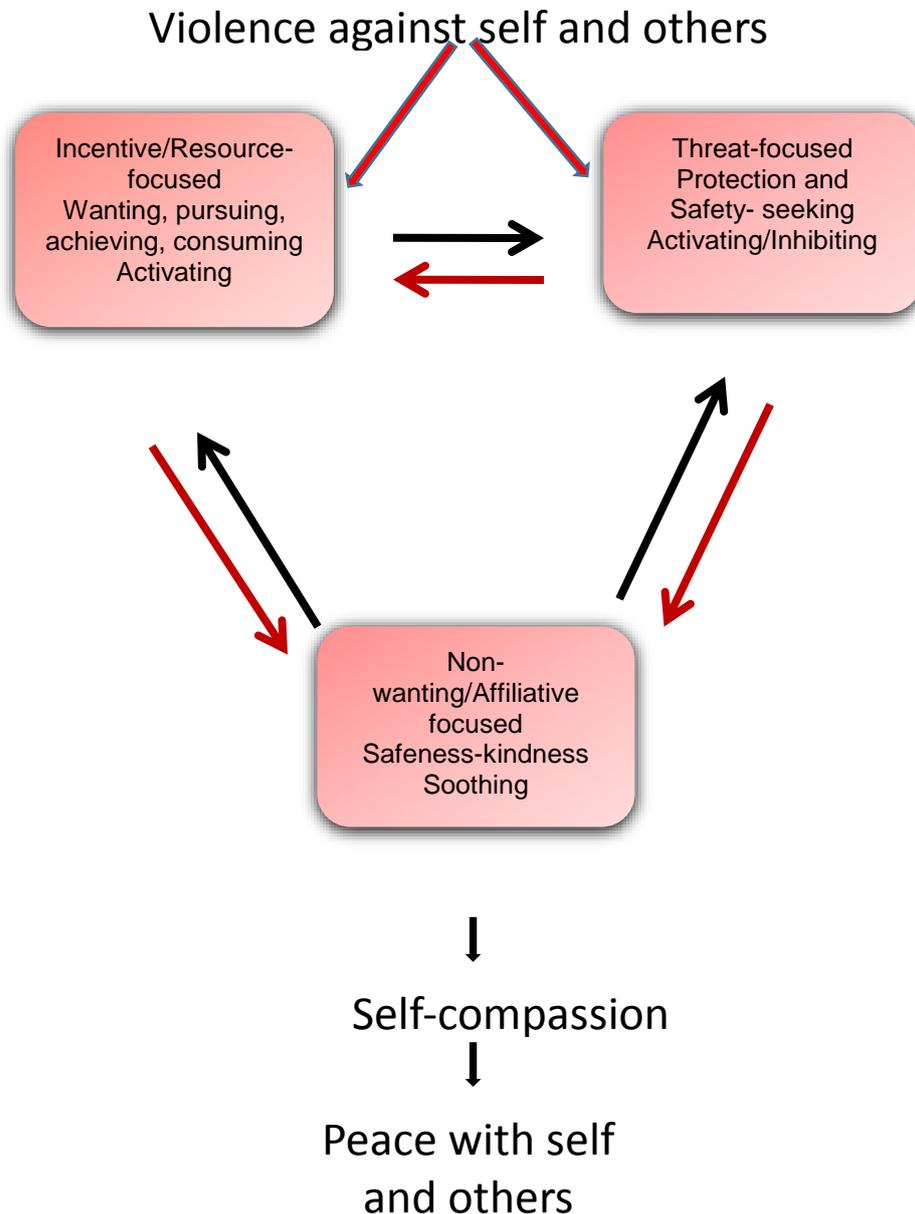


Figure.1

A model for engendering peace education through self-compassion

Thus self compassion may engender the achievement of the objectives of peace education, namely provision of a repertoire of non-violent pathways to resolve conflict, through the preferential

activation of the soothing and contentment affect regulation system. Hence, there is a need to study the level of self-compassion in teachers, which is the aim of the current study.

Aim of the study:

This research paper explores self compassion at an intrapersonal level which is crucial for the choice of non violent thoughts and behaviors at an interpersonal level. Bal-Tar (2002) points out that peace education is teacher dependant. Since peace education involves acquisition of values, attitudes, skills and behavioral tendencies, teachers need to model these to effectively transmit them to the learners. Hence, the aim of this research study is to explore the level of self-compassion of pre-service secondary school teachers. It also investigates the level of the three components of self-compassion in secondary school teachers.

Method:

The study was conducted on female pre-service secondary school teachers (N=97) within the age range of 21 years to 37 years (M= 28.9, SD = 4.9). Descriptive survey method was used for the study.

Measures used:

The Self-Compassion Scale (SCS) by Neff (2003) was used for the study. The scale has 26 items and assesses six different aspects of self-compassion, with the negative aspects being reverse coded. Self-Kindness (e.g., “I try to be understanding and patient toward aspects of my personality I don’t like”), Self-Judgment (e.g., “I’m disapproving and judgmental about my own flaws and inadequacies”), Common Humanity (e.g., “I try to see my failings as part of the human condition”), Isolation (e.g., “When I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world”), Mindfulness (e.g., “When something painful happens I try to take a balanced view of the situation”), and Over-Identification (e.g., “When I’m feeling down I tend to obsess and fixate on everything that’s wrong.”). Responses are given on a five-point scale from “Almost Never” to “Almost Always.” Research indicates the SCS has an appropriate factor structure and demonstrates concurrent validity (e.g., correlates with social connectedness), convergent validity (e.g., correlates with therapist ratings), discriminate validity (e.g., no correlation with social desirability or narcissism), and test–retest reliability (Neff 2003).

Results:

Descriptive analysis of data was carried out for the six aspects of the scale as well as for the total self-compassion score. The measures of central tendency namely, mean median and mode and measures

of variability namely, SD, skewness and kurtosis of the components and the total self compassion score are shown next.

- **Total self-compassion score:**

Table 1

Descriptive analysis of total self-compassion scores

Component	N	Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
Total self-compassion	97	3.31	3.34	3.67	0.44	-0.76	0.56

The mean of the total self-compassion score ($M=3.31$, $SD=0.44$) indicates that the participants show moderate level of self-compassion. The distribution is negatively skewed and has positive kurtosis. The absolute values of skewness and kurtosis are less than 2 indicating a normal distribution.

- **Components of self-compassion:**

Table 2: Descriptive analysis of components of self-compassion scores

Component	N	Mean	Median	Mode	Std. Deviation	Skewness	Kurtosis
Self kindness	97	3.42	3.40	3.20	0.75	-0.90	-0.42
Self judgement	97	3.00	3.00	3.00	0.75	-0.90	1.14
Common humanity	97	3.16	3.25	3.00	1.00	-0.41	-0.33
Isolation	97	2.83	2.75	3.50	1.09	-0.03	-0.91
Mindfulness	97	3.82	3.75	3.75	0.64	-0.02	-0.38
Over identification	97	2.96	3.00	4.00	0.79	-0.11	-0.96

- The participants show high mean scores on mindfulness ($M=3.82$, $SD=0.64$), while they are moderate in self kindness ($M=3.42$, $SD=0.75$), common humanity ($M=3.16$, $SD=1$), self judgment ($M=3$, $SD=0.75$), isolation ($M=2.83$, $SD=1.09$) and over identification ($M=2.96$, $SD=0.79$).

- The distribution is slightly negatively skewed for all scores, and shows negative kurtosis for all scores apart from self judgment which shows positive kurtosis. The absolute values of skewness and kurtosis are less than 2 indicating a normal distribution.

Graphical representation of mean and SD of components of self-compassion:

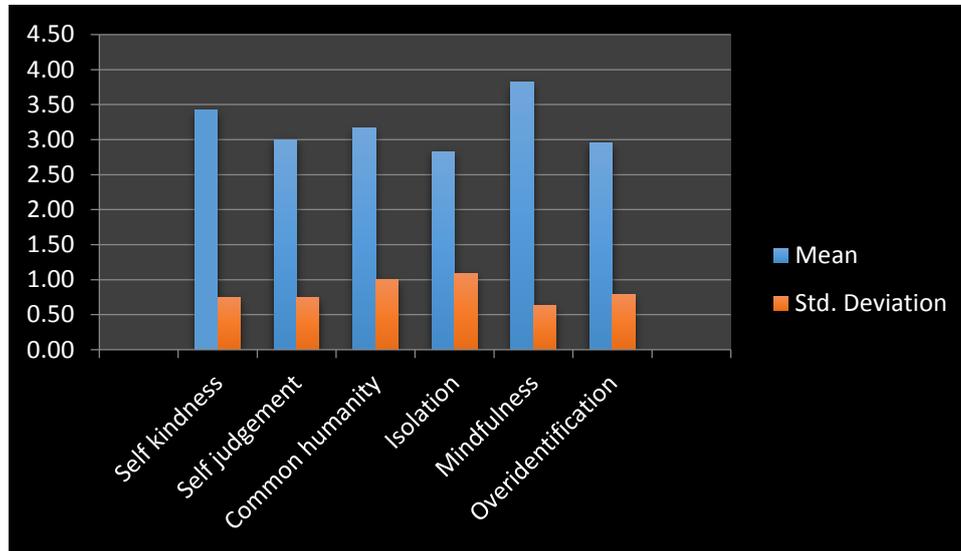


Fig. 2 : Mean and SD of components of self-compassion

- **Comparison of positive and negative components of self compassion:**

The scale measures three positive components of self compassion, namely self-kindness, common humanity and mindfulness. It also measures the corresponding negative components of self compassion, namely self judgment, isolation and over identification.

- Positive components:

The mean scores on the positive components indicate that the participants are high on mindfulness, while being moderate on self kindness and common humanity. A comparison indicates that the order of mean scores is mindfulness > self kindness > common humanity.

Graphical representation of the means and SD of the positive components of self-compassion:

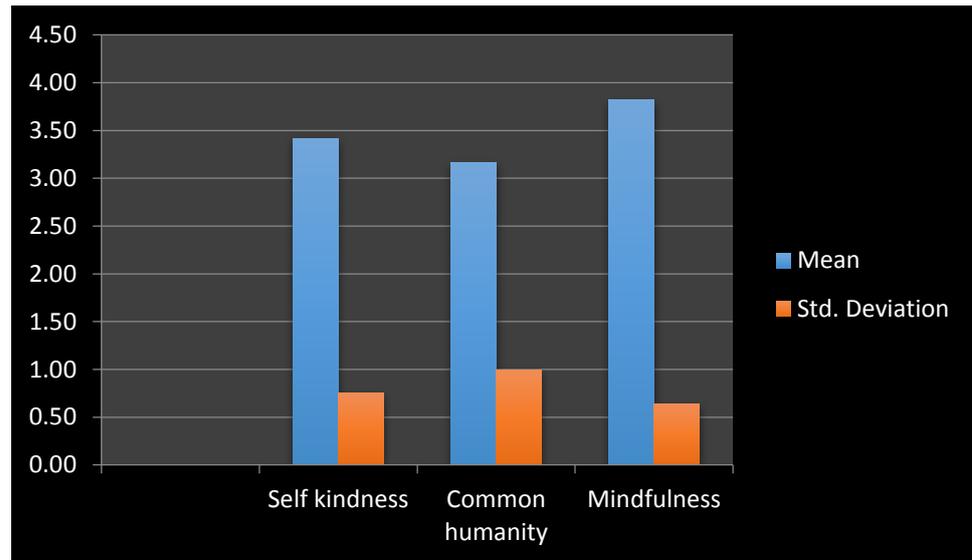


Fig 3 :Means and SD of the positive components of self-compassion

○ Negative components:

The mean scores on the negative components indicate that the participants have moderate level on all three components.

A comparison indicates that the order of mean scores is self judgement > over identification > isolation.

Graphical representation of the means and SD of the negative components of self-compassion:

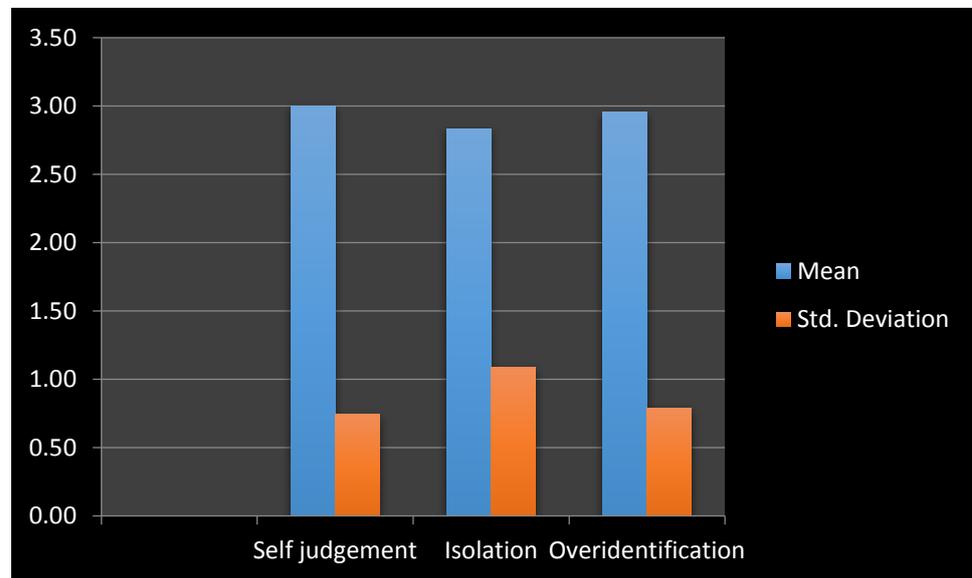


Fig 4 Means and SD of the negative components of self-compassion

• **Comparison of total scores of positive and negative components of self compassion:**

Table 3: Descriptive analysis of total scores positive and negative components of self-compassion

Component	N	Mean	Std. Deviation
	Positive	291	3.46
Negative	291	2.93	.88

The mean total score of the positive components ($M=3.46, SD=0.85$) is higher than the mean total score of the negative components ($M=2.93, SD=0.88$). Hence the participants show higher self compassion than self-coldness.

Graphical representation of the means and SD of the negative components of self-compassion:

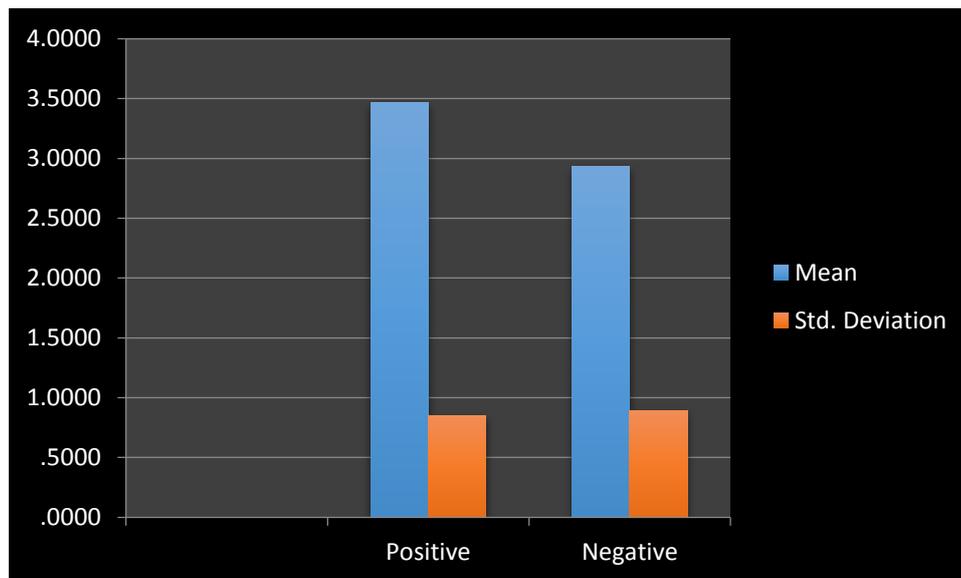


Fig 5 : Mean and standard deviation of total scores of positive and negative components of self-compassion

Discussion:

The findings indicate that the participants show moderate level of self-compassion. Since all the participants are female, the moderate scores may be attributed to the gender difference observed in scores on self-compassion. Research evidence proves that though females tend to be more compassionate to others than men, they also tend to be more self-critical, and less on self-compassion than males (Yarnell et al.,2015). In this study, among the negative components of self-compassion, the highest mean scores were on self judgment, which supports earlier research findings. This needs to be further investigated by studying the self-compassion scores of male teachers and then comparing them to the scores of female teachers. Nevertheless, the moderate level of self-compassion points to the need for training in self-compassion for the female participants.

The findings indicate a high level of mindfulness in the components of self-compassion. This may be attributed to the exposure of the participants to material expounding the construct, an overall exposure to a balanced outlook towards self through social media, programs of personal development at the institutions level, or the meditation practices that the participants learn as a part of their yoga training as well as their cultural background. This is in line with the findings of a cross-cultural research study which reported that participants subscribing to the eastern philosophies showed more self-compassion than their western counterparts (Neff, 2009).

The component of common humanity was reported as being lowest for the participants. Since the participants are pre-service teachers, a feeling of connectedness is crucial for them to conduct their professional duties with humane spirit. Hence inputs in these areas could also be considered as a part of the teacher education curriculum.

The negative components of self judgment and over identification showed almost similar levels. This is supported by prior research studies. Women have also been found to be more critical of themselves and to use more negative self-talk than males (DeVore, 2013; Leadbeater, Kuperminc, Blatt, & Hertzog, 1999 ; Nolen-Hoeksema, S., & Jackson, B. , 2001). Hence training and psychotherapeutic inputs to deal with the tendency for self judgment and over identification may help the participants overcome these. This is crucial because the tendency to be self critical may result in adopting a judgmental and critical attitude towards learners, activating the threat regulation affective system in them, which may lead to violence towards others or self.

Conclusion:

There is a concern over the emotional well being of teachers as it has a direct effect on the well being of the learners. Teachers who operate mainly through the threat activating affect regulation system may resort to violence to decrease the level of threat. This puts the students at harm, and also has the risk of this behavior being modeled by the youth. Indeed, such instances have been reported and have received wide media coverage. A culture of violence propagated by the teachers is modeled by the students and tends to have a cascade effect. Hence it is important for teachers to predominantly access the balancing affect regulation system of soothing and self kindness through the practice of self compassion first which may be expected to translate into compassion, kindness and acceptance towards others.

The findings of the study indicating that pre-service teachers show moderate level of self-compassion have far reaching implications. They suggest that training in practices of self-compassion could lead to increased levels and enhanced mental well being of teachers. Teachers who operate from a sense

of inner peace would be able to foster the same in their learners, paving the way for a culture of peace in the minds of the teacher and the taught, and in effect of the society at large.

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A CASE OF CULTURAL CONFLICT, CENTERING AROUND “COMMUNAL COMPUTER” AT A UNIVERSITY IN JAPAN AS A TRANSCULTURAL CONTACT ZONE

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Abstract

In this case study, a conflict in the concept of “communal computer” is to be reviewed and analyzed in numerous internet messages that were exchanged for about three months in 2015, and the actual setting up by one of the actors that caused the fatal damage to one of the actors’ computer. These actors’ cultural backgrounds include Chinese, Japanese and Americans. The scene takes place at a Japanese university, a task was to set up a computer to be used for “communal use.” The central argument is about the transculturation of the “contact zone (Pratt, 1992)” in which logics of three cultures land on the appropriateness through a case study of conflict. Questions include, “how three subjugated and dominant cultural players show the modes of concept of “communal property,” and “how they appropriate their concepts.” Through knowing different modes of appropriateness, or “what they make it mean (Ibid., p.7),” modes to a coherent peace can be suggested. In other words, all three aspects, not one, should be taken into consideration when it comes to “an agreement.” It appeared that a Japanese professor in computer science claims “communal property” usage is legitimized by financial ownership, so authorized persons share the password. A Chinese believes that a “communal” computer should be available to anyone at large, so that there should be no restrictions on anyone, thus, a password was pasted on the monitor for a “communal” e-mail address. A professor with an American cultural value claims that it is a violation of law, unless the contract is made to cover a multiple number of users. **Thus**, the concept, “communal property” plays in ownership, authorizing decisions, access, and usage specified in the contract. The author suggests, all these aspects should be informed throughly to actors prior to the installation of a communal computer.

Key Words: Cultural Conflict, Communal Property, Japan

Introduction :

Cultural conflict can occur any time at anywhere when more than one person from different cultures interacts. Areas of conflict can be on the surface level, or deep in the value and assumption levels. Many times, when people experience cultural conflict, usually subjugated or a less powerful party is silenced, and the conflict itself may not be sensed by any parties participating in the interaction but only in the subjugated one.

This cultural conflict happened in a Support Room at a university in Japan. This ten year old office serves international students, and basic facilities in the office include, desks, chairs, computers, couches, and tables in the space, 5meters by 10meters. Five graduate students are hired every semester as assistants and each shows up only one day a week. From the start of this office about ten years ago, there has been only one computer that only one graduate student used at that time. After a decade, the number of assistants increased, and this year, five graduate students were hired and use it when they show up. The job is taken via internet message, or some students walk in. The nature of the job is, a lot of times, to check the language grammar, or consult students when they bring problems. There are two administrators who are alternately in charge of running the office, for six months at a time.

Only this year, a faculty committee made a suggestion to purchase two new computers for the public at large be permitted to access in this office. This administrative decision introduced the invisible conflict among administrators, a graduate assistant, and computer server administrator. The focus was around the computer setup, and registering for an account for the software program.

Methodology:

Participant observation was taken by the researcher. The text data were collected from the internet e-mail messages, and act of doing and its report, all made by above three persons and surrounding people, from the incident appeared in February 10th to April in which the trouble settled will be examined by discourse analysis. From the interview with surrounding people, more messages were exchanged among surrounding people, but they were missed from the eyes of the researcher. All text data were printed, and ordered in sequence. Because the discourse in this case is daily and ordinary business communication, one's privacy was not included. In addition, identities are not disclosed in the final report. All messages were written in Japanese. (According to Japanese law, such communication is legally disclosed as long as individuals are not identifiable by outsiders.)

The Scene:

The idea of increasing the number of computers in this Support Room appeared at least two years ago in the faculty committee meeting. At that time, no doubt of illegality was raised from the 7 or 8 faculty members. Then, two new computers were decided to compromise due to the limited budget, however they planned to purchase more in the next semester to let all five graduate students use one for each. However, there was a disagreement among administrators because the space was too small to accommodate all five students. Then, the idea came of making these two new computers to be available for the students at large. The communal computer was a difficult idea because an administrator A knows the contract with the computer software company limits the number of user to one, every time she purchases a set of computers. Therefore, when the graduate student sent A, a notice of setting up the computer, A stopped to further this process, and asked the university wide Compliance Office if this type of usage was legal or not. Unexpectedly, the reply said, “There is no problem with the contract provided by the software company.” Therefore, she had to agree on the set up.

The graduate student, then, set up two computers, with the account setting under the communal name, not individual name. However, the software company did not accept this communal name as an account, so she failed in setting it up. Then, she e-mailed asking if anyone knows how to set it up, please continue to use the computer by him/herself. At the same time, she asked if anyone received a security code sent by the software company, she would like to have it, so that the registration can be completed. However, administrator A did not think it was a good idea to give security code to someone else than the one to whom it was sent. In addition, A was tremendously busy with other academic matters, so she did not pay attention to the matter. Then, after completing the set-ups, the graduate student left the room with pass word pasted on to the monitor screen, which was assumed to be the administrator A’s account (The communal name of the account was that of a list-serve account, and this A serves as an administrator of this list serve.) Then, A contacted this graduate student, not pasting the pass word on the monitor. Then, the graduate student went back and pick the password and threw it away by shredding it.

The story turned out to be a serious problem because A’s computer at home started running strangely one day, then her office computer started showing the similar condition. Then, A tried to repair the computers by asking the professor who is a computer server administrator at the department, and commercial technicians at stores in town. It turned out, those failures of the computers at A’s home and the office were due to the improper access to the computer software account made by the graduate

student. The number of access was made a dozen times, so the software company had to list the address of the source as an improper user.

The problem was not acknowledged instantly by two people, because of the registered address was A's address used as a list serve program administrator. The solution took more time than necessary, but the central argument among them was about the "communal computer usage." The question for A and the graduate student is, "is a communal computer legal to set up, and technically approved by the software company?"

The professor of computer server administrator at the department watched the situation, and called a meeting to see how and why it became like this, and furthermore, he gave two persons an answer to the question. "Yes, it is legal, and technically possible." While he claimed A's computer situation is nothing to do with the graduate student's improper access to the software account which was registered under A's e-mail address, he stated, (1) communal computer can be set up technically, and (2) legally permitted.

The technical problem of A's computer was solved after consulting the software company. The professor of computer server administrator then switched list-serve administrator to another administrator who did not question the legality at all, and made further attempt to make new computers for communal use. It took entire three months to settle the problem, but people in concern felt bitter about this case.

Data:

Pratt (1992) claims that the transculturation of "contact zone" often shows groups of people have different levels of power. This case study offers the "contact zone" of three cultures: Chinese, American, and Japanese. A graduate student is from China, so we assume she has a background of having Chinese culture. The researcher A has a long stay in America, so we assume she has a background of having American culture. Then, the computer server administrator who has a background of having Japanese culture. All three cultures "contact" in the university for this occasion. Pratt further points out those logics of three cultures land on the appropriateness. Let's see how each cultural values and behaviors interact with their own logics of appropriateness.

1. Power Relationship

The ascribed power is, A is a professor but not directly instructing or administrating this graduate student. The level should be not so influential or forceful, but A's authority was necessary to carry on the task. For this graduate student, her own administrator of the Support Room holds the highest authority. For the graduate student, the computer server administrator holds remote power distance, and the graduate student did not consult him for any computer setting. There is one professor who is the administrator of the Support Office at that time, but she was out of picture. She plays an important role of starting the project and creating the problem, but when it come to the communal usage of the computer, she refrained from expressing her own opinion. The researcher guesses that this person senses the risk of setting up the communal computer, but she could not do anything but follow directions, because she had no time to examine and investigate the legality and technicality of using the computers.

Leaving two boxes of new computers, and not setting them up were acceptable, as it is always the case with two other old computers, sitting in that office without being set up for a couple of years. In the discourse, the messages reflected above power distance and authority. For example, the graduate student opened and closed the message with the expression, such as; "Otsukaresamadesu (I bet you must be tired.)" and it is a formal written greeting, and "Ranbun nite shitsurei itashimashita (I am sorry for the poor statement.)" and "Nanitozo, yoroshiku onegaishimasu (Best Regards.)"

There was another concern for not directly addressing the person to whom this graduate student wanted to ask. When she had to obtain the security code sent by the software company, her addresses include all other four Support Room staffs, and the expression to ask "if any of you know how to continue the setting up, please go on." The researcher sensed that this particular message was directed to her, because no other staffs would know how to do it, but her. Therefore, sense of power was hinted in the vague expression of "anyone," because this graduate student could not dare to address directly to the researcher A. The content of the message is about the security code, and this fact also indicates the reason for hesitation of addressing directly to the power holder.

The professor, or the computer server administrator holds almost same level power to the graduate student, but this professor holds professional knowledge regarding this case. So, ascribed power is somewhat higher than the researcher, but attributable power level may not be because the researcher obtained the technical information from the computer specialists in town, and their knowledge was more up-to-date than that of the computer server administrator.

The last aspect of power relation is the host/guest situation of the setting. In other words, the Chinese graduate student feels a lot less power in Japan due to her “guest” status. Language usage is the major difference, but “culturally appropriate” behavior is not learned in a short period of time, although cognitively knowing may not mean culturally acceptable behavior, or vice versa. The researcher and the computer server administrator both have “host” status, but not in the core discipline of the department. This implies for the graduate student, these two professors do not hold the highest authority against her.

2. Discourse on “communal computer usage” and Analysis

When the researcher e-mailed the computer server administrator, asking if using one computer by an unlimited number of people is illegal, he replied;

“. . . the license is tied with each device, so it is principally no problem if unlimited number of people use (Nov. 17, 2014).”

“There is no problem from the aspect of the license (Ibid.)”

“If every user has to obtain his/her user specific license for the computer, we have no way but letting people use the one set at the net-cafe and hotel lobby (Ibid.).”

This computer server administrator, further states in response to the researcher’s points, when newly purchased computer is set to start, the contract phrase is, “user must be one,” by the computer software company, he jokingly wrote;

“Who, on earth, is saying this (“one computer’s user must be just one person”) ? ? ? ”

The condition of setting a communal computer is for each user to sign so the administrator knows who used it, in case of some wrong usage appeared. This solution is to find the criminal afterwards, not preventing the honest serious persons from committing a crime. But this computer server administrator told the researcher that it is more important to know who did the wrong act, but you do not need to collect their names for sign-ups.

This computer server administrator claims that he holds all the authority. The communication activity to make this authority appropriate is the assertiveness in his technical writings. He even blames that the statement that goes against him is totally “wrong.”

The university Compliance Office, also asserts the authority in judging, although this case, the party who holds the authority of the contracting license is the software company. There is no clear backups from the computer server administrator for the Compliance Office, but the line of logic is very similar, and thus, it may be the university authority routine logic that shows appropriateness.

The graduate student's message opened up from the beginning the setting up the communal computer, and that task was directed by her supervisor, as follows;

“Today, I got LAN cable and the Office Academic from my supervisor, so I set up the computer(s) . . . for the Support Room.”

“Last week, I informed you (four staff members and two supervisors) about setting up the communal computers in the Support Office (Feb. 16, 2015) . . . both computers are ready . . . so, I wanted to share this information with you (six people) (Ibid.)”

“These Two communal computers have PPTP connection, and . . . the Office Academic is already installed, and I created the account for the activation. The account name and the password are pasted on the computers in the Support Room (Ibid.)”

Then, the researcher A asked the graduate student not to paste the password on the computer monitor. She replied, and agreed to discard the piece of paper.

The discourse with this graduate student ended here, but it turned out from the documents from the software company, this graduate student created two accounts after she found one was not accessible. In the attempt of creating the first account, she tried to access it 13 times by putting in different passwords with which she came up from somewhere. Fortunately or unfortunately, she hit the right password one time, and she was able to go into the account.

The researcher indicated it was against the license agreement, so it is illegal and technically impossible, and she told for last two years to the same staff members. For the first reply, she stated as follows;

“The communal e-mail address which you (the graduate student) tries to create is in fact a virtual one. There is no password for this address (as you requested in the past.). You cannot send any

messages out to somewhere. It is a 'receive' only address. You can name that address as if sender is not an individual, but the group . .

. “ “A multiple number of people are not allowed to share the same e-mail address. So, please use your individual address online and continue using it as you did in the past (Feb. 11, 2015).”

Then, the graduate student asked if anyone received a security code. Then the researcher replied that arrived at her address. However, the researcher's appropriation for her cultural conflict was that she did not share the security code with this graduate student.

Then, the graduate student's appropriation was to go on creating more accounts until she was able to create the workable one which actually, was the second e-mail account.

In the end, when the problem appeared to be a fatal computer incident, the researcher asked this graduate student about what she did to the e-mail account in detail. However, the graduate student's appropriation was to forward any inquiries regarding this incident to the boss of her own boss (By this time, it is easy to speculate that her boss told this graduate student forward all the inquiries to the boss of her own boss.)

“An act of referring” is the appropriation for the cultural conflict of the graduate student. That is the avoidance to clarifying the story, and everything became blurred. That is, if setting up two computers for the use of unlimited number of people appears illegal, the authority to take responsibility must be the one at the highest status in the department. In other words, rank-and-file students and staffs are chicken out, but covering up all the possible mistakes. This act is, authentically, “appropriate” for the graduate student's power position, for the task demand to set up the computer, and to survive in the academic program.

The researcher made a semi-legal attempt to inquire this graduate student's supervisor for the damage made to her private as well as office computers (because her software company's account had a fatal misconduct, any programs registered under that account name were affected.), but the supervisor made an attempt to keep the innocent posture, as well as paternalizing (as a father like supervisor, that is often indicated as Japanese business scene.) her job to rescue this graduate student from unreasonable attack.

For the supervisor of the graduate student, a damage covering all computers was unheard of, so she kept the position stating, it must be a wrong charge against her.

The computer server administrator, similarly, did not believe an entire damage was due to the graduate student's numerous attempts to log in with the wrong password. He directed his anger to the higher authority while claiming the entire damage was not done by the graduate student. He also claimed the damage was made due to the totally different act that the researcher attempted previously with some other commercial accounts.

Shifting the accused target to something different, and then bring the conflicting scene with harmony, while severely criticizing the one (the researcher) who accuses of the damage to some specific persons. And the appropriation made by this computer server administrator was to "avoid looking for the causes, but solve the problem of computer usage as soon as possible (Mar., 24, 2015)." Shifting the focus of attack appeared naturally, and it seems this is the Japanese way of handling the cultural conflict. The wordings of this computer server administrator was as follows;

"It is also important to look for the causes, at the same time, it is necessary to solve the problem as soon as possible of the computer which (You, the researcher) cannot use."

It seems that finding the causes and accuse someone for the problem may challenge the harmony, or group sentiment in the work situation. Therefore, a technical solution can be the least political strategy so that disturbances may not be induced.

Conclusion:

Concept of "communal property" become complicated when people from different cultural backgrounds are involved, and there appeared all sorts of "should not" behavior attached. Concerns include not just their activities, but the future informal evaluation from unrelated people. With Pratt's term, this case is a "contact zone" in which transculturation happened, and the actors came up with modes of appropriateness for the conflicting situation. These "modes of appropriateness" are assumed by the three actors' cultural heritage, because that is the way people usually carry into different social interaction.

From this case study, it appeared, not only to find the causes, but also the solution would take different cultural approaches, and all actors offer different ways of dealing with them, and appropriate them by keeping their silence, or accusing the bad actor, or using the legal help.

The concepts they make association with the “communal computer” include, financial ownership, authorizing decisions, access, and usage specified in the contract. The author suggests, all these aspects should be informed throughly to the actors prior to the installation of a communal computer. Mary Louise Pratt, *Imperial Eyes*, Second Edition, Routledge, Taylor & Francis Group, London and New York

TRANSCULTURATION OF A CASE OF JAPANESE BRAZILIAN IMMIGRANT WORKERS IN SHIGA, JAPAN

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Abstract:

This is a study of Japanese Brazilian immigrant workers in Shiga, Japan. The primary data was from interviews and observation that were obtained to find the identity shift of the immigrant workers by Kawai (unpublished thesis, 2015). These immigrant workers reside in a community in Shiga, Japan, who have Japanese ancestors and citizenship. The by-product of this interview provides us with rich information regarding their lives in Japan and Brazil, including how they “select and invent from materials transmitted to them by a dominant or metropolitan culture (Pratt, 1992, p. 7).” Interview with the principal of Brazilian immigrant school, Shiga, Japan, and the observation on the immigrant school, reveal the lives of immigrant children and parents that they “cannot readily control what the dominant culture visits upon them, they do determine to varying extents what they absorb into their own, how they use it, and what they make it mean (Ibid.).” In conclusion, the lives of Brazilian immigrants appear a transculturation process, but unable to take advantage of earnings in Japan and moving on to the next strata of society back in Brazil, and further, some returned back to Japan as laborers. The Brazilian immigrant workers once dreamt of making a fortune in Japan with the Japanese traditional diligent work ethics, but their ego is betrayed because “non-Japanese” are treated in Japan as one group as “Gaijin (Foreigner),” regardless of nationality. Their transculturation strategy to cope with this ego-threatening experience includes either “gaining Japanese citizenship to receive decent social treatment” or “staying always in an immigrant group to avoid ego-threatening experiences.” However, the school principal has made great efforts to help the next generation indicating a hope for a multicultural society, and her coping method with cultural difficulties may help solve current society's ambivalence towards these immigrants. Therefore, this is a fairly clear picture that shows Pratt's (1992) transculturation of the contact zone.

Mary Louise Pratt, *Imperial Eyes, Travel Writing and Transculturation*, second edition, Rutledge Taylor & Francis Group, London and New York, 1992.

Key Words: Brazilian Immigrant Workers, Japan, Transculturation, Contact Zone.

Introduction :

According to the Japanese Ministry of Labor and Welfare, there were 2,033,656 immigrants to Japan in 2012. The immigrants are defined as anyone who are staying more than 12 months in the country in which this person does not have his/her own nationality or he/she was not born⁴. This population include those who intend to be employed in the country, other than his/her own. The immigrants to Japan include those who are from Korea, China, Brasil, Philippines, and Peru⁵. There are 26 cities in 8 prefectures in which those who are from Latin America have made communities and organized themselves to help themselves to send their voices for the policies and community organizations⁶. There are, however, more communities in various cities in which non-Japanese people reside and hold employment.

The primary research was conducted by Kawai (unpublished, 2015), by interviewing and observing the education activities for one of the Latin American groups in Shiga, Japan. The research was to look for the self-identity shift of those who run and help a Brazilian school. In the course of searching the identity shift, a large amount of information regarding the personal activities and thinking were collected. The current research, therefore, views these text data from the different angle which is a transculturation that happens in the contact zone (Pratt, 1992)⁷.

Problem Statement:

Pratt (1992) states, “contact zones”, that is, social spaces where disparate cultures meet, clash, and grapple with each other, often in highly asymmetrical relations of domination and subordination — such as colonialism and slavery, or their aftermaths as they are lived out across the globe today (Ibid., p.7).” “ethnographers have used this term (transculturation) to describe how subordinated or marginal

⁴ International Migration Agencies, quoted by Asahi Shinbone, <https://kotobank.jp/word/移民-32276#E7.9F.A5.E6.81.B5.E8.94.B52015>

⁵ Repeta, Lawrence, and Roberts, Glenda S., Immigrants or Temporary Workers? A Visionary Call for a “Japanese-Style Immigration Nation”, <http://www.japanfocus.org/-Lawrence-Repeta/3450/article.html>, 2015

⁶ <http://www.shujutoshi.jp/gaiyou/index.htm> accessed, May 28, 2015

⁷ Mary Louise Pratt, *Imperial Eyes, Travel Writing and Transculturation*, Second edition, Routledge, Taylor & Francis Group, London and New York, 1992

groups select and invent from materials transmitted to them by a dominant or metropolitan culture (p. 7).”

Interviews with the principal of Brazilian immigrant school, Shiga, Japan, and the observation on the immigrant school, both reveal the lives of immigrant children and parents that they “cannot readily control what the dominant culture visits upon them, they do determine to varying extends what they absorb into their own, how they use it, and what they make it mean(Ibid.)”

Questions in this research include,

“What do Brazilians who have Japanese ancestors do with Japanese modes of representation?” “How do they appropriate them?” “How do they reject and give-in to the reality of Japan and Brazil that confront them?”

Therefore, this research aims to review what and how these Brazilians take “knowing and interpreting, . . . using the (host culture’s) own tools” (Ibid., p. 7).

Methodology:

This research uses the secondary data, which was primarily collected for the another purpose. The interviews were conducted for the primary research to the key persons in the Brazilian community, namely educators including the principal, or founder of the school. Interview tape was transcribed. Data was reviewed and searched for the descriptions which show some concepts to answer above questions. However, the situation may not be single to show one aspect, for example, “representation.”

Data and Analysis:

Modes of representation may appear in various forms about any categories of host and own cultural verbal or nonverbal behaviors, material, or non-material matters. The most distinctive representation were about categories of culture as stereotypes. The nationality issue is the prominent one, and here are the appropriate people who fit our profile. Actual persons’ names are treated as anonymous, so only the capital letter is used here.

K: "I thought that I was a Japanese. However, I was told (when I was in Brazil) that I would be treated as a Foreigner in Japan. This is, of course, (I do admit that I am a foreigner, here in Japan). (And, after staying for a long time, I am) still now (a foreigner) (because), I have an accent with my Japanese language."

D: "Although I have been living in Brazil or Peru as a Japanese for a prolonged time, or I had an identity (as a Japanese), when I got here, I would be a Foreigner from native Japanese eyes."

Issues are identity, nationality or modes of daily lives as a Japanese, and their unexpected treatment in Japan is contradictory toward their "ego." The bitterness and disappointment appear, through acknowledgement of "rightness" of Japanese judgement. The Brazilians' heart was appropriated by acknowledging the accent of Japanese language. However, a sense of feeling "unfair judgement" comes out with bitterness. The judgement of native Japanese are about language pronunciation, but if these Brazilians pretend to be a Japanese, without saying any words, no-one notice that they are Foreigners from outlook. They can fake the Japanese, but if native Japanese notices the truth, they might be furious.

Thus, their concern is not the language or nationality issue. It is about the issue of inclusion and exclusion for them.

T: "... Japan is the number one, you know, in Brazil. There is an expression, "Japanese Guaranteed" in Brazil. This means, Japanese guaranteed, and no contract is needed. Japanese just makes an oral promise, and that is enough (in daily life.) They keep oral promise, that is how we lived (in Brazil) so we can't distrust Japanese here in Japan."

Their representation of "Japanese" are clearly that of traditional goodhearted, trusted Japanese. However, there is a background story why T was stressing this fact here. When neighboring Brazilian school needed some funding from the Japanese government to maintain the education for children from Brazil, this school provided the information on the school, so that the neighboring school receives enough money to maintain schooling. However, when the funding was made to the neighboring school, this school did not receive any funding. Therefore, the principal felt betrayed. Her mind tells, "If they are the Japanese, why did they cheat us?!" It seems totally against

Samurai spirit (Samurai never attacks his enemy from the back, because it is not fair.) The ambivalent appropriateness appears in this narrative, then the balancing act is to quote the Japanese in Brazil.

N: "The Japanese Brazilians in Brazil are all wise and clever. Because they are clever, (when the conversation topic include the Japanese), they feel very happy."

The appropriateness for being a Japanese Brazilian in Brazil, is somewhat for the sake of keeping "happiness" among community. That is already a good enough reason for a Japanese Brazilian to be.

In Brazil, Japanese Brazilians were not allowed to interact with other ethnic groups.

T: "I was told not to talk to that Gaijin (foreigner), not to go out with them. So, I did not have any interactions with anyone who was not a Japanese."

Appropriateness appeared for such behaviors;

"My father used to tell me that Brazilians were the third (class citizen), and the Japanese were the first (class citizen). (quoted from Sugiyama, 2008, p. 185)⁸"

The choice of immigrating to Japan for Brazilians are provided with this appropriateness.

K: "Because my father is a Japanese, (we always talk) with my father, and grand parents that 'we are Japanese after all,' or 'we have a pride of Japanese that is why we go back to Japan to live as an expected course . . .'"

However, the modes of representation of being Japanese became rationale to immigrate back to Japan. The nationality, culture, and geographical location are, therefore, bound by one category called the Japanese. The logic, however, is circular in reasoning.

According to Mita (2009)⁹, these Japanese Brazilians try to avoid becoming uneducated Brazilians, so they study hard to become "honorable Japanese." Those "Japones" came to Japan and being called

⁸ Sugiyama, Haru, "Imin Kanryu, Nanbeikara Kaettekuru Nikkeijin tachi, Shincho-sha, 2008, p. 185

⁹ Mita, Chiyoko, "Dekasegi kara Dekasegi he,; Brazil Imin 100nenn ni miru hito to bunka no Dinamism" Fuji Shuppan Kabushikigaisha, 2009.

with disrespected “Brazilians, or “Gaijin (Foreigner)” This representation is a genuinely “hurt,” but to appropriate new representation, one of the means was to obtain Japanese nationality. Then, the following appropriation is to obtain “credibility” and “trust” from the surrounding Japanese. The fear stemmed from the physical outlook as a different ethnic outlook was acknowledged, and felt by the Brazilian Japanese as well. At this stage, their perceptive appropriation is already that of Japanese natives.

The school principal N. wanted to obtain Japanese nationality, and that, she believed, would make her life-long project possible.

N: “For a long time, “a foreigner (she)” alone put an effort to establish a school for the children from Brazil. However, Japanese governor did not help me (because I am a foreigner, here.). (If I got a Japanese nationality), they can trust me “they can trust what I really want to help those children who may become non-Japanese if I do not care about.”

The interpretation of this school principal’s excessive concern for the task of bringing straight up the Brazilian children appears the best example of mode of representation as Japanese and the appropriateness of doing it, in spite of being called, “Gaijin (foreigner)” disrespectfully in Japan. In other words, “it was right and just in Brazil to treat Japanese Brazilians, so I should do it like that also in Japan to Japanese Brazilians. Then, the respect for the dignity would naturally emerge, and all our minds become happy forever.”

The school principal

Based on above logic, the school principal devoted herself to establish and manage the school. She used to be a teacher in Brazil. Her daughter in Brazil became a medical doctor, and her son became a college professor. She came to Japan to work, some years ago, and saw children from Brazil were staying in a company dormitory, watching TV during the day time on weekdays and not going to school. She felt that was strange, and that kind of life would make children sick. In order for her to stay in Japan, she divorced her husband who is in Brazil. All her family members are rich, she said, but she is all alone, living in Japan. “Everyone tells me that I am strange, but once you started the school, you can’t quit. You can’t let the school go wild. (Do you call me) generous, or silly?”

Once she returned to Brazil, and came back to Japan, again. Then, she devoted herself to establish the school for children from Brazil. The first task was to collect financial base, and fortunately, her Japanese employer helped her to purchase the land and facility for that purpose. She is not capable of reading or writing, nor speaking in Japanese language.

The school hires eight teachers who obtained the teaching certificate offered by Ministry of Education of Brazilian Government. The program is free of charge, started about five years ago, and available through internet. There are 60 students, the age range is from six to eighteen, and the program is from elementary education to high school education (Kawai, unpublished, 2015)¹⁰.

The most difficult issue for this school is the financial problem for the management. In order to collect enough money, the principal uses a cardboard box to make cash, accept donations from the neighboring farmers in product to use in the school lunches. The principal tasks include, driving a school car from pupils' home to the school, cooking lunches and dinners for students, and sometimes, taking sick students to the hospital. The difficulty of finance illustrates that she balances checks by moving money from one credit account to another to pay the bills on time.

The school charges tuition, but the principal allows some parents to receive a free education if she knows the children from a very young age. The discretion regarding treatment of some children differently is the principal's appropriation for not forcing strict rule of charge, but somewhat traditional Japanese "favoritism" regarding "knowing one's situation, or someone you really know." There is, indeed, the power relationship between this principal and the other Brazilian population based on this matter, "knowing one's situation, very well." The discretion regarding the payment is based on this, or in other words, her manifestation of "Japanese Guaranteed" and it is the guarantee to provide the children with education.

From series of this principal's activities, it can be interpreted that "offering the education for all Brazilian students should be "guaranteed," at any cost. She makes this effort appropriate with the reasoning; Japanese were the first class people in Brazil, who excelled in learning, and became an elite class. That dream should be realized in Japan, because it is the original place her ancestors came from. However, Brazilians are not treated fairly in Japan to actualize this fundamental goal — that is to protect their dignity.

¹⁰ Kawai, Shunya, *Zainichi Nikkeijinn no Community to Nihon Shakai no Tougou — Shigaken no Nanbeijin Community no Rei wo Tooshite*. Unpublished Graduation Thesis, Kyoto University, 2014.

The Brazilian Community

Their representation of Japanese people is as follows:

N: “. . . when I went to the company in which fathers of these children work, I was very surprised. They work in the evening, as well as day time. There are three patterns of shifts; some work for a day, some work only the day shift, and some work only the night shift. Each shift is 12 hours. You come in at 6 o'clock, and someone leaves at 6 o'clock . . .”

T: “ Japanese are (centered around, concerned, or running to) work, work, and work. You go into the plant at 8:30am and work until 10pm or midnight. You go back to your apartment, eat your dinner, and go to sleep, that's s all.”

Compared to the work situation in Brazil, they earn a lot more in Japan. These workers do not have educational background, and the work situation in Brazil offers for these people a lot less for the blue color workers. Once you earn a lot of money in Japan, you cannot go back and start out the bottom of the hierarchy in Brazil.

T: “(Back in Brazil) You want to show off the affluence that you earned in Japan.”

T: “I know some Brazilians in Brazil who cannot pay the utility bills, but go to expensive restaurant (to have dinners), show off (their richness), and pay all (the luxury), and rent a car (for daily life) (because they used to do it in Japan). It is impossible to believe. If you pay that all, you can't pay the water bill. You want to show unrealistic you when you go back to Brazil.”

They earn the fortune in Japan, but never learned the lesson to use it wisely. The quickly earned money goes away quickly, and many of them come back to Japan, for the second and third times. For these people, Japan is represented as a “economic fortune,” so they make their return to pay back the debt at home. Then, many bring their children to Japan to solve financial problems.

Therefore, the picture of recreating the another generation of immigrant workers is set to maintain the frame.

Conclusion:

“The Japanese, Work, Work, Work” is represented by these Japanese Brazilians, and make this scenario appropriate to solve their own financial problems that stemmed from the difference in two countries. However, the school principal tries to intervene the recreating cycle by devoting her own private life by making Japanese traditional work ethics appropriate.

There appear to be two layers of power structure: Japanese verses Japanese Brazilians; and among Japanese Brazilians themselves. Those who came to Japan earlier appeared to control the lives of later comers. The essence of the school principal’s devotion appears to protect the dignity of Japanese Brazilians, so that she would “guarantee” the Japanese Brazilians full-fledged citizenship in Japan. This story is enormously complicated yet worth paying attention to as a case of transculturation of the contact zone.

POLICIES AND PROGRAMMES ON QUALITY ASSURANCE IN SECONDARY SCHOOLS OF INDIA

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Abstract:

The efforts to improve the quality of education in schools have started receiving priority in many parts of the world including India. By emphasis on the success and achievement of students, the schools make an attempt to improve their educational experience. It must be mentioned that schools can achieve quality by developing the quality indicators that would reflect the developing context within which the schools operate. Therefore, quality indicators act as a guide in the process of success in the school and so must be developed along with an emphasis on professional expertise on the curriculum, learning, and craft of teaching and on the leadership of change. Thus the system of indicators of quality in education, as well as the quality criteria associated with the indicators, helps schools to point out the important areas of their own activities, their own advantages and disadvantages and development opportunities. School quality team can debate over the representation and development of particular indicator aspect and search for the method to upgrade and improve indicator representation in specific school circumstances. Several research works on the quality assurance in education suggest a complementary and integrated internal and external evaluation for schools but the emphasis on impact and outcomes reinforces the principle that self-evaluation is not an end in itself. It is useful only if it leads to improvements in the educational experiences and outcomes for children and to the maintenance of the highest standards. Thus school quality needs an emphasis on developing quality indicators. The task before the government is to align / transform secondary education institutions and current schooling practices with the demands of a globalised and technology-driven world. So, there is a need for secondary schools to have quality assurance and not to see it as an external imposition. The major objective of this paper is to explore the literature on school effectiveness in order to identify the in-school and out of school factors that were found to be crucial determinants of school quality. Since there is a strong correlation between quality assessment and school improvement, this paper focuses upon the integration of self-evaluations and school inspections that is internal and external evaluation for the development of schools. Also the paper

critically appraises the existing quality assurance systems in the State Board Secondary Schools of India.

Key Words: Quality Assurance, Secondary Schools, India

Introduction

As contemporary India marches towards the economic excellence and infrastructural development, the call for the better educated and skilled workforce continues to grow. To realize this demand, merely enrolment of students or growth in terms of quantity is not enough but creation of and maintaining an efficient quality system in educational institutions is the need of the hour. Therefore, emphasis should not be only on the quality of primary education but to the quality of secondary education equally because the anticipated growth of secondary education in the coming ten years' time will increase demand for school access, effective national planning and policy mechanisms, implementing massive training programs for teachers as well as administrators, recruitment of new teachers and addressing the issue of lack of accountability or effectiveness of teachers.

Quality assurance in secondary education is a continuing concern because of three major reasons, first, the launching of RashtriyaMadhyamikShikshaAbhiyan (RMSA) in March, 2009 to achieve Quality Secondary Education, second, quality of education and its assurance fundamentally emerges of all crucial issues in the context of increasing recognition of the role of secondary education for national development and third, there is undoubtedly a change in the secondary education landscape with a huge success of the government flagship programme for universalization of primary education i.e. the SSA (SarvaShikshaAbhiyan). Besides these factors, it is also evident that the grant in aid secondary schools is becoming complex in terms of expanding access and depends on the government for their full financial resources. Given such a scenario, there is a rise a concern about quality of education which in turn leads to the demands for accountability on the part of the State Board Secondary Schools i.e. the government.

Current Education System in India

The education systems in the States and Union Territories of India generally follow the 8+2+2+3 pattern, which provides for eight years of elementary education, two years each of secondary and senior secondary schooling, and three years of university education. Secondary education in India is institutionally diverse, with three National Boards and 34 State and Union Territory Boards. Each Board has its own specified curriculum and school certificate examinations for Grades X and XII. When we look at the aims of secondary education; the Secondary Education Commission (1952) articulated the aims of secondary education in the following words; "Committee is of considered view

that no great purpose will be served by mere expansion of secondary education in its current form and structure. For achieving the mission of quality schooling for all for optimization of latent talents and potentialities secondary education has to be reconceptualised afresh as education of the adolescents in transition, as education for nurturing multiple intelligence and capabilities. Accordingly, curricular concepts and structures, instructional processes and pedagogy, student assessment and evaluation have to be redesigned. All such shifts must be contained in a compatible quality infrastructure". The Committee recommends a culture shift in secondary education. It is not that there is no control on the quality of secondary education; education systems in India have always had some kinds of checks on quality or standards of education and mechanisms to improve them. Since long school inspections keeping a check of school quality both in terms of academics and administration also is responsible for bringing improvement in all the areas of the school.

Need For Quality Assurance in Education

Quality assurance in education is the efficient management, monitoring, evaluation and reviews of the resource inputs and transformation process (teaching and learning) to produce quality outputs (students) that meet set standards and expectations of the society. Robinson (1994) defines quality assurance as the set of activities that an organization undertakes to ensure that a product or service will satisfy given requirements for quality. Its goals are the anticipation and avoidance of faults or mistakes by setting attainable standards for a process, organizing work so that they are achieved, documenting the procedures required, communicating them to all concerned, and monitoring and reviewing the attainment of standards. As per the definitions quality assurance in education encompasses systematic management, monitoring and evaluation procedures adopted to measure the performance of school administrators, teachers and students against educational objectives. Thus, quality assurance helps the schools to reflect on their own practices and develop, by means of a participatory and comprehensive approach, a system that should be owned by all. With such an approach both, those who manage (e.g. principals) and those who are managed (e.g. facilitators) will be made aware of their responsibilities with regard to establishing quality in their management and teaching functions. At present the secondary education in India has grown into a largest system of education and therefore establishing quality standards is the need of the hour. The Central Board of Secondary Education (CBSE) has initiated mechanism of accreditation of its affiliated schools. It is both a process and a status. As a process it reflects the fact that in the process of achieving accreditation the school goes through a process of self-discovery and self-audit as well as external review by peers which help to qualitatively improve the institution. In terms of status, it provides

public with the information that school meets the standards of quality set forth by an accrediting agency. The responsibilities for quality assurance in education are spread across various partners; the government, educational inspectors and schools. Since there is a strong correlation between quality assessment and school improvement these partners must look for a way in which internal and external evaluations can be matched with each other. Thus, the focuses must be upon the integration of self-evaluations and school inspections that is internal and external evaluation for the development of schools.

The Need for Self-Evaluation as a Quality Assurance Practice

During the self-evaluation process of a school the absence or presence of quality assurance mechanisms and procedures enables principals of schools to determine whether they are indeed enhancing the quality of their schools. In such a self-evaluation exercise the primary aim is to determine the mission statement of the school and, in line with this, its goals/aims and objectives in the light of its notion of quality and the role it sees for itself. It is extremely important that the school should prioritize identified mechanisms and procedures.

The task of quality assurance in secondary schools is not to implement a prescriptive quality assurance system, but to develop, a system that will be owned by all, by means of a participatory and comprehensive approach. With such an approach both those who manage (e.g. principals and Trustees) and those who are managed (e.g. Teachers/facilitators) will be made aware of their responsibilities with regard to establishing quality in their management and teaching functions. Besides, quality assurance is not about fulfill with the expectations of school inspectors, but it should be taken as an integrated aspect of school work, teaching learning activities and the general performance of teachers. Therefore, in order to ensure that the quality assurance process is for continual improvement of all the activities and the overall performance of the school, continuous self-evaluation should form part of the planning of the schools. Unfortunately this self-evaluation system of assuring quality in schools is not followed in all the secondary schools today.

Thus, Educational system in India needs immediate interventions to remove deficiencies at schools level and for this, attempts have to be made to develop school education and sustain quality enhancement through self-evaluation. All this cannot be fruitful unless there in an efficient delivery system which effectively implements the objectives of school education. The delivery system has to

relate to management of school education at the micro (school), meso (district) as well as at the macro (government) levels. Along with the efficient delivery system there also have to be certain parameters set to monitor quality of schools at secondary level. Researchers have focuses on the monitoring of school quality through the development of indicator systems, for it is essential to know not only “which factors work” to make schools effective, but also to identify according to which indicators school quality is being assessed in different parts of the world.

Indicators for Quality Education

Several researches have worked on identifying the in-school and out of school factors that were found to be crucial determinants of school quality. According to (Murnane, 1987) Quality indicators can be divided as; Inputs, Process and Outputs, where the inputs include financial, physical and Human resources required to function at each educational level. Financial resources include educational expenditures per student. Physical resources include the age and quality of facilities as classrooms, laboratories, and libraries and any other physical resources required for academic and administrative functions of the school. Human resource includes the teacher, pupil, parents and other human resources engaged in educational activities at each class level. They also include background information about these teachers such as educational qualifications, experience, and perhaps knowledge competencies and attitudes.

Willms (2004) notes that many countries have established programmes to collect indicators of school quality for monitoring performance at national, regional and local levels. Quality of education becomes a matter of degree of the presence of the indicators, rather than an absolute, or discrete variable. This assertion is consistent with Yin’s (1996) observation that, evaluation of school performance must focus on multi-level and multi-facet indicators including inputs, process, and outputs of schooling in addition to academic development of students. Ideally, indicators should evaluate both the quantitative and qualitative aspects of schools. The quantitative indicators available in most countries are enrolment ratios, learner achievement levels, qualification of teachers etc. The quality indicators given by UNESCO in 2005, the Central Board of Secondary Education (CBSE) in 2005 and the Rashtriya Madhyamik Shiksha Abhiyan (RMSA) in 2009 focuses on bringing improvement in the education outcomes and thereby enhancing quality of education. The following table-1.2, presents the quality indicators given by these three agencies.

Table-2: Quality Indicators proposed by CBSE, UNESCO & RMSA

Sr. No.	INDICATORS		
	CBSE	UNESCO	RMSA
1	Scholastic Processes	Home school relations	School Planning and Manage
2	Beneficiary Satisfaction	Safe school and classroom environment	Curriculum transaction
3	Infrastructure	Clear school mission	Teaching learning resources
4	Leadership	Management leadership	Learners' progress in all the areas
5	Human Resource	High expectations for success	Teacher Professional Development
6	Co-Scholastic Processes	Opportunity to learn and student time on task	Infrastructure and other resources
7	Management & Administration	Frequent monitoring of student success	

(Source; UNESCO 2005, CBSE 2009, RMSA 2009)

The above table-.2 shows the quality indicators proposed by CBSE, UNESCO and RMSA. It is thus important for schools to identify indicators in their schools and how to make use of these indicators in measuring the quality of schools. According to Harvey and Green, when quality is approached or viewed in terms of value of money, the approach focuses on performance indicators. Quality at this level is assessed in terms of quantitative improvement. In a school situation, an increase in the number of schools with 100% results in the public examination or the number of 1st class candidates in each year's Board examination results could quantitatively indicate quality improvement. The system of indicators of quality in education, as well as the quality criteria associated with the indicators, helps schools to point out the important areas of their own activities, their own advantages and disadvantages and development opportunities. School quality team can debate about representation and development of particular indicator aspect and search for method to upgrade and improve indicator representation in specific school circumstances.

Quality Education: A National Mandate

Since more than six decades secondary education was given importance through various programs and policies on the improvement of quality. But it still invites more attention. The Secondary Education Commission of 1952-53, commonly known as Mudliar Commission recommended the establishment of a Board of Secondary Education to deal with all aspects of education at the secondary stage. The Objectives of the National Policy of Education the Programme of Action, 1992, stressed to improve the quality of education in the country by providing education facilities to all the citizens of the nation, identifying and encouraging development of infrastructures, curriculum reforms, identification of learning outcomes in the form of competencies for secondary and higher secondary stage, reforming curriculum in the teacher training institutes for competency based teaching and learning and encouraging states to recruit teachers through objective methods of testing and to provide regular in-service training to the teachers.

The 11th Five Year Plan (2007-12) has focused on improving the quality of school education. The broad secondary education development strategies envisaged (at the macro level) during the 11th Plan included: (i) restructuring of the school system (to a 5+3+2+2 system) and expansion of the secondary school network/physical access by upgrading the existing schooling provisions and establishing new institutions/sections including high quality model schools at the Community Development Block level to serve as benchmark for excellence in secondary schooling; (ii) promoting Public-Private Partnership (PPP) to leverage private investment in the expansion of secondary schooling provisions; (iii) ensuring quality secondary education with focus on science, mathematics and English; (iv) promoting inclusiveness in secondary education through demand-side financing strategies; (v) introducing ICT in government and aided schools; (vi) adopting the National Curriculum Framework, 2005; and (vii) undertaking institutional reforms in school management. The recommendations of the Central Advisory Board of Education Committee (2005) shaped the development priorities in secondary education. It suggested that not only universal enrolment, but universal retention and satisfactory quality of learning should be given priority at the secondary level. Subsequently, the RashtriyaMadhyamikShikshaAbhiyan (RMSA) was launched in April 2009 with the basic developmental objectives of universalizing access to and improving quality of secondary and higher secondary education in the country. The RashtriyaMadhyamikShikshaAbhiyan (RMSA) aims at making secondary education of good quality, accessible and affordable to all young people by;

- Confirming to the prescribed norms related to physical facilities, staff and academic matters.
- Universalizing physical access to all young people
- Improving participation and retention
- Overcoming barriers due to gender, socioeconomic status and disability.

It is very important to note that how the objectives of quality learning outcomes are achieved in the absence of setting any quality benchmarks.

As per the Planning Commission (Government of India) 2013, the general objective of the 12th five year plan's (2012-2017) for secondary education is to make quality education available, accessible and affordable to the target population in the age group of 14–18 years. To achieve this objective the following goals were formulated;

- Achieve near-universal enrolment in secondary education, with the GER exceeding 90 per cent by 2017;
- Raise the GER at the higher secondary level to 65 percent and reduce dropout rate to less than 25 per cent by 2017by 2017;
- Ensure quality secondary education with relevant skills including basic competency in mathematics, science, languages and communication, implement common curricula and syllabi of nationally acceptable standards, develop life skills including skills of critical and constructive thinking and use of ICT

It was noted there is inadequate quality assurance and accountability mechanisms in place. The quality of pre-service and in service training of teachers is low along with certain issues of curriculum, examinations reforms, school leadership, assessment and accreditation. Thus, in the Twelfth Plan, all secondary and higher secondary schools would be made to conform to minimum standards in facilities and quality. School Quality Assessment and Accreditation System would be established to cover all aspects of school functioning, including scholastic and co-scholastic domains, physical infrastructure, faculty management, school leadership, learning outcomes and satisfaction of pupils and their parents/guardians.

During the Twelfth Plan RashtriyaMadhyamikShikshaAbhiyan (RMSA), is proposed to be made a single comprehensive scheme to address issues of coverage and quality in secondary education. This will be extended to the higher secondary stage and cover all government and government- aided schools.

There are several policies initiated by the Central government as well as state governments to bring improvement in quality of Secondary education. These policies and programmes are either fully funded by central governments or both centre and state bear the cost of implementing it.

Quality Assurance Approaches in Secondary Schools of India

Board Examinations/External Examination:

The Indian secondary schools affiliated to any of the boards go for examination conducted by the board. The Secondary schools affiliated to the Gujarat Board enrol their pupils for the board examinations conducted by the board outside of individual schools. This type of system ensures that all students in all participating schools write the same exams, in order to get some insight into whether they have attained similar levels of education. However, they are also an important mechanism for checking up on whether teachers and schools are teaching the prescribed curriculum appropriately. Board or External examinations are a way of ensuring that all students write exams of the same standard and a way of checking up on schools and individual teachers, by seeing how well their students perform. Governments take action if, for example, a school has a high failure rate in the external exam.

School Inspections:

Inspection has been a mechanism particularly associated with schools. It has been used to monitor the quality of teaching, as well as general aspects of schools. Inspectors could be subject experts who visit teachers to monitor how they are teaching, and give them support and advice. They could also be educational experts who monitor how schools are run, and provide advice to school heads. They also provide feedback to government about the levels of educational quality in schools. Government can then take remedial steps if necessary.

Accreditation:

Accreditation has also become an important mechanism within education. In order to be able to offer educational programmes in specific areas, institutions have to be accredited by the appropriate body. Though it is a known fact that the development of students' potential depends on the quality of the school and the quality of its teachers. However, till recently there was no system available for evaluating the quality of education delivered by schools in different states.

An important step in quality assurance for secondary schools in the states is that Quality Council of India has offered to help the Education Department in states to set up a quality assurance agency for government schools and also take up the accreditation of 100 schools on a pilot basis. Quality Council of India is ready to translate the parameters of National Accreditation Board for Education and Training (NABET) in regional languages and help states set up a quality assurance agency, National Accreditation Board for Education and Training (NABET) falls under the purview Quality Council of India (QCI).

Policies and Programmes for Quality Assurance in India

Policies:

There are several policies for quality improvement in Secondary education that are initiated by the center which are implemented by the states and some policies that are initiated by the states to bring the desired changes in the quality of Secondary education in the states. In case of Secondary education in states the major policy initiatives to improve quality of education are taken from time to time, it includes the introduction of direct pay scheme for Secondary School teachers. Norms for grant – in –aid for non-government Secondary Schools, where the nongovernment Secondary Schools on the basis of ‘No permanent grant’ were given sanction to start a School. The Secondary & Higher Secondary Education Boards are empowered to accord sanction and registration to non-government Secondary Schools, to deal with important matters relating to teachers and nonteaching personnel as well as curricular matters pertaining to Secondary education. Also a Secondary Education Tribunal were set up in 1974 to settle disputes regarding service conditions between employees of nongovernment Secondary Schools and School managements. For promotion of skill education the vocationalisation of +2 stage was made compulsory. Another step was of merging class VIII with the primary from the year 2009 and it was implemented in phase by phase manner.

As a policy the examination results of Secondary School Certificate Examination (X) and Higher Secondary Certificate Examination (XII) are declared on internet for students on the same day. Also October examinations for X and XII repeaters have been abolished. Alternatively, those students who are declared to have failed in only one subject are allowed to take special examination in that subject which is usually held immediately in the month of July. This is a marked departure from the usual procedure where student had to wait for one year to clear the examination. The Comprehensive and continuous evaluation has been introduced at the Secondary School level from the academic year 2000.

Thus, in the last decade, vital reforms have been affected to enhance the quality in education, are as follows;

- Annual supervision of the Schools by the Board Officials,
- Up gradation of Commissionerate and District Education officers Offices by obtaining ISO 9001:2008 Certification.
- E-Governance initiative by launching websites for DEO Offices' and government Schools.
- Training for teachers and Principals as a part of professional development.
- Teacher recruitment done through Board officials instead of the Trustee Members and prohibition is put on the tuitions conducted by teachers
- The Teachers' Eligibility Test (TET) now mandatory for recruiting teachers introduced by the Government of India in order to improve standards in teaching. It was held for the first time in 2011. For teachers already working, they are supposed to clear the exam in two years' time.

The above points shows the initiatives for improvement of quality of Secondary education taken by the government

Programmes:

The policies at present are to make Secondary education of good quality available, accessible and affordable to all young persons in the age group of 14-18. The following schemes targeted at Secondary stage (i.e. class IX to XII) are being implemented in the form of Centrally Sponsored Schemes;

a) RashtriyaMadhyamikShikshaAbhiyan (Universalisation of Secondary Education)

This scheme was launched in March, 2009 with the objective to enhance access to Secondary education and to improve its quality. The implementation of the scheme started from 2009-10. The major objectives of the plan are;

- To achieve a Gross Enrolment Ratio of 75% for classes IX-X within 5 years by providing a Secondary School within a reasonable distance (5-7 km) of every habitation.
- To improve quality of education imparted at Secondary level through making all Secondary Schools conform to prescribed norms.
- To remove gender, socio-economic and disability barriers.
- To achieve universal access to Secondary education by 2017, i.e., by the end of 12thFive Year Plan.

- To achieve universal retention by 2020

The scheme is being implemented by the State government societies established for implementation of the scheme. It is envisaged to achieve an enrolment rate of 75% from 52.26% in 2005-06 at Secondary stage of implementation of the scheme by providing a Secondary School within a reasonable distance of any habitation. Important physical facilities provided under the scheme are:(i) Additional class rooms, (ii) Laboratories, (iii) Libraries, (iv) Art and crafts room, (v) Toilet blocks, (vi) Drinking water provisions and (vii) Residential Hostels for Teachers in remote areas. Under the scheme **10503** new Schools sanctioned out of which 9223 Schools have become functional.

b) Information and Communication Technology in Schools(ICT @ Schools)

The Information and Communication Technology (ICT) in Schools Scheme was launched in December, 2004 and was revised in July 2010. The objectives of this programme are;

- To establish an enabling environment to promote the usage of ICT especially in Higher Secondary and Secondary Government Schools in rural areas. Critical factors of such an enabling environment include widespread availability of access devices, connectivity to the Internet and promotion of ICT literacy.
- To ensure the availability of quality content on-line and through access devices both in the private sector and by State Institutes of Education and Training (SIETs).
- To enrich the existing curriculum and pedagogy by employing ICT tools for teaching and learning.
- To enable students to acquire skills needed for the Digital world for higher studies and gainful employment.
- To provide an effective learning environment for children with special needs through ICT tools.

It aims to provide opportunities to Secondary stage students to mainly build their capacity on ICT skills and make them learn through computer aided learning process. The Scheme is a major catalyst to bridge the digital divide amongst students of various socio economic and other geographical barriers. It currently covers both Government and Government aided Secondary and Higher Secondary Schools. Financial assistance is provided for procurement of computers and peripherals, educational software, training of teachers, development of e-contents, Internet connectivity & set up of smart Schools. The Scheme provides support to States/UTs to establish computer labs on sustainable basis. The scheme has essentially following components:-

- Partnership with State Governments and Union Territories Administrations for providing computer aided education to Secondary and Higher Secondary Government and Government aided Schools.

- Establishment of smart Schools, which shall be technology demonstrators.
- Teacher related interventions, such as provision for engagement of an exclusive teacher, capacity enhancement of all teachers in ICT and a scheme for national ICT award as a means of motivation.
- Provisions for in-service (induction and refresher) training for all teachers in Secondary and higher Secondary Schools to enable them to impart ICT enabled teaching.
- There is a provision to strengthen State Institutes of Education Technology to contribute to e-content development.
- Management, monitoring and evaluation will be strengthened.

c) *Girls Hostel Scheme*

This is a new Centrally Sponsored Scheme launched in 2008-09 and is being implemented from 2009-10 to set up a 100-bedded Girls' Hostel in each of 3479 Educationally Backward Blocks (EBBs) in the country. The objectives are;

- To retain the girls in Secondary School (IX to XII).
- At least 50% of the girls admitted to the hostels should belong to SC, ST, OBC, Minority communities

The Scheme is to be implemented by the State Government societies established for implementation of the Scheme. The main objective of the Scheme is to retain the girl child in Secondary School so that girl students are not denied the opportunity to continue their study due to distance to School, parents' financial affordability and other connected societal factors. Another objective of the Scheme is to make Secondary and Senior Secondary education accessible to a larger number of girl students. The girl students in the age group of 14-18 yrs. studying in classes IX and XII belonging to SC, ST, OBC, minority communities and BPL families will form the target group of the Scheme. At least 50% of girls admitted will be from SC, ST, OBC and Minority communities.

d) *National Means-cum Merit Scholarship Scheme*

The Centrally Sponsored Scheme "National Means-cum-Merit Scholarship Scheme (NMMSS)" was launched in May, 2008. The objectives of this programme are;

- To promote enrolment of girls belonging to weaker sections of the society,
- To ensure their retention at least till completion of 10th class and preferably till 12th class,
- To reduce their drop out at Secondary and higher Secondary stages
- To improve gender parity and to empower girls.

The aim of the scheme is to award scholarships to meritorious students of economically weaker sections to arrest their drop out at class VIII and encourage them to continue the study at Secondary

stage. Scholarship of Rs.6000/- per annum (Rs.500/- per month) per student is awarded to selected students every year for study in classes from IX to XII in Government, Government aided and local body Schools. There is quota of scholarships for different states/UTs. There is reservation as per State Government norms. The selection of students for the scholarships was being made through an examination conducted by the State Governments/UT administration along with the National Talent Search Examination (NTSE) first Stage-I examination. For academic year 2013-14 onward, separate examination for selection of students for NMMS Scholarships is being conducted by the State Governments. Scholarships are disbursed by the State Bank of India directly into the accounts of students on quarterly basis.

e) *National Incentive to Girls*

To promote enrolment of girl child in the age group of 14-18 at Secondary stage, especially those who passed Class VIII and to encourage the Secondary education of such girls, the Centrally Sponsored Scheme. National Scheme of Incentives to Girls for Secondary Education was launched in May, 2008. All Scheduled Caste and Scheduled Tribe girls who pass class VIII and Girls, who pass class VIII examination from Kasturba Gandhi Balika Vidyalayas (irrespective of whether they belong to Scheduled Castes or Tribes) and enroll for class IX in State/UT Government, Government-aided or local body Schools in the academic year 2008-09 onwards. Girls should be below 16 years of age (as on 31st March) on joining class IX. Married girls, girls studying in private un-aided Schools and enrolled in Schools run by Central Government are excluded. A sum of Rs.3, 000/- is deposited in the name of eligible girls as fixed deposit. The girls are entitled to withdraw the sum along with interest thereon on reaching 18 years of age and on passing 10th class examination.

f) *Model Schools Scheme*

The Model School scheme was launched in November 2008 in pursuance to the announcement of the Prime Minister in his Independence Day speech of 2007. The main objectives of this scheme are;

- To have at least one good quality Secondary School in every block that will work as pacesetting institution and provide support to other Secondary Schools in that area (mostly rural) addressing the issues of contextual curriculum and pedagogic practices for Secondary stage learners.
- The School to be a model in infrastructure, curriculum, evaluation and School governance under this component, model Schools are proposed to be set up in educationally backward blocks (EBBs) through State/UT Government.

This scheme aims to provide quality education to talented rural children through setting up of 6,000 model Schools as benchmark of excellence at block level at the rate of one School per block. The scheme has two modes of implementation, viz. (i) Schools to be set up in as many educationally

backward blocks (EBBs) through State/Union Territories Governments, and (ii) the remaining Schools are to be set up under Public-Private Partnership (PPP) mode in blocks which are not educationally backward. These Schools will be affiliated with Secondary & Higher Secondary Examination Board.

g) *Inclusive Education for Disabled at Secondary Stage*

The Scheme of Inclusive Education for Disabled at Secondary Stage (IEDSS) has been launched from the year 2009-10. Setting up of Model inclusive Schools in every State is envisaged. The objectives of the scheme are;

- To provide educational opportunities to children with mild to moderate disability, in common Schools and facilitate their retention in this School system
- An amount per child per annum was earmarked for activities such as identification and assessment, assistive devices, allowance for transport, escorts, reader, uniforms, books and stationary, stipend for girls, etc.by different states
- Creation of barrier free environment an amount per girl child per month is provided as stipend by different states.

The School Education Department of the State Governments/Union Territory (UT) Administrations is the implementing agency. This Scheme replaces the earlier scheme of Integrated Education for Disabled Children (IEDC) and would provide assistance for the inclusive education of the disabled children in classes IX-XII. To enable all students with disabilities, after completing eight years of elementary Schooling, to pursue further four years of Secondary Schooling in an inclusive and enabling environment. The scheme covers all children studying at Secondary stage in Government, local body and Government-aided Schools, with one or more disabilities as defined under the Persons with Disabilities Act (1995) and the National Trust Act (1999) in the class IX to XII, Girls with disabilities receive special focus to help them gain access to Secondary Schools, as also to information and guidance for their developing potential.

h) *Scheme of Vocational Education*

The Centrally Sponsored Scheme of Vocationalisation of Secondary Education at + 2 level is being implemented since 1988. The revised scheme is in operation since 1992-93. The Scheme provides for financial assistance to the States to set up administrative structure, area vocational surveys, preparation of curriculum, text book, work book curriculum guides, training manual, teacher training programme, strengthening technical support system for research and development, training and evaluation etc.

i) *The Knowledge Drive*

Under this program exams were conducted for the class IX students. It was conducted for the first time on February 13 & 14 of 2014. Children were tested for their knowledge of English Math's Science and Technology and languages. The Drive covered number of Secondary Government Schools and Private Schools affiliated to State Higher Secondary Education Board, lakhs of students appears in these exams. The board gives papers to Schools; the papers are objective type and corrected by the computers. Schools submit the test report to the board. On the basis of students performance the Schools are graded ABC. The performance of the School helps the Board to formulate policies in future which will enhance the education standards in the State Board run Schools. These marks are not linked to the grants given to the Schools.

j) *Education innovation Commission and Quality Accreditation Council*

The programme on State Educational Innovations Commissions and Quality accreditation councils is initiated to promote conception, experimentation and implementation of educational innovations in the States. It provides an accurate revelation of the School's academic merit.

Implementing Agencies for Quality Assurance Policies and Programmes

The responsibility of implementing various policies and programmes is either through State Boards of Secondary Education or Councils of Education Research and Training. A brief description of these institutions are presented below.

❖ Secondary and Higher Secondary Education Board

Secondary and Higher Secondary Education Boards, are statutory bodies which are created for implementing various policies and programmes in the states and also looks after the academic issues in Secondary education. These boards take the responsibility of; preparing the syllabus and curriculum, registration and Establishment of new Schools, Monitoring the School performance and keeping a check on their work it makes an effort in conducting the teacher training workshops to bring enhancement in their skills, conducting examinations every year and declaring results online. Many facilities are provided by the boards in order to bring quality enhancement in Secondary education. The boards have introduced new and modern technologies like computerized class rooms, conducting Academic Panel inspections, bringing up the quality of those Schools identified as low performing Schools and organizing training courses for inspecting officers and teachers and other functionaries. The broad functions of the Secondary and Higher Secondary Education Boards fall into three categories:

Academic Functions:

In case of academic functions of these boards, it is observed that these boards have worked towards making technology enabled education accessible to all by preparing the curricula & syllabi for Secondary Schools, recommending text books designed according to the latest guidelines registering new Secondary Schools, maintaining a periodically updated register of Secondary Schools of the state, conducting inspection & supervision of Secondary Schools in the state, providing guidance to students, organizing training for teachers and Principals, prescribing School, vacations, and internal examinations timings as well as promoting rules, holidays, etc. The boards also advise the state governments on academic matters and actively involves itself in integrating technology-in the Secondary Schools by introducing computer studies among regular curricula.

Examination Functions:

It is the responsibility of the Secondary and Higher Secondary Education Boards to conduct public examinations for Secondary School Certificate Examination (Standard 10) and Higher Secondary School Certificate Examination (Standard 12th) to declare their results also.

Research & Development Functions:

These Boards have a Research & Development division which takes up research projects for improving quality of Secondary education in States it also publishes these research papers. The Board is responsible for conducting trainings for inspectors, teachers and other functionaries in Secondary Education. It publishes a monthly magazine containing articles on various issues related to Secondary education. This magazine is circulated among all the Schools. It also conducts Academic Panel inspections, to bring up the quality of Schools identified as low performing

❖ State Council of Educational Research and Training

State Council of Educational Research and Training were established for implementing the policies, programmes and researches in the state. These policies and programmes are implemented by the SCERT and it also provides resource support and guidance to all the teacher education institutions and works in collaboration with the NGOs, Subject experts, educationalists and pioneers. This agency is responsible for bringing reforms in the remote and underserved areas of the State as it is committed to bring qualitative improvement in Secondary School education. It is a State level academic institution and is controlled and guided by a Governing body as well as an Executive Committee. The DIETs (District Institute of Education and Training) impart pre-service and in-service training to the primary teachers of the State and it works under the SCERT.

Critical Reflections

The main interventions planned for quality Secondary education were attained by virtue of the implementation of the already mentioned policies and programmes both by Centre and the State Governments. Under RashtriyaMadhyamikShikshaAbhiyan (Universalisation of Secondary Education) there is a long list of interventions to be carried out for improving classroom processes and to provide an enabling environment in Secondary Schools. ICT @School was the scheme launched with the vision to provide ICT literacy to all students. Due care is taken by the Government to recruit qualified Teachers. The Government sets up Teachers' Training Centers and under Education Improvement programs, School development Institutes gets grant and Teacher Incentives to procure enhanced teaching certificates. Initiatives are taken by the Government for Distance Teachers' Training Programmes.

Institutes like District Institute of Educational Training/State Council of Educational Research and Training/Secondary and Higher Secondary Education Boards play significant role in academic planning thereby preparing a roadmap to good quality education. The government has made an effort to make major comprehensive norms in various components of quality and adequate guidelines as well as the policy framework of these programs for all State Board Schools to progress on quality. The assessment and evaluation of programmes is intended to be a means for document outcomes, educational quality, and institutional effectiveness. Fostering institutional improvement and demonstrating its accountability are complementary processes that assure the quality of an institution. Therefore, to improve quality, the State Board Secondary Schools are making efforts to adopt self-assessment as a tool. Schools have to establish self-assessment process periodically and effectively assess the compliance of the standard by implementing suitable, corrective and preventive actions at various levels and monitor the School's performance along with the satisfaction of the stakeholders. It is all the more important for the state government to prioritize quality issues and take steps to bring out improvement in the quality of Secondary Schools.

According to UNESCO there is still a scope of innovations in the area of curriculum and pedagogy in all the State Board Schools. The state board Schools have still to work on provision of infrastructural facilities that is detrimental to quality. With regard to model Schools, there are very few separate societies for managing Model Schools and also procurement of land virtually acts as a major impediment resulting in slow progress of the scheme. As far as ICT in Schools is concerned there is still requirement of basic facilities in Schools like computer rooms, IT trained teachers, and electricity, etc. in the classrooms for the successful implementation of the scheme. There is also no national assessment of performance in Secondary education for state board Schools.

A holistic approach for the development of Secondary education and for improving the quality of Secondary education is a prerequisite as a mechanism of mandatory accreditation of Schools. Government is making all the efforts in the direction of bringing a holistic philosophy of Accreditation in the state to monitor quality of Schools on regular basis. Thus, a process of accreditation would monitor the identified outcomes at all levels and across all spheres of School education. It would help teachers, educational administrators and all other stakeholders involved in School education to learn from this exercise and improve themselves.

In spite of so many initiatives taken up by the government to promote School quality, the School inspection is the only mechanism working at present to monitor Secondary Schools for quality education. For meeting these challenges it is important for government to transform the Secondary educational institutions and current Schooling practices in accordance with the demands of quality in the contemporary globalized and technology-driven world.

Conclusion

Educational policy makers in various countries across the globe are currently struggling with this problem of quality and its assurance. Questioning existing practices and looking for possible alternatives often seems only to leave us with yet more questions. The process is necessary, if there is a comprehensive and better-functioning quality assurance system. Thus, it is important for the government and schools to come together in planning the objectives of an evaluation system. Only when these objectives are clear, that there will be clarity in the respective roles which self-evaluations and school inspections can play in quality assurance as a whole. Fundamental reflections are thus crucially important in relation to the quality assurance system. The initiative for school development always lies with the school itself. In addition to this, possibilities must be created—or further expanded—so that schools can call on external actors in order to ensure the quality of internal evaluation. The purpose of this paper is to formulate critical reflections in connection with existing quality assurance systems in the state board schools and to question a number of assumptions that stand in the way of the critical examination of the present quality assurance system which is so desperately needed.

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EFFECTIVENESS OF BILINGUAL EDUCATION IN SELECTED DISTRICTS OF SRI LANKA

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Abstract:

This study is a discussion on findings of the present situation and effectiveness of Bilingual Education in selected district. Ten schools which have bilingual education were randomly selected for this purpose. The study was conducted with the students and teachers who are engaged in bilingual education in the Kandy district. Data were collected using different methods such as questionnaires, classroom observations, and interviews with the students, teachers and parents. The data were triangulated and some problems related to Bilingual Education were identified. Some major problems were lack of English knowledge of both the parties of teachers and students, lack of teacher development programmes, seminars and workshops and uncertainty of future of bilingual education were the main problems of the students. These problems affected the learning of students. After identifying the problems many suggestions such as an awareness program to the parents and students, specially designed English course for the students before commencing the English medium, in-service training programme to the teachers, and conducting seminars and workshops to avoid the professional isolation, were identified so as to overcome the problem.

Key words – Bilingual Education, Science

Introduction:

Sri Lanka is a multi-ethnic, multi-cultural and multi religious society and the two major ethnic groups in Sri Lanka are Sinhalese and Tamils. The other ethnic groups include Muslims or Moor, Malays, Burghers who are the descendants of the Portuguese and Dutch. Bharathas and Colombo chetties are some of minority ethnic groups in Sri Lanka (Gunasekara, 2005). An overview of language structure of Sri Lanka shows that there are bilingual speakers, trilingual speakers and quadrangular speakers.

According to Gunasekara(2005) that Trilingual Sri Lankans are generally members of minority communities such as members of the Muslim community who speak English, Sinhala and Tamil or

Malay. Further she explains the Bharatha community and the Colombo chetty community of Sri Lanka are also trilingual being fluent in English, Tamil and Sinhala. The Malay population is quadrilingual speaking Malay, English, Tamil and Sinhala. Therefore our school curriculum consists of several major languages.

Other than these there are foreign languages in the curriculum such as German, French, and Japanese. They are categorized in to two groups. Modern languages and classical languages. Under classical languages Pali, Sanskrit, and Latin while and French, German, Japanese are modern languages. (www.nation.lk/2009/07/26/newsfe1.htm.)

After independence and some years later the official status of English underwent a dramatic change with the introduction of the official language Act. Thus after 1956 Sinhala became the official language of Sri Lanka and Tamil was subsequently declared a national language.

As a result of this change all official correspondence was in Sinhala. They were required to pass examinations in Sinhala. This affected non-Sinhalese government officers. The next change with the Indo-Sri Lanka peace accord of July-1987, Sinhala, English, Tamil were declared official language. But 13th Amendment to the constitution in 1987, Tamil was also considered as official language with English as the link language. As a result of all these changes English education is in a very poor condition. It is limited to a subject in the National curriculum system of education. Therefore the government introduced bilingual education system to improve the practice of English again.

In Sri Lanka, the official languages and national languages are Sinhala and Tamil, English is a link language from 1987, 13th Amendment to the constitutional although it was the official language during the colonial period. But as a second language the time allocated for teaching English was not enough to improve the language skills.

Due to this limitation, many cannot communicate in English today. But world is changing day by day. Needs of people and the society rapidly change with the globalization. With the globalization, there is a need for learning a universal language to communicate with each other to achieve higher education attracts employment opportunities, share and contribute to global knowledge, as we are global citizens in the global village.

Hence the government has initiatives to commence programs to improve proficiency of English as a second language. As a result of that the government had to introduce Bilingual Education in 2001 to the national curriculum system to improve the practice of English again with the intension of developing national unity, cooperation and solidarity among the school children,

Earlier English medium education meant, teaching of all the subjects in English. However the Bilingual education means teaching only a few selected subjects in English, and rest to be taught in Sinhala or Tamil.

Currently Bilingual education is available at 601 Schools Island wide. These constitute of 198 national school, 364 provincial schools and 39 private schools. 2001 there were only 98 schools which provided A/L classes in English medium and now it has been extended to 128 schools. (www.Sundayobserver.lk/2010/04/25/spe20.asp)

The subjects introduced for the different grades were as follows;

- a) Junior secondary- Mathematics, Science, Health, Music, Geography and life competency.
- b) Senior secondary –Mathematics, Science, Geography, Citizenship, Music, Health,
- c) GCE. (A/L) -Biology, Physics, Chemistry, Political Science, Art, Combined Maths, Agriculture, Economics, Geography and Commerce

My objective of the study was to identify the effectiveness of bilingual education in Kandy district as it would help to upgrade the quality of Bilingual Education in Kandy district.

Specific objectives were as follows

- Identify the rationale in selecting the Bilingual Education
- Identify problems related to the teaching learning process of Bilingual Education
- Make recommendations to overcome the problems related to the Bilingual education.

Methodology:

Selection of the Sample

According to the documents given from the department of education, Kandy there are 45 bilingual schools in five educational zones and 421 Bilingual teachers in the Kandy district. Two bilingual schools were selected from each zone, representing all the types of IAB, 1C, Boys, Girls, and Mixed schools. Altogether 10 schools were selected for the sample.

Table: 1 Distribution of the school sample

Edu Zone	Sch ool	IAB	IC	Boys	Girls	Mix	National Schools	Provincial school
(1)	A	✓		✓			✓	
	B		✓		✓		✓	
(2)	C	✓				✓	✓	
	D		✓	✓	✓			✓
(3)	E		✓					
	F	✓			✓		✓	✓
(4)	G			✓		✓	✓	
	H	✓	✓			✓		✓
(5)	I	✓			✓			
	J		✓	✓	✓			✓
Totals	10	05	05	04	05	03	05	04
Percentages		50%	50%	40%	50%	30%	50%	40%

Five students from 10th grade of Bilingual class and five students from 10th grade of Sinhala medium class were selected randomly from each and every school. Altogether 100 students were in the sample

Table2 Description of Academic Qualifications of teachers of bilingual education

Qualifications	Percentages
GCE.(O /L)	02
GCE.(A /L)	44
Degree	48
Post graduate degrees	06

According to the Table 2 there are 48% of graduates and 44% A/L qualified teachers.

Table: 3 Description of Professional Qualifications of teachers of bilingual education

Qualifications	Percentages
Trained teachers	17
National Diploma in teaching	29
Postgraduate diploma	54
Any Other qualifications	-

Five teachers from each school who were teaching in Bilingual Education classes were selected for the sample. There are 48% of graduates and 44% A/L qualified teachers. 54% of teachers and 29% of teachers have postgraduate qualifications and National diploma in teaching respectively. 17% of teachers were trained. 21% teachers have 15-20years of experience of teaching. 14% teachers have 11-15 years of experience of teaching. Parents were selected for the sample. (Parents of selected bilingual learners)

Different types of data collection tools were used. Several observations were done to identify the class room situation and information was gathered to identify issues. Tape recorders, un-structured interviews were used to collect evidence. Document analysis and interviews were used for further clarifications of doubts. Data triangulation was used to confirm the evidence gathered and this supporting evidence was sufficient enough to arrive at conclusion.

Different types of questionnaires were used for students, teachers, and parents to collect necessary information who were engage in Bilingual Education. Information collected from the Bilingual students was related to the following areas.

Language preference in Bilingual Education, Reasons for selecting the bilingual education, Subject preference of students, Reasons of subject preference and Problems experienced by the students

Information gathered from the Sinhala medium students (in the bilingual class) were in relation to their preference of learning BE, Reasons of preference of learning BE, Problems of learning, Bilingual Education and English background at home

Information from the teachers were found on the following areas.

Experience in teaching, Academic qualifications, Teachers' ideas on success of teaching in English medium, Problems of teachers in teaching -learning process.

Information gathered from the parents were found on the following areas.

English background of home environment ,Competency of English of parents ,Problems faced by the parents and Suggestions of parents on Bilingual Education .

Results and Discussions:

The finding of this study was analyzed under the views of the students and the teachers.

The views of students :

98% of the students have selected BE on their own preference. Only 2% have selected BE due to parents' influence. This information was confirmed by the parents' responses of questionnaires. According to the responses of parents, 90% of parents have mentioned that the children have selected BE on their own interest. Teachers also confirmed that point of view. According to my observations too I have seen the students in the BE class that they are really interesting in the learning process.

Table: 4 Description about the interest of learners

Responses	Percentage
Their own interest	98
Due to parents' influence	2
Due to teachers' influence	-
After an aptitude test	-

When inquiries have been made about the reasons for selecting BE 64% of students mentioned the first priority is to improve their English knowledge and continue higher studies in English medium in universities or in higher education. 24% of students had mentioned the aim of getting a job. But only 4% of students had followed BE to build up international relationship and 8% of students had followed BE to speak with others in English.

In my observations I inquired the background of Bilingual learners, I found only 12% of learners can speak English and 88% learners cannot. The students in such a situation have very strong need of improving their English language because they need to continue their further studies in English medium and they believe learning English will be helpful to get a job. Very few students expect to build-up international relationship through learning Bilingual education.

72% of Sinhala medium students had mentioned though they like BE they could not join and 28% of Sinhala medium students, mentioned that they didn't have an interest to join the BE. The reasons of not joining with BE were mentioned as follows. 55% out of the students who like BE, had mentioned that the factor was lack of English knowledge, and 20% of students had mentioned that their factor was uncertainty of future of BE. 25% of students had mentioned that the factor was financial difficulties. According to above mentioned factors of Sinhala medium students, most of them are interested to join the BE. But there are problems such as lack of English knowledge, uncertainty of future of BE, and financial difficulties.

98% of Bilingual students' most favorite subject mentioned was an English. The reason was mentioned that easy to learn and remember. 96% students had mentioned their Second favorite subject was mathematics. The reason was absence of terms and definitions to memorize. 82% of the students mentioned that the third favorite subject was Science. The reason was mentioned that the learning of science is useful for day to day life.

Less favorite subject that they have noted was geography. The reason was difficult to comprehend. This information was confirmed by the marks obtained for the subjects by the students in past five years for the end term examinations. They have improved in English subject than the Sinhala medium students.

Table:5 Description of percentages of marks of English in both media

Medium	English Medium			Sinhala Medium		
	below 50	50-75	76-100	below 50	50-75	76-100
2006 (When they were in grade 6)	-	54	46	26	54	20
2007	-	36	64	24	54	22

(When they were in grade 7)						
2008	-	16	84	26	48	26
(When they were in grade 8)						
2009	-	10	90	24	58	28
(When they were in grade 9)						
2010	-	4	96	24	48	28
(When they were in grade 10)						

According to the Table 5 that Bilingual learners have not obtained marks of below 50 for the English and the percentage of marks of 50-75 has been decreased. In the same way percentages of marks of 75 -100 have been increased year by year. Therefore this is a very good evidence for that they have improved in English knowledge. In Sinhala medium students no such variations were to be observed.

As a whole it is clear that there is a gradual improvement of marks obtained in year-end examination for the subjects English, Mathematics, Science except in Geography.

This information was further confirmed by the teachers' responses of questioners.

Table: 6 Description of the students' problems

Students Problem	percentage
Lack of communication ability of English	54
Uncertainty of future of B.E	36
Teaching methodologies	06
Lack of facilities	04

A considerable proportion of the respondents (54%) mentioned that their main problem was lack of communication ability of English, 36 % mentioned the uncertainty of future of BE and 6% mentioned the teaching methodologies.04% mentioned lack of facilities.

Table: 7 Description about parents' difficulties

Parents Problems	percentage
Students lack of communication ability of English	42
Uncertainty of future of BE	34
Financial problems	16
Teacher shortage	08

This information was confirmed by the parents. 42% of parents had mentioned that main problem was students' lack of communication ability of English and 32% of parents mentioned the uncertainty of future of BE.

To confirm that I used observations, interviews with the students.

In my observations the schools in rural areas, most of the time the students were communicating in Sinhala. But in the class room, they were very actively participating with the classroom activities by giving answers but in Sinhala. The students in urban schools speak fluent in English. I realized that most of the students in rural areas can understand the language though they cannot express well in English. Their writing skills are good.

16% of parents had noted financial problems and 8% mentioned about the teacher shortage. The next problem of the students was teaching methodologies. This was also observed by the researcher. My Observations indicated that, most of the teachers use exploration method for English and mathematics than in the other subjects and especially in rural areas teachers use widely lecture method and most of the time teachers explained the lesson in the Sinhala medium. Therefore this may be a reason that student selected the geography as less favorite subject.

The views of the Teachers

Present situation of Bilingual teacher

There are altogether 52% of graduates and 43% A/L qualified teachers. It is a good point that the academic qualifications of teachers were in higher position.

52% of teachers have Postgraduate qualifications and 41% of teachers have National diploma in teaching. 5% of teachers have training certificate. Therefore all the teachers were professionally qualified and none of the teachers without professional qualified.

When considering about the teaching experiences of teachers 24% of teachers were having over ten years of experience and 20% were having over twenty years of experience in teaching. It is a good point that the quality of BE can be improved by having such experienced teachers.

100% of teachers had mentioned that the student showed significant improvement in English and the student have positive attitudes towards in BE. 95% of teachers had mentioned that they like to teach in BE. This information is a very good evidence for that the students have been improved in English.

Exploration method is widely used in Mathematics and less in Geography. Lecture method was more popular in Geography than in other subjects. Teacher preparation is in a good position in all the subjects. But comparatively less in Geography. Use of visual aids can be seen successfully in all the subjects. Use of information technology can be seen only in teaching science. Information Technology was used in teaching learning process by two teachers who are MSc qualified. This was a good evident of the importance of having higher education.

Common methodology used in Geography was to lecture mode and most of the time teachers explained the lesson in the Sinhala medium. Therefore this may be a reason that student selected the geography as less favorite subject. Even though they are well qualified and well experienced still it is needed to improve the ways of presenting subjects matters.

The next problems of the students were teaching methodologies. This was also observed by the researcher. My Observations indicated that, most of the teachers use exploration method for English and mathematics than in the other subjects and especially in rural areas teachers use widely lecture method.

Teachers' problems and difficulties

Table 8 Description of the teachers' problems

Teachers' problems	Percentage
Lack of seminars and workshops	52
Lack of teacher guides and other materials	6
Lack of supervision	28
Lack of communication ability in English	14

52% of teachers have mentioned that the main problem was lack of seminars and supervision. 6% of teachers mentioned that the lack of teacher guides and materials. 14% of teachers had mentioned about the communication ability in English.

They revealed the importance of having seminars, workshops, and correct guidance in the teaching – learning process. They pointed out that there is a lack of seminars and workshops in English medium, which is necessary to boost their teaching talents. Not only that, they revealed most of that the teachers have lack of proficiency of English. So they pointed out the importance of having English programs to develop their language skill. Therefore, teacher development programs, seminars, workshops, are needed in this situation.

Conclusion and Suggestions

Students as well as parents have positive attitudes towards BE. In the schools in Kandy district BE was implemented quite successfully. However there were some problems related to the selection of BE. Some of them were poor communication ability in English, fear of uncertainty of future of Bilingual Education. Teachers also had problems related to the Bilingual education. They have poor guidance, lack of seminars and workshops to improve their talents.

Following suggestions are made to overcome the problems and to upgrade the level of Bilingual education.

- An awareness programme about the Bilingual Education to the parents and the students to create confidence in them, at the end of grade five.
- Specially designed English improvement programs to be introduced to the Bilingual students before commencement of studies.
- Bilingual teacher should be given an in- service training programme to improve the teaching ability in English medium.

- Conducting seminars and workshops at least once a term to avoid professional isolation..
- Teacher should be provided opportunities for higher education to acquire knowledge.

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DEVELOPING THE EXERCISE MODEL FOR PROMOTION OF QUALITY OF LIFE OF THE ELDERLY AT KAMPHAENG SAEN DISTRICT NAKHONPATHOM PROVINCE

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Abstract:

The purpose of this research and development was to develop the exercise model for 60-70-year-old adults, and to study the effect of exercise on the elderly's quality of life in terms of self-optimistic attitude and life and the flexibility and agility. Subjects were the 60-70-year elderly who were members of senior citizen club at Kamphaeng Saen District, Nakhon Pathom province. They were 60 persons who were selected by multistage sampling, including 30 males and 30 females.

The research instruments were : 1) the exercise model for developing flexibility and agility that was assessed by rating scale and focus group of 16 experts; 2) the evaluation forms of quality of life related to self-optimistic attitude and life of the elderly. Their index of congruence were in the range of 0.92 - 0.95. The Pearson product moment coefficient correlation of the Self-optimistic Attitude Evaluation Scale was .79. Meanwhile the Alpha coefficient reliability (Cronbach) of the Optimistic Life Evaluation Scale was 0.78 ; 3) the Rating Perceived Exertion Scale ; and 4) the physical fitness test of flexibility and agility. Data were analyzed by determining frequency, mean, standard deviation, and one-way analysis of variance with repeated measure in one dimensional design at .05 level of statistical significance with Tukey's method of pair-by-pair test of difference. Findings were revealed that 1) the exercise model for promoting the 60-70- year elderly's quality of life was exercise 3 times a week. It consisted of 6 minutes warm-up, 24-minute exercise and 10-minute cool-down; 2) the flexibility and agility before training and after the eighth-week training were significantly different at .01 level; and 3) there were significant differences between the Self-optimistic Attitude Evaluation Scale and the Optimistic Life Evaluation Scale before training, and after the sixth-week and the eighth-week trainings at 0.01 level.

Keyword : Quality of Life, Exercise Model, Elderly

Introduction:

The advancement of medicine and public health of Thailand has resulted in the number and proportion of the elderly population increasing at a rapid rate. The population structure of Thailand is moving towards a phase called state of elderly. The rate of increase in the number of older people likely to rise results in impact on the social structure and family, health care, including the impact of national policies and programs on health (Office of Health Policy and Planning, 1997).

The major problem of the elderly is health resulting from many physical changes that affect the function of various organs. Physical abilities which are clearly seen are decreased endurance, agility and strength. Rate of physical fitness deterioration among the elderly becomes higher according to aging. Morrow, *et.al.* (2000) noted that the body of the elderly will change according to age deterioration, i.e. muscles wither due to lack of use; bones are rotten and fragile; various joints are decaying; some older people get loss of balance control, ability to perform activities and reduced agility; body movement is quite so difficult that sometimes organs related to the movement do not work. These correspond to Thongcharoen (1990) who found that the elasticity of the lungs decreases and it affects cardiac performance; thus it is likely to get tired when performing normal activities. It also found that blood vessels become narrower. The flexibility of the blood vessels is lost which causes blood pressure to rise. If the elderly lack of reconstruction and development of their health, then their physical fitness become more deteriorated than it should be. Due to continuously increasing number of the elderly, it is important to encourage them to exercise to live their lives longer with quality.

Exercise is very beneficial in many aspects of health and social activities; therefore, a lot of people turn to pay more attention to it and the government needs to set the basic policy to improve the quality of people as saying that “to have people exercise” or to set “an urgent policy to create the health assurance throughout to reduce costs over the national health care and to create more opportunities for access to standard and equal health services.” (Office of the National Economic and Social Development, 1991), which covers the policy to promote intensive exercise under the principle that exercise is considered a fundamental require to health (Ministry of Health, 1988).

Physical activities help promote good health, and physical fitness, delay the physical deterioration (as, 2536), and increase the elderly’s physical abilities. They also help to preserve muscular strength, to relax tension, to activate the muscular pulmonary tissues and circulatory system to be effective and to strengthen the whole body for older people (Tantiphacheeva, Kasem and Tantiphacheeva,

Kulya, 1992), which corresponds to that exercise can improve ability to work and can be helpful for those having some symptoms and diseases such as fatigue, stress, and mental health. If you exercise regularly, it will result in better and more efficient and healthy heart.

Physical activities will vary according to the health and abilities of older individuals. Methods of physical abilities should depend on how the elderly can endure. An exercise should be a direct benefit to body, mind, and at least, make the elderly more active. This is in line with Sukanya (Panitcharoennarn, Sukanya and Boonverabutr, Suebsaai, 1997) as concluding that an exercise is vital to human health particularly because if it is done regularly, it can help reduce levels of cholesterol in the blood and increase levels of HDL.

According to documents and research about an exercise for the elderly in Thailand, it appears that some certain forms of exercise which are appropriate for the elderly according to age, sex and individual health have been designed and developed. Nevertheless, to exercise is not only to develop strength, it also means to develop the body leading to better quality of life as well. Especially it is also beneficial to those with ages of 60-70 years who have encountered a lot of physical and mental changes and this is consistent with Kulya (Tantiphacheeva, Kulya, 1992) as noting that older age is the age to take time to understand themselves. During the years in a lot of physical and mental changes occur, the elderly especially aged 60-70 years are the most frustrated and need more recognition and encouragement. The diagram of the Robergs (1997) indicates that the elderly of 65 years over become bored with work, and try to keep themselves sadly isolated. Based on these data, they indicate that a form of physical activities should be developed to suit the elderly. It is necessary to encourage them to realize the quality of life and take an appropriate form of exercise and to promote both physical and mental health among the elderly effectively. This is also to develop any other proper and innovative forms of exercises for people of all ages in the same styles.

Research objectives:

1. To develop a model of an exercise program for the elderly with ages ranging from 60 to 70 years old
2. To examine the effects of the exercise program on the elderly's quality of life in terms of optimistic feelings towards themselves and their own lives including their agility and flexibility

Methods:

Developing the Exercise Model for Promotion of Quality of Life of The Elderly which was a research and development consisted of 7 phases of conducting as follows:

Phase 1. Developing the exercise model for promotion of quality of life of the elderly

Phase 2. Checking the exercise model for promotion of quality of life of the elderly

Phase 3. Constructing the manual of the exercise model for promotion of quality of life of the elderly

Phase 4. Trying out the exercise model for promotion of quality of life of the elderly

Phase 5. Testing the efficiency of the exercise model for promotion of quality of life of the elderly

Phase 6. Promoting and extending the outcomes of the exercise model for promotion of quality of life of the elderly

Phase 7. Continuing the construction of the manual of the exercise model for promotion of quality of life of the elderly until its completion and reporting its results.

Data analysis:

1. Determining the frequency and percent of the basic data: gender and age
2. Determining the arithmetic mean (\bar{x}) and standard deviation (SD) from the data of assessment of the elderly's quality of life and the appropriateness of the manual.
3. Testing the differences among the elderly's qualities of life and the test of the elderly's agilities and flexibilities within group before exercising, after the 6th –week and after the 8th –week exercises by using one-way analysis of variance with repeated measure in one dimensional design at .05 level of statistical significance with Tukey's method of pair-by-pair test of difference

Results:

Phase 1. Developing the exercise model for promotion of quality of life of the elderly

According to Table 1, as for to the frequency of the number of time per week, it showed that an exercise should be done at least 3 time /week 50-70% of the maximum pulse rate in terms of intensity and no more than 30 minutes in terms of the length. In terms of an appropriate of exercise for the elderly it should be that of no movement-oriented and as a set of exercises. The emphasis should be on rhythm to encourage muscles to work rhythmically and continuously. As for the exercise procedures for the elderly it was found that optimal time are to take a 5-7 minute warm up, 30-minute stretching and test 7-10 minute to relax.

Table 1. Study Results of the Exercise Program for the Elderly

Frequency	Inten sity	Length	Mode	Warm- up(minute	Work Out(minut e)	Cool- down(minut e)
Less than 3 time/week	40-50 %HMR	Less than minutes	Movement	3-5 minutes	5-10 minute	3-5 minutes
3 time/week	50-60 %HMR	30-40 minutes	No movement or any set of workout	5-7 minutes	10-15 minutes	5-7 minutes
4 time/week	50-70 %HMR	40-50 minutes	Movement with tools	7-10 minutes	Less than 20 minutes	7-10 minutes
5 time/week	60-70 %HMR	50-60 minute		10-15 minutes	Less than 30 minutes	10-15 minutes
Every day	70-80 %HMR				Less than 40 minutes Less than 50 minutes 1 hour	

Phase 2. Checking the exercise model for promotion of quality of the elderly

In terms of the appropriate exercise postures, they should be 13 postures, 2 postures a set taking 6 minutes each at the week at the week 1-2, 13 postures, 4 postures a set taking 12 minutes each at the week 3-4 13 postures, 6 postures a set taking 18 minutes each at the week 5-6 and finally they should be 13 postures, 8 postures a set taking 24 minutes each at the week 7-8

Phase 3. Constructing the manual of the exercise model for promotion of quality of life of the elderly

It was found that the evaluated result of congruence index of the manual of the exercise model to enhance quality of life for the elderly ranged from 0.71 to 0.97, which was greater than 0.50 and indicated that the manual was proper and consistent to be applied to the real experiment)Pilot Study(

Phase 4. Trying out the exercise model for promotion of quality of life of the elderly

The results from using the model of exercise which had been developed by the author to improve quality of life for seniors with 20 non-simple showed that it was appropriate and applicable to determine its efficiency because it was not too difficult for older people; it was fun; the older attendants were eager and willing to join it every time. For the analysis of data from observation and interviews with the elderly, most elderly wanted to exercise but did not have time; some said that there was none to take them to join the exercise even they liked to exercise and have fun; some said that they were happy to have opportunity to meet and share something with other older people. Moreover, according to observations of the exercise from start to finish the workout process it was found that no seniors had got any injuries therefore, it can be concluded that the results of exercise to improve quality of life of the elderly showed that it was so appropriate; its efficiency can be determined and complete before the actual trial.

Phase 5. Testing the efficiency of the exercise model for promotion of quality of life of the elderly

According to Table 2, the overall self-attitude of the elderly before the experiment and 6th week after are at the moderate level; thus, the arithmetic means are 3.06 and 3.43 respectively whereas that of 8th week after was at the good level with arithmetic means 3.70.

Table 2 Mean and Standard Deviation of Self-attitude of the Elderly before the Experiment, and 6th Week and 8th Week after

Item of Self Attitude	Pretest			6-week Posttest			8-week Posttest		
	M	SD	Level	M	SD	Level	M	SD	Level
1. able to share opinions with others	2.90	0.73	fair	3.10	0.66	fair	3.55	0.72	good
2. Confident to be recognized or not	2.73	0.74	fair	3.08	0.70	fair	3.47	0.73	fair
3. Content with current living	2.73	0.58	fair	3.38	0.87	fair	4.03	0.89	good
4. feelling happy	2.53	0.68	good	3.75	0.89	good	4.03	0.72	good
5. Participating in self-suitable activity	3.10	0.71	fair	3.28	0.72	fair	3.60	0.67	good
6. willing to do in an interesting activity without boredom	2.83	0.83	fair	3.32	0.91	fair	3.73	0.74	good
7. Able to make decision by her/himself	2.90	0.99	fair	3.58	0.91	good	3.90	0.71	good
8. Still worried about some impacts	2.83	0.83	fair	3.07	0.76	fair	3.53	0.68	fair
9. willing to listen to other's opinions	4.37	0.72	good	4.47	0.62	good	4.47	0.63	good
10. accepting current affairs without worn	1.77	0.82	fair	1.62	0.67	fair	1.67	0.66	good
11. wearing suitable dress	3.80	0.61	good	4.07	0.58	good	4.30	0.65	good

Item of Self Attitude	Pretest			6-week Posttest			8-week Posttest		
	M	SD	Level	M	SD	Level	M	SD	Level
12. able to control self-behaviors without indulgence	3.43	0.82	fair	3.73	0.78	good	3.77	0.90	good
13. able to adapt her/himself to queer things easily	3.20	0.66	fair	3.47	0.87	good	3.60	0.77	good
14. able to enjoy living with others	3.73	0.69	good	4.02	0.75	good	4.40	0.67	good

According to Table 3, the overall toward-life attitude of elderly before the experiment is at the moderate level, thus, the arithmetic means 2.81 whereas that 8 week after is at the good level with 3.45 and 3.84 respectively

Table 3 Mean and Standard Deviation of Toward-life Attitude of the Elderly before 6th Week and 8th Week after the Experiment

Item of toward-life attitude	Pretest			6-week Posttest			8-week Posttest		
	M	SD	Level	M	SD	Level	M	SD	Level
1. no pain or	2.22	1.08	poor	2.67	1.05	fair	3.28	0.76	fair
2. normal body systems for example. No constipation	2.35	0.94	fair	2.73	0.98	fair	3.13	0.97	fair
3. no pain or stiffness at joints	2.48	0.79	poor	3.03	0.96	fair	3.43	0.77	fair
4. happy	3.33	0.66	fair	3.57	0.86	good	3.93	0.78	good
5. no worry	2.60	0.92	fair	3.03	0.96	fair	3.67	0.92	good
6. better balancing	2.42	0.85	poor	3.13	1.04	fair	3.83	0.91	good

Item of attitude	toward-life	Pretest			6-week Posttest			8-week Posttest		
		M	SD	Level	M	SD	Level	M	SD	Level
7.	always happy to exercise for strength	2.98	1.07	fair	3.70	0.75	good	4.03	0.76	good
8.	traveling independently	2.93	0.97	fair	3.47	0.90	fair	4.00	0.79	fair
9.	able to do variety of things independent	2.98	1.07	fair	3.77	0.86	good	4.07	0.81	good
10.	enjoy talking to others	3.05	1.00	fair	3.90	0.86	good	4.23	0.77	good
11.	happy to join others in activities	3.10	0.88	fair	3.73	0.83	good	4.03	0.72	good
12.	having body aglity	2.90	0.93	fair	3.67	0.76	good	3.80	0.66	good
13.	happy to interact with others	3.15	0.93	fair	4.13	0.82	good	4.20	0.71	good
14.	always alert and active	2.80	0.86	fair	3.67	0.98	good	3.98	0.83	good
Total		2.81	0.98	fair	3.45	0.98	good	3.84	0.85	good

According to Table 4, in the overall results of the test of agility and flexibility, the average 8-foot walking through and around cones is 5.82 minutes before the experiment and 4.95 minutes and 4.37 minutes after the 6th week and the 8 week of the experiment respectively, the average sit and reach on a chair is 4.20 minutes before the experiment and 4.35 minutes and 4.37 minutes after the 6th week and the 8th week of the experiment respectively, the average shoulder flexibility is -9.02 before the experiment and -7.35 and -5.68 after the 6th week and the 8th week of the experiment respectively and the average turn body and reach is 7.33 cms. Before the experiment and 9.52 cms. and 11.15 cms., after the 6th week and the 8th week of the experiment respectively.

Table 4 Mean and Standard Deviation of Agility and Flexibility of the Elderly before, 6th week and 8th week after the Experiment

Item of exercise	Pretest		6 th -week Posttest		8 th -week Posttest	
	M	SD	M	SD	M	SD
1.foot walking through and around cones	5.82	1.10	4.95	0.98	4.37	0.88
2. Sit and reach on a chair	4.20	3.91	4.35	3.75	4.37	0.88
3. Shoulder flexibility	-9.02	8.39	-7.35	8.16	-5.68	7.92
4. turn body and reach	7.33	4.26	9.25	4.18	11.15	3.94

According to Table 5, the elderly's life quality before, 6th week and 8th week after the experiment are significantly different at .01 level of statistical significance, the test of pair-by-pair difference was done with the arithmetic means.

Table 5 Analysis of Variance of the Elderly's Life Quality before, 6th Week and 8th Week the Experiment

	Variance									F	P
	df			SS			MS				
	Between group	Within group	Total	Between group	Within group	Total	Between group	Within group	Total		
1. Self-attitude	2	177	179	2478.10	2656.45	5134.55	1239.05	15.01	82.56	000*	
2. toward-life attitude	2	177	179	6159.81	4865.50	11025.31	3079.91	27.49	112.04	000*	
3. agility and flexibility											
-foot walking through and around cones	2	177	179	65.24	175.48	240.73	32.62	99	32.95	000*	
-Sit and reach on chair	2	177	179	516.90	2404.90	2921.80	258.45	13.59	19.05	000*	
-Shoulder flexibility	2	177	179	333.33	11781.62	12114.95	166.67	66.56	2.50	000*	
-turn body and reach	2	177	179	440.03	3019.67	3460.00	220.12	17.06	12.90	000*	

According to Table 6, the average paired means of the elderly's life quality are significantly different at .05 level of statistical significance in each pair as follows:

Those of 8th -week posttest are higher than those before the experiment;

Those of 6th -week posttest are higher than those before the experiment;

Those of 8th -week posttest are higher than those of 6th -week posttest;

Table 6 Comparison of Difference of Paired Means of the Elderly's Life Quality before Pretest 6th -week Posttest 8th -week Posttest

Item of exercises	M	Pretest	6 th -week Posttest	8 th -week Posttest
Self Attitude				
Pretest	3.06	-	-	5.25*
6 th -week Posttest	3.43	9.05*	-	9.05*
8 th -week Posttest	3.70	-	-	-
Toward-Life Attitude				
Pretest	2.81	-	-	8.55*
6 th -week Posttest	3.45	14.23*	-	14.23*
8 th -week Posttest	3.84	-	-	-
Agility and flexibility				
8-foot walking through and around cones				
Pretest	5.82	-	-	.87*
6 th -week Posttest	4.98	1.47*	-	1.47*
8 th -week Posttest	4.37	-	-	-
Sit and reach on chair				
Pretest	4.20	-	-	2.15*

6 th -week Posttest	4.35	4.15*	-	4.15*
8 th -week Posttest	4.37	-	-	-
<hr/>				
Shoulder flexibility				
Pretest	9.02	-	-	1.67*
6 th -week Posttest	7.35	3.33*	-	3.33*
8 th -week Posttest	5.68	-	-	-
<hr/>				
Turn body and reach				
Pretest	7.33	-	-	2.18*
6 th -week Posttest	9.52	3.82*	-	3.82*
8 th -week Posttest	11.15	-	-	-
<hr/>				

Phase 6. Promoting and extending the outcomes of the exercise model for promotion of quality of life of the elderly

The assessment results of exercise model to promote the quality of the life for the elderly from the extended group of 25 elderly subjects including 10 males and 15 female

Results from ANOVA and pair-by-pair test of difference of the agility and flexibility of the extended group of the elderly from pretest the 6th week posttest group of the elderly from pretest and the 8 week posttest were very significantly different at 0.1 level of statistical significance; therefore, they were tested pair by pair test of difference.

The average agility and flexibility of the extended group of the elderly were significantly different in each pair and in each test at 0.5 level of statistical significance.

Phase 7. continuing the construction of the manual of the exercise model for promotion of quality of life of the elderly until its completion and reporting its results

The experts viewed that the manual was appropriate and relevant. The manual after the revision following the experts' comments was regarded as the complete edition.

Discussion:

Based on the exercise model developed in this study, there are issues to be considered: feelings towards themselves)self-attitude(, a sense of life)toward-life attitude(, and agility and flexibility.

In term of the sense of self-attitude, the elderly, before the experiment, rated it at a moderate level and after the 6th -week and 8th -week experiment, both were rated at the good level. This suggests that the exercise model developed by the author to improve quality of life for the elderly can improve the quality of life for themselves until 8-week experiment. Thus, it implies that this pattern of physical activities in this study can develop a sense of self-improvement. This is consistent with the similar findings of Chake)Dhanasiri, Chake, 1987(as saying that exercise can make the elderly to have a good mind to be happy, refreshed and eager to do it continuously. Besides the research finding by Suddhichai)1993(also agrees to that if the elderly want to live happily, physical fitness and exercise are important requirements because these factors will help the elderly to delay unwanted physical changes and allows them to be free from disease, and illness. In addition, these seniors want to be more active and to be good in both physical and mental performance.

In terms of the sense of life)toward-life attitude) of the elderly, the results showed that the sense of life of most elder participants finally became at the good level until the 8th week. This may be possible that the exercise model rather focused on the development of agility and flexibility than that of toward-life attitude. Likewise, the results were in accordance with Sakul's)Loylong, Sakul, 1984(study on the effects of 3-day exercise for 8 weeks which showed that exercise could well result in increased physical fitness. According to Havighurt's theory about the elderly's activities)cited in, Panitcharoenam, Sukanya and Boonverabut, Suebsaai; 1997(, it suggests that the activities should be appropriate and according to the aging process and should promote and improve physical, mental and social conditions. This is also consistent with the theory of Thorndike as suggesting that an exercise should be done so frequently that it can be done easily and skillfully. Moreover results of the experiments showed that more training would result in better quality of life.

According to the results, an exercise using the greater bunch of muscle together with rhythmic movement regularly for a long time will help in the development of maximum oxygen

consumption rate. The model of exercise should be chosen to suit the elderly's age, preference, and time availability. In terms of increase the number of postures per set and exercise duration, the results showed that the seniors become tired more quickly, began to down, got more sweat and the faster rate of heart beat. In term of increased intensity, the elderly were able to exercise even repeatedly longer. Their agility and flexibility improved respectively. They enjoyed having more fun with friends and having confidence to perform exercise. In term of increased weight, they could practice following prescribed exercise postures without any injuries and better results can clearly seen. As for exercise duration, it was found that it could affect the fitness of the elderly because the intensity level would be an indicator if it was appropriate for seniors aged 60 to 70 years and the older people could choose depending on their preferences and appropriateness. As for the result of analysis of variance, it showed that the difference was statistically significant at the 01 level indicating that the exercise model had been developed significant. Also when pair-by-pair test of difference was done it was found that all that pair were significantly and statistically different suggesting that there were increased time and duration of the training which will result in a prospective higher development.

As for results of research showing that all aspects are suitable, it means that the exercise model have been definitely and properly designed and developed, therefore, any exercise leaders or interested people can take this exercise model for the elderly to use and practice as well.

Recommendation for further study:

An exercise model to promote quality of life among 60-65-year-old elderly to develop cardiac muscle system and to enhance muscular strength among the elderly should be studied further. In addition, physical fitness test should be undertaken for the benefit of the elderly in general.

Contribution:

Benefit from the results of this research is an alternative exercise model to improve quality of life for seniors which is appropriate to ages of those elderly who like to exercise and benefit.

In summary, this study found that the average quality of life in the sense of self)self-attitude(of the elderly before the experiment and six week after treatment was moderate and good after 8 week of the treatment. The average quality in the sense of life)toward-life attitude(before the experiment was moderate; however, good at 6th six week and 8th six week after the trial. As for the average agility and flexibility before, at 6 weeks and 8 six weeks after the trial, they

increased higher respectively. Particularly in terms of the item 4(turn body and reach at 6th week and 8th week after the trial, the average agility and flexibility increased higher respectively. Thus it can be concluded that the average agility and flexibility in all items are higher than before the experiment.

As for the comparison of the different quality of life of elderly in terms of the sense of self)self-attitude(, feeling towards life)towards-life attitude), and flexibility and agility at the pretest, all three differences are statistically significant at the .01 level.

As for one-way analysis of variance and the pair-by-pair test of difference, it was found that the quality of life in terms of the sense of self)self-attitude(, feeling towards life)towards-life attitude(, and flexibility and agility before and after experiment for 6th week and 8th week are significantly different at the 0.01 level of statistical in all aspects and items.

Based on this research to develop the exercise model to enhance the quality of life for the elderly, it was found that the qualities of life of older people undergoing the trials at both 6-8 weeks after the experiments are statistically and significantly different. Thus, to be elective, this model should be used at least eight weeks of implementation, or in case of time limitation, 6 weeks can be possible.

Acknowledgement:

Grateful and sincere thanks go to Kamphaeng Saen District Hospital and Chandrubeksa Hospital for their courtesy data to complete the research.

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SCIENCE TEACHERS IN KANDY AND THEIR CONTINUES PROFESSIONAL DEVELOPMENT

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Abstract:

In the field of science education, rapid changes occur due to adding new content to the curricula and integrating new technologies into teaching and learning approaches. Teachers currently face many challenges in adapting to these changes. It is clear that in order to teach successfully while overcoming the aforementioned challenges; teachers need to be professionally developed. Research findings show that Continuous Professional Development (CPD) of science teachers is vital to improve teachers' knowledge and skills in relation to dynamic changes in the field of education and quality of science teaching. The purpose of this study is to recognize the type of existing CPD programmes, how they fulfill science teachers' professional needs and teachers' suggestions to enhance the quality of them. Mixed methods approach was used in this study. Quantitative data was obtained by administrating a postal survey of randomly selected 100 science teachers. Based on the responses to the questionnaire 10 science teachers were purposely selected for the semi-structured interviews. The quantitative data were analyzed using Statistical Package for Social Sciences (SPSS). Interview data were transcribed and the emerging assertions were identified. The findings of this study showed that most science teachers received many CPD opportunities. Ninety five percentage of respondents appreciated the benefits of CPD to them. 51.8% reported that even though they received different type of trainings under CPD programmes, they were still having issues in implementing them in schools. The lack of knowledge of effective teaching strategies, inadequate knowledge to conduct practical sessions effectively and time management problems were among them. Furthermore, they suggested that implementing activities to follow-up CPD programmes and more teacher supervisions with appropriate feedback should be included. In conclusion, CPD programmes support the carrier development of science teachers. However, the quality of CPD programmes should be enhanced while considering the issues that teachers face during their day-to-day teaching.

Key words: Continues professional development, Science teaching

Introduction:

Teachers currently face many challenges in adapting to the dynamic changes in the field of education such as adding new content to the curricula and integrating new technologies into teaching and learning processes. Therefore, science teachers need to consider this when they are developing students scientific knowledge, attitudes and skills. Most teachers have to be prepared to meet this and have yet to adapt to new standards in science teaching. According to research findings, the Continuous Professional Development (CPD) programmes support teachers to develop relevant skills, knowledge and experiences both formally and informally. Due to this reason it is worthwhile to investigate how CPD programmes supports further development of science teachers.

The following objectives were established and achieved in this study.

1. Identification of what type of programmes teachers had as their CPD.
2. Identify how CPD fulfills their requirements.
3. Obtain teachers' suggestion and recommendations for further development of CPD.

Materials and Methods :

This research was undertaken using mixed methods approach. Quantitative method was the postal survey that was administered to 100science teachers and the qualitative method was semi-structured interviews of science teachers. Random sampling method was used to select science teachers from Kandy district and according to the answers to the questionnaire ten science teachers were purposively selected for the interviews.

The questionnaire consisted of a verity of question types such as Likert scale questions, multiple choices and open ended questions. The interviews were conducted face to face and they were audio recorded. The quantitative data were analysed by using Minitab 16 package. Interviews were transcribed manually. Then hunches were identified and to form assertions. The three assertions were formed.

Results and Discussion:

There were only 83 questionnaires returned from science Teachers, 63 female and 20 male. From the findings it was found that "Wide variety of activities provided CPD of science teaching" Science teachers in Kandy district reported that they have received different type of

CPD activities both within and outside of the school. The Ministry of education, Provincial and Zonal Education Office, Universities, National Institute of Education and the College of Education were reported as the outside sources that they received CPD programmes. Teachers emphasized the importance of various type of CPD to improve their teaching skill.

The most frequently mentioned characteristic of unsatisfied PD by science teachers was to have sufficient resources and adequate facilities. Many teachers reported that they need more resources to implement the some activities that they lean during CPD programmes. These teachers required facilities such as computers, chemicals and laboratory equipment to teach science for their students.

Each individual teacher had opportunities to engage in different type of CPD activities and this CPD for science teachers are seem to be important. A Science teacher involvement in professional development is depends on their needs and these different CPD activities will have different values for different science teachers. There are several issues which coursed teacher dissatisfaction. But they believe that the quality of these activities should be developed. However these teachers found that CPD which were received to them were very valuable. The next chapter therefore provides a discussion and recommendation of the results from this study.

Conclusion:

Teachers received different type of CPD trainings through various programmes that are provided by outside sources and school itself. They gained more experience from both formal and informal ways. Furthermore, their requirements, issues, suggestions and recommendations about their CPD programmes are identified.

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PROSPECTIVE TEACHERS' PERCEPTIONS ON LESSON PLANNING

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Abstract:

Developing daily lesson planning skills is an important aspect of teacher training programs. The main purpose of this study was to study perceptions of prospective teachers on the daily lesson planning skills given by Mathematics curriculum of National College of Education. Survey research design was used and the sample consisted of 280 prospective teachers. Data were gathered with the use of a questionnaire followed by semi structured interviews. Data obtained were analyzed quantitatively. It was revealed that 64.46% of the sample was in the view that the guidance provided individually to prepare mathematics lesson plans was not enough to build up skills of organizing activities to enrich exploration skills of students. However 63.87% of the prospective teachers were in the view that they were aware of different teaching methods through mathematics curriculum. The results of the study showed that the skills of daily lesson planning are not developed specifically to teach mathematics.

Keywords: prospective teachers, Daily lesson planning, mathematics

Introduction:

In the field of mathematical education, rapid changes occur due to adding new content to the curriculum and integrating new technologies into teaching and learning approaches. The objectives of the mathematical education is to improve the skills of reasoning, communication, problem solving and enhance Mathematical knowledge (Curriculum of Mathematics, 2010). In order to achieve these objectives, the daily lesson plans prepared by the teachers are very important. Aggrawal (1995) described the daily lesson plan is a statement, that focuses specific objectives of a lesson. And he also points out a lesson plans indicate the aims to be realized by teaching a lesson, the method to be employed and the activities to be undertaken in the class so that it kept engaged for the realization of the aim. According to Pansuk, Walter and Todd (2001), the lesson plan is a prior decision making that take place before instruction. Also they

point out the lesson plan is to make strike to follow the four steps, engagement, development, assessment and assimilation .In this situation developing daily lesson planning skills is an important aspect of teacher training programs. Therefore curriculum of teacher training programmes is oriented to develop the skills of planning the lesson. The main purpose of this study was to study perceptions of prospective teachers on the daily lesson planning skills given by Mathematics curriculum of National College of Education.

Methodology:

This study was undertaken using two phase survey method . In the first phase data was gathered through the questionnaire consisted of attitude scale questions and open ended questions. It was pre- prepared under conceptual frame work that utilized for the study was based on the available research literature related to skills of lesson planning twenty five attitude scale questions and four open ended questions were constructed. It was pilot tested on 30 prospective teacher trainees from group of internship students and required modification were made prior to the administration of the questionnaire. Data collected from the above source soliciting 280 prospective teacher trainees from three main National Colleges of Education. which conducted mathematics and science courses. Data obtained from the above questionnaire were analyzed quantitatively using Statistical Package of Social Sciences (SPSS). In order to assure the collected data from questionnaire as the second phase, a semi structured interviews was conducted with 24 prospectors.

Result and Discussion:

It was revealed that 64.46% of the sample was in the view that the guidance provided individually to prepare mathematics lesson plans was not enough to build up skills of organizing activities to enrich exploration skills of students. However 63.87% of the prospective teachers were in the view that they were aware of different teaching methods through mathematics curriculum. But 63.33% of the sample pointed out that the guidance is not enough to select teaching methods according to nature of the student of classroom. 60.75% from the sample agreed to gain the basic knowledge of using suitable quality inputs and teaching aids. But 40.15% indicated that knowledge is not enough for teaching mathematics. Out of the responses 48.7% show that they can obtain essential knowledge about suitable strategies for classroom management and time management skills.

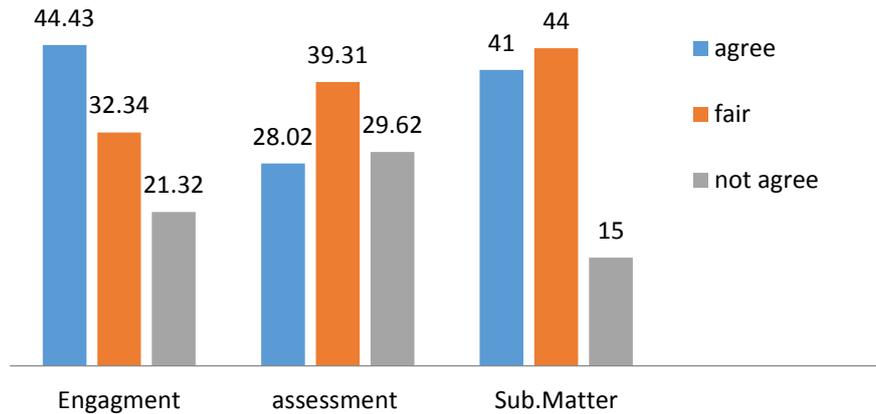


Figure1 : perception on organize, engagement approaches subject matters and assessment items

According to Figure1, 44.43% are in the view that the given skills allow them to select engagement approaches is sufficient. And also perceptions on achieving subject matters and receiving knowledge about constructing assessment items were less than 50%.

It was revealed from the responses to the questionnaire, the prospective teachers were in the view that they do not get sufficient guidance and understanding on subject matter knowledge, organizing subject matter, use of group work and to design strategies to motivate the students.

According to the semi structured interview , 83.33% prospectors were that the skills of lesson planning given by the perceptions on skills of lesson planning given by the curriculum of mathematics was insufficient. They suggest in the open ended questions that to reform the curriculum of mathematics of NCoE to update the knowledge of text books, to expand the given time to learn about constructing lesson plans, to enhance opportunities to observe demonstration lessons and to conduct workshops to develop a specific knowledge about crating assessment tools based on mathematics.

Conclusion:

By considering the perception of prospective teacher trainees, majority view that the guidance provided individually to prepare mathematics lesson plans and knowledge for overcome their problems in the classroom were not enough. Moreover their skills of daily lesson planning were not developed specifically as they expected. Therefore the curriculum of Mathematics of NCoE which is used as guidance at present should be reformed to enhance the daily lesson planning skills of prospective teachers.

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**STUDY OF AND OPINIONS IN THE PREPARATION OF READINESS OF 1ST
YEAR STUDENTS OF KASETSART UNIVERSITY, KAMPAENGAEN CAMPUS
ENTERING THE ASEAN ECONOMIC COMMUNITY.**

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Abstract:

This study has the purpose to gain knowledge and opinions about the preparation of readiness of 1st year undergraduate students at Kasetsart University, Kampaengsaen Campus entering the ASEAN Economic Community. The representative sample includes 1,400 people. Data is collected through questionnaires. Applied statistics in this study use frequency, percentage, average and standard deviation. Results of this study show that the representative sample consists of mostly females (59.28%) and enrollment method is the admissions system (46.71%). In the field of knowledge most of the representative sample show average ratings between 4-6 points (52.64%) In the field of opinions regarding readiness in entering the ASEAN Economic Community most of the representative sample show average ratings (41.07%).

Keywords: knowledge, opinion, preparation of readiness in entering the ASEAN Economic Community.

Introduction:

Background and importance of the problem:

ASEAN is an assembly of regional member countries namely Thailand, Singapore, Indonesia, Malaysia, the Philippines, Brunei, Vietnam, Laos, Myanmar and Cambodia. Leaders of all these countries signed the declaration of ASEAN cooperation with the goal of becoming a community, to cooperate with, help and support each other in the fields of security, economy, society and culture. ASEAN as strengthened communities linked with products, people, investments and innovations capable of unimpeded traveling through the entire region with convenient inter-connecting transport routes, the people of ASEAN able to relocate and the

resources of the member countries more conveniently used. ASEAN consists of three pillars namely:

1. ASEAN Security Community – ASC People in the region living together in peace, safety and security.
2. ASEAN Socio- Cultural Community – ASCC The population of each country assemble under the same caring concept and good social welfare.
3. ASEAN Economic Community – AEC The aim to assemble in the fields of economy and convenience. Trade among each other for a growth in wealth in the region and competitiveness to other regions for the well-living of the people of ASEAN (Sirinan Kittisuksatit).

From the evaluation of readiness of Thai public servants:

Even if the government has policies to proceed with the framework for ASEAN that are clearly stated in the National Economic and Social Development plan, Draft 11 (2555-2559) including the various agencies with their frameworks preparing for the ASEAN community, the coordination of practice is neither ready yet nor clearly says who does what, how much and how. Importantly, the evaluation of readiness in the field of personnel found out that there is technical knowledge but a lack of knowledge in the field of foreign countries and relating laws regarding trade and tax.

The newspaper Komchadluek reported on 16 May 2011 that a readiness evaluation of the people regarding knowledge of ASEAN and effects on university students of 10 member countries showed that Thailand was placed last. Jobstreet.com surveyed the characteristics of new graduates wanted by 305 organizations in 2012. Problems found were that graduates were not enduring at jobs, move or change jobs, lack responsibility, beside that there is also the problem regarding the skills of using English, lack of urgent problem solving skills and lack of enthusiasm at work. Other not desirable characteristics that representatives of employers stated were, demands of too high salaries, lack of discipline, no punctuality, lack of prestige, no knowledge of propriety, no responsibility and overconfidence at the same time.

Examination results of the Ordinary National Education Test (*O-NET*) 2011, of 6th year secondary levels by the The National Institute of Educational Testing Service (NIETS) specify basic statistics. The average results in the O-NET of 8 subjects showed that 6th year secondary level students nationwide had particularly only 19.22 points out of 100 points in the subject of

English. Terrifying is, that these group of students will be the new university graduates in the next 3-4 year and therefore must have ready potential in competitiveness in the free labor market. The issue that must be followed up is the schooling of English on secondary and university level in Thailand. Will corrections be in time or not? Even if Thai skill labors of 7 vocational subjects according to the MRA (Mutual Recognition Arrangement) including experienced labor of other relating subjects will be the market demand, preparation of readiness in the field of English is extremely urgent due to ASEAN will use English as its interlingua (common language) for communicating and liaising. Beside that the preparation of readiness in the fields of knowledge, understanding and usage of related laws for trade or tax are also initially necessary and urgent (Sirinan Kittisuksathit, 2012).

Mentioned importance results in the attempt of movement and preparation for entering the ASEAN community in time according to mentioned time-frame in every concrete dimensions. That study has the direct related duty and important role in providing necessary knowledge of movement and preparation for the step of entering the ASEAN community in time as specified. The frame of cooperation of the ASEAN community on its 3 pillars (3 Pillars of ASEAN Community) consists of the political community and security of ASEAN (ASEAN Security Community – ASC), ASEAN Socio-Cultural Community – ASCC and especially the ASEAN Economic Community – AEC (Office of the Education Council), Introduction:2010).

The AEC is one of three main pillars of the ASEAN community and has the following targets:

1. Common market and production.
2. Creation of the ability of competitiveness in the field of ASEAN economy.
3. Equal development of the economy.
4. Integration with the global economy with more or less positive and negative benefits from the ASEAN Economic Community.

More or less benefits will be received through good preparation of readiness of all related segments, including speaking of private entrepreneurs, that need to adjust to build capability, for instance the acceleration of brand development, usage of new production technology and development in the field of new innovations which support creating a distinctive point for Thai products. The public sector should also try to build understanding and advertise for everyone involved including the preparation of prevention standards to decrease upcoming effects in the AEC (Thidarat Choksuchart, Abstract : 2010).

In conformity with the Office of the Higher Education Commission the Bureau of International Cooperation Strategy manages strategies of higher education in Thailand to prepare for readiness for the ASEAN community in the year 2015 through strategies in 3 fields(Bureau of International Cooperation Strategy, 2010 : 67) as follows:

1. Additional qualitative capabilities of university graduates according to standards. .
2. Development of competitiveness of institutions of higher education for the development of the ASEAN community.
3. Promotion of the role of Thai higher education in the ASEAN community.

The realization of the effects of getting together as ASEAN community to Thai higher education sets the frame of the longtime higher education plan of 15 years, Draft 2 (2008 – 2022) by highlighting the importance of the direct affecting factor to the management of higher education due to the upcoming, more convenient mobility of man power, students and educational personnel. This leads to the necessity of the higher education to adjust itself to create university graduates that are ready to cope with a changing situation after getting together as ASEAN community.

Albeit education is part of the main pillars in the field of society and culture but in reality education, especially higher education is related and connected to the three main pillars in the way of support, for instance the creation of being ASEAN,etc and being affected from being AEC especially regarding the opening of free trade, educational services and the mobility of mentioned manpower, students and educational personnel. This results in the higher educational parts and institutions in the member countries of having to adjust and prepare for readiness for the upcoming AEC. The team of researchers as lecturers and education developers would like to partly support the quality of these undergraduate students.

It is necessary that there is an awareness of knowledge and preparedness in cooperation and creation of potential moving together with Thai higher educational strategies in the preparation of readiness for the ASEAN community in the year 2015. Policies of the Education and Development Faculty and policies of the Kasetsart University in conformity with the policies of the Office of the Educational Council. The acceleration of educational transformation in the 21st century determined to create a new Thai who has knowledge, goodness and is able to live together with others in happiness. Educational management for the readiness of Thais who are going to be citizens of ASEAN able to peacefully compete and live together with neighbors.

As well as acting as an example of proceedings to extent concrete support of various neighboring countries in the region. Therefore, giving knowledge to public servants, personnel, undergraduate students, students and interested people related to the preparation of readiness for entering the ASEAN community is a necessity. The team of researchers focused on the importance of above mentioned reasons and is interested doing a research regarding:

“Study of and opinions in the preparation of 1st year undergraduate students of Kasetsart University, Kampaengsaen Campus entering the ASEAN community” for creating the readiness of knowledge, understanding and preparedness of change in the labor market for further qualitative development of potential of undergraduate students.

Objective

General objective

Study knowledge in and opinions of the preparation of readiness of 1st year undergraduate students of Kasetsart University, Kampaengsaen Campus in entering the AEC.

Specific objectives

1. Study personal data e.g. Sex and admissions system of 1st year undergraduate students of Kasetsart University, Kampaensaen Campus.
2. Study knowledge relating to the AEC of 1st year undergraduate students of Kasetsart University, Kampaensaen Campus.
3. Surveying opinions related to the preparation of readiness in entering the AEC of 1st year undergraduate students of Kasetsart University, Kampaensaen Campus.

Definitions (Definitions used in this research)

1. AEC means: Assembling in the fields of national economy in the region of ASEAN for the benefit of negotiating power in the fields of economy, import and export of products.
2. Study of knowledge of and opinions in preparations of readiness in entering the AEC means: Study of knowledge, understanding of and opinions in relation to the preparation of entering the ASEAN Economic Community.

Boundaries of the research

Population and representative sample: Population used in this research means: 1st year undergraduate students of Kasetsart University, Kampaengsaen Campus that enrolled in the second half of the academic year of 2013 with altogether 3,165 people.

Representative sample

The size of the representative sample is calculated from the population by using the open method of the complete table according to the formula by Taro Yamane (Yamane, 1973:727). Therefore, this research will be classified according to the level of confidence in the representative sample of 98%, while occurring errors are allowed not exceeding 2%. This results in the size of the representative sample of 1,395 people.

1. Studied variables

2.1. Personal data e.g. sex and admissions system

2.2. Knowledge of and opinions in the preparation of entering the AEC of 1st year undergraduate students of Kasetsart University, Kampaengsaeng Campus

Expected benefits

1. Recognizing knowledge and opinions expressed in the preparation of entering the AEC of 1st year undergraduate students of Kasetsart University, Kampaengsaen Campus
2. Path in managing teaching and development of knowledge and capabilities for the creation of readiness in entering the AEC of undergraduate students for the cause of further sustaining development.
3. Path for doing research for the development of readiness in other fields for the undergraduate students and personnel for the cause of further continuous and qualitative development.

Research method

This research is a quantitative research through survey research of 1st year undergraduate students of Kasetsart University, Kampaensaen campus for the study of readiness in entering the AEC. Questionnaires are used as method to gather data.

Population and representative sample

The population used in this research are 1st year undergraduate students of Kasetsart university, Kampaengsaen campus that enrolled in the second half of the academic year of 2013 with altogether 3,165 people.

Representative sample

The size of the representative sample is calculated from the population by using the open method of the complete table according to the formula by Taro Yamane (Yamane, 1973:727). Therefore, this research will be classified according to the level of confidence in the representative sample of 98%, while occurring errors are allowed not exceeding 2%. This results in the size of the representative sample of 1,395 people.

Random sampling:

This research uses Purposive Sampling by means of choosing the representative sample that enroll in the subject of physical education activities and uses Sample Random Sampling.

Randomly chosen were 1,395 people, building the size of the representative sample as required.

Research tools:

The researcher used questionnaires as tools for gathering data this time for studying readiness in entering the AEC of the 1st year undergraduate students of Kasetsart university, Kampaengsaen campus.

The questionnaire was created according to the conceptual frame of theories from repeating research work that are related and conform with the research objectives. These are divided into 3 parts as follows:

Part 1: Questionnaire related to general data of undergraduate students

2 clauses.

Part 2: Questionnaire related to knowledge of the AEC. 10 clauses.

Part 3: Questionnaire related to the authentic state, feelings or opinions. 15 clauses

Gathering data

1. Ask for support from personnel of Kasetsart University, Kampaengsaen campus
2. Introduce the descriptor, objectives of the research and ask for support in gathering data by letting the representative sample fill out the questionnaire by themselves.

3. Afterwards all data will be checked for completeness for further analysis.

Data analysis:

The researcher analyzes the data by ready-made computer program according to the following order:

1. Data from the questionnaire will be collected and issued a code
2. Inspection for correctness of the issued code,
3. Preparation of program and questionnaire for saving the data in the computer.
4. Analysis of the data with statistical methods and ready-made computer programs.

Statistics used for analysis:

Descriptive study

Analysis of personal data of the representative sample e.g. sex, enrollment method of undergraduate students. Analysis of data in the field of knowledge related to the AEC and evaluation of the authentic state, feelings or opinions by using percentage, average and standard deviation.

Summary of research results

1.1 Type of population

The research found out that the representative sample consisted of altogether 1,400 people. The main part were women with 59.29%. Enrollment method was mainly the admissions system with 46.71%

1.2 The field of knowledge related to the AEC

Research result of the knowledge related to the AEC found out that the representative sample had mainly moderate knowledge ratings between 4-6 points or 52.64%, low knowledge ratings between 0-3 points or 33.71% and high knowledge ratings from 7-10 points or 13.64%.

1.3 In the field of opinion related to the readiness to enter the AEC

Research result show that opinions are in a moderate level or 41.07%. The representative sample has the following moderate opinion related to readiness of entering the AEC: Undergraduate students say that they have to adjust to colleagues with various nationalities, religions and cultures.

Debate of the research result:

Knowledge about the AEC

The representative sample has mainly knowledge on a moderate level or 52.64%. This could be because of seminars by the university or undergraduate students receive knowledge via various media or other sources of study and including teaching. The faculty of lecturers manages infusion instruction regarding ASEAN entering teaching management and which is conform with the research by Noppadon Sutantieawnitkhun (2011) who did a research concerning the readiness of technology of Thai vocational institutions.

Opinions related to readiness in entering the AEC:

The representative sample has mainly moderate opinions or 41.07%. In conformity with the research it was found out that main elements of readiness (1995 referring in Nitthapong Chaywong 1997 : 18) consists of 3 features namely:

1. Maturity
2. Participation in seminars and preparations
3. Interest and motivation for some groups of educators divided in 4 groups as follows:
 1. physical main features, like general physical maturity.
 2. main features of intelligence, like readiness in the capabilities of perception and rational thinking.
 3. Main features in the field of environment, like experience of society, surrounding environment.
 4. Main features of emotion, motivation and personality, like emotional stability. If the attitude of the students towards the readiness to enter the ASEAN community was on a good level, it would be an important basic factor for further student development.

Recommendation:

Recommendation from the research result

1. This is a specific research of 1st year undergraduate students of Kasetsart university, Kampaengsaen campus. In further additional researches undergraduate students of other years of Kasetsart University, Kampaengsaen campus should be studied, including covering undergraduate students of other institutions for the benefit of preparation of readiness to enter the AEC.
2. Take the research results to each faculty for creating development plans for

undergraduate students entering the ASEAN community according to the characteristics of readiness, knowledge, and opinions according to different distinctive points.

3. The university should create an intermediate curriculum for the development of undergraduate students entering the AEC prior the academic year of 2016

Recommendation for further research

1. This research was held with the focus on knowledge and opinions regarding the AEC. In the occasion of further research there should be further focus on satisfaction and the use of benefits from information regarding the AEC and taking the results for the most engagement in the preparation to enter the AEC.
2. There should be concrete development in innovation for the preparation of students entering the AEC prior to the academic year 2016, like computer-assisted teaching, e-learning systems for thoroughly study by students.
3. There should be the creation of a learning and field experience set in the field of ASEAN community for giving knowledge and experience thoroughly to undergraduate students of all faculties.
4. Intervention or integration

ASEAN studies in managing teaching of various courses for the purpose of the students having further readiness in entering the ASEAN community.

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RELIGIOUS EDUCATION FOR PROMOTING PEACE

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Abstract:

Peace is a human necessity. There can be no argument about that. However there are inequalities among ideas held by different people on peace. On the surface peace may appear to be a simple thing. However a careful scrutiny would reveal peace to be quite a complex phenomenon. Viere Veil (1982) developed a model which showed all the perspectives of peace. According to his model, perspectives on peace could be divided into two, viz :

1. The lateral view of peace and
2. The overall view of peace.

There is also a concept regarding peace, which is connected to war, according to which, “if you are interested in peace, you should be prepared to fight”. In other words, what the concept means is that the government should maintain the army not for the purpose of waging war, but in order to protect peace.

Introduction to propagation of peace

The purpose of propagation of peace is to generate a human society which can live in peace. The horrifying terror, violence and destruction that raise its ugly head day by day in the contemporary world amply show the need for propagation of peace. We need to take prompt action if we are to prevent our future generation from getting caught up in the wave of violence and instead facilitate them to live wholesome lives directing their energies towards aesthetics, creativity, science and exploration etc.

The process of converting Homo sapiens into cultural animals is known as education. However the present day school system seems to have forgotten this concept. It is made amply clear by the process followed by today's schools, giving priority to examinations and provision of knowledge. The inhuman happening that we get to hear almost on a daily basis is testimony to the fact that the schools are not doing their job properly. However much the teachers are trained, most of the schools still look at education, the students and their mission itself through

obsolete concepts. It is imperative that we all should get together and find educational methodologies that could rid children's minds of violence and make them more humane.

Who is a peace-loving person?

A peace-loving person is an individual who can live in peace with the human society, the natural environment and with one self. A close scrutiny would reveal that a high personal development level is necessary in order to live as a peace-loving person. In addition it is apparent that a good religious education, a sound knowledge, healthy attitudes and a lot of skills are needed to live as a peace-loving person. It is a mistake if we neglect such things in giving education, thinking that such qualities would come to children naturally and effortlessly.

It is true that the school is taking action to give some understanding about the concept of attaining peace through religious education. However what is done at present, in a conventional manner, is to provide an understanding very much limited to concepts such as "peace" and "good life". Merely introducing concepts relating to peace would be of no avail. To lead a peace-loving practical life a person would need quite a lot of various intellectual, emotional and inter personal skills. There are techniques which could be used to resolve some conflicts. It is necessary to give some training about these techniques too. There is a certain misgiving entertained by some people regarding religious education too. They are under the impression that religious education tends to weaken the militancy of people. Conflicts are necessary for the development of the individual as well as the society. Wherever people are, there will be conflicts, which fact is a social reality. Is religious education something that makes an individual inactive and run away from conflict situations? Will it make an individual to observe silence in the face of injustices perpetrated by others?

A peace-loving person is one who has totally given up violence. However one should not be of the opinion that such a person (who is totally devoid of violence) would not stand up for his or her rights whenever the necessity arises. He or she will fight while at the same time strictly adhering to his or her policy of non-violence. Leaders in the calibre of Mahathma Gandhi and Martin Luther King have amply proved how forceful and efficacious non-violence is. There are various strategies which could be used to fight social injustices and pressures using non-

violence. These too should be taught to children. It would, without doubt, be an excellent substitute to the gun culture which is pervading the world at present.

Facts which lead children towards violence

- The inferiority complex or negative self-assessment resulting from marginalization at home, school or society at large, being subjected to under estimation, or wrongfully calling the child a liar.
- Negative concepts regarding others and the society as a whole resulting from deprivation of social needs and affection.
- Spiritual poverty resulting from taking the attention of the child away from education and social studies and the failure to recognize the inner feelings of the child.
- Non development of communication skills.
- Subservient or aggressive personality and mentality acquired through social interactions.
- Non-development of the power of reasoning.
- Taking irresponsible decisions on the spur of the moment.
- Non-development of skills relating to resolution of interpersonal conflicts.
- Lack of understanding or having misconceptions about peace.

When discussing the role played by religious education in promoting peace, it is extremely worthwhile and useful to learn about the Buddhist philosophy as a religion. The *Pancha Seela* (or the five precepts) could be exemplified as an extremely simple code of policies which would lead to the prosperity and peace in any country. The *Pancha Seela* (or the five precepts) is as follows:

1. Refrain from taking life.
2. Refrain from stealing
3. Refrain from sexual misconduct
4. Refrain from uttering falsehoods and
5. Refrain from taking intoxicants.

These policies could lead any society to weal, and it could be depicted as a first step towards promoting peace. This was amply demonstrated by the Lichchavi kings, who were collectively administering their kingdom following democratic principles, and their very effective and

powerful constitution contained what are known as the *Saptha Aparihaniya Dharmas*, or the seven principles to avoid degeneration. History shows how they were governing the Kingdom of Vishala (the modern Vishali) according to the *Saptha Aparihaniya Dharmas*, which are as follows:

1. Meeting frequently.
2. Meeting in harmony, carry out discussions in harmony and disperse in harmony.
3. Enact new laws and refrain from violating enacted laws.
4. Respect elders and obey their instructions
5. Ensure safety of ladies
6. Continuous veneration of sacred sites
7. Ensure protection of teachers and arahants within their kingdom.

These *Saptha Aparihaniya Dharmas* were subjected to praise by the Lord Buddha, who declared that the Lichchavis could not be defeated so long as they adhered to them (*Saptha Aparihaniya Dharmas*). Emperor Asoka too is said to have adhered to the last 5 *Dharmas* in their pristine form.

Even the basic training in Buddhist philosophy consists of activities to promote peace. Philosophy and teachings of Jesus Christ too are based on peace. The liberation of Jews who were undergoing untold suffering due to the cruel governance of the Turks through nonviolent means is the basis of Christian philosophy.

Deepak Chopra, in his book “Peace is the way” shows a methodical approach as to how peace could be individually built within seven days:

- Sunday being for peace
- Monday thinking for peace
- Tuesday feeling for peace
- Wednesday speaking of peace
- Thursday acting for peace
- Friday creating for peace and
- Saturday sharing for peace.

Here the thought about peace is more important. Udaya Chopra says that real peace could be achieved through this peace promotion, which goes hand in hand with the Maithree Bhawanawa (Meditation in loving kindness) taught in the Buddhist philosophy.

The book authored by Jimmy Carter “Talking Peace – A Vision for the Next Generation” critically shows the ways through which peace could be realized and the issues faced by the modern world. Similarly he very deeply examines the ways through which peace could be realized and talks about democracy and human rights too. In chapter 8 of the book, ‘Negotiating a win win settlement’, he further talks about the Paris Peace Seminar which was held in 1919 to establish international peace subsequent to the first world war and the attempts made to prevent the second world war taking place.

The opinion of Mahathma Gandhi about peace was “there is no way to peace, peace is the way”.

Deepak Chopra emphasizes that “if we want to change the world, we have to begin by changing ourselves”.

How should peace be promoted?

- Research, studies and training on peace should be improved.
- Explore the possibilities of resolution of crises through nonviolence, build co-existence alliances and find the causes and crises which lead to war and take remedial measures.
- Provide organized support to co-ordinate researchers, teachers and professionals focusing attention on the theories of peace.
- Utilize methods and other scientific ways and means to realize peace, build alliances of co-existence to resolve crises through nonviolence and take steps to put a stop to various destructive occurrences.
- Teach peace psychology.
- Create a world with a culture of peace to enable the world community to lead happy, contented lives.

Peace building:

Religious, cultural, political and economic sectors are important for peace building. Man should be nourished in human values from a very young age through religious education. Subjugation of one cultural group by another cultural group should be prevented. Equal opportunities should be opened to all in the political arena. Employment opportunities, education, housing and health services should be made accessible to all through equitable distribution of resources.

Peace could be built in a simple manner through these methodologies and today's task of peace promotion is to develop concepts to enable us to face the challenge of building a peaceful atmosphere in the future world without fear. A more developed level could be achieved through the spread of religious education for peace promotion in the developing world. Courses leading to the promotion of peace through religious education should be included in the educational methodologies. The multitude of good qualities including loving kindness that pervades the life of Lord Gauthama Buddha cannot be found in any other life story in the world.

Giving refuge to helpless beings:

Sharing knowledge, happiness, decorum, patience and the quality of respecting or tolerating others' opinions and views with other children who are among the children and who deserve special attention are some outstanding features of giving refuge to helpless beings. The Lord Buddha, in His great wisdom, perceived the people in the world as lot who are helpless and poor in wisdom. They could be made to face life in the proper manner only through giving them practical lessons and experiences. Peace could be promoted by educating children on the value of parents and convincing them on the importance of taking care of parents when they are aged and helpless.

Caring for the sick:

Caring for the sick is one of the most important aspects that should be included in religious education curriculum in the context of spreading peace. Peace can be promoted by religious education leading to the awakening of the intellect and understanding the reality through meditation and *dhamma* discussions. Such a process would help people in today's world see the futility of the madness of discriminating against people on the grounds of ethnicity, religion, caste and colour. One can visit the cancer hospital with the members of the family including children, bathe and cleanse the patients, feed them and see about their welfare. This would help gain practical experiences about the lives of those hapless beings.

Patience – the noble attribute:

Patience is one of the greatest attributes which is indispensable for promoting peace. Religious education should emphasize the value of patience and endurance as a noble human quality or attribute. Religious education should contribute towards inculcating patience among all

nationalities and ethnicities, to ensure its prominence in the society as a whole. It appears that the time has come to ensure the incorporation of religious education into the principles of education of children. We, as citizens of a multi-religious country should work according to religious teachings with all the children, which would lead to the development of that noble attribute, patience.

According to s.m goyenca: “ one feels so sorry when one looks at what is happening in the world. Man has become the enemy of the man. There is personal enmity: people are being killed only because they belong to a particular ethnic group or country. Such is the level of cruelty that a person kills other human beings even if they are innocent, even if they are helpless woman and children. Modern technology makes this tragic violence terrifying devastating – perhaps worse than ever before in human history. Therefore, more than ever before a basic change is needed today to protect humanity from these inhuman heinous crimes arising out of negative emotions. The world is afflicted with the malady of hatred, anxiety and fear. It needs a remedy from an extraordinary physician, a great physician of peace and happiness. His teaching of peace and harmony is as relevant today as it was twenty six centuries back, when he set in motion the wheel of dhamma, the wheel of peace. Indeed it is much more relevant today. To me it seems that if we want peace in human society, we cannot ignore individuals. If there is no peace in the mind of the individual, I do not understand how there can be real peace in the world. If I have an agitated mind, always full of anger, hatred, ill will and animosity, how can I give peace to the world? I cannot because I have no peace myself. Enlightened persons have therefore said, “first find peace within oneself” one has to examine whether there is really peace within oneself.” Education is the key to uniting nations, bringing human beings closely together. In many parts of the world, civil society suffers because of situations of violent conflicts and war. It is important to recognise the crucial role of education in contributing to building a culture of peace and condemning instances in which education is undermined in order to attack democracy and tolerance.

A culture of peace and non-violence goes to the substance of fundamental human rights: social justice, democracy, literacy, respect and dignity for all, international solidarity, respect for workers' rights and core labour standards, children rights, equality between men and women, cultural identity and diversity, Indigenous peoples and minorities rights, the preservation of the natural environment to name some of the more obvious the mastic. These are all issues of concern to *Education International* and its member organizations, as reflected in many

resolutions endorsed at *Education International* World Congresses as well as at regional EI supported events. EI affirms the right to peace and pledges its support for the peaceful resolution of conflicts and practice of non-violence through education, dialogue and cooperation.

In 2000, the then UNESCO Director General, Federico Mayor, stressed that “*Education International is not only a vast repository of experience, it also has the know-how and talent to implement innovation and change far beyond what is normally found in government circles [...] Education International and UNESCO can work together to achieve the common goals of an educated, intellectually curious and participatory culture of peace and democracy.*”

Education is a key tool in combating poverty, in promoting peace, social justice, human rights, democracy, cultural diversity and environmental awareness. Education for peace implies an active concept of peace through values, life skills and knowledge in a spirit of equality, respect, empathy, understanding and mutual appreciation among individuals, groups and nations.

In its Constitution and resolutions, *Education International* committed itself firmly to international peace activities linked to education promoting human rights and democracy and encouraging international understanding and solidarity. *Education International* called on its member organisations to develop their advocacy in line with UNESCO's Charter and aims, the UN Charter, the Universal Declaration of Human Rights and the International Convention on the Rights of the Child.

The educational action for promoting the concept of peace concerns the content of education and training, educational resources and material, school and university life, initial and ongoing training for teachers, research, and ongoing training for young people and adults. A culture of peace must take root in the classroom from an early age. It must continue to be reflected in the curricula at secondary and tertiary levels. However, the skills for peace and non-violence can only be learned and perfected through practice. Active listening, dialogue, mediation, and cooperative learning are delicate skills to develop. This is education in the widest sense. It is a dynamic, long term process: a life-time experience. It means providing both children and adults with an understanding of and respect for universal values and rights. It requires participation at all levels - family, school, places of work, news rooms, play grounds, and the community as well as the nation.

At the *Education International* World Congress in 1998, *Education International* and its affiliates placed on the record that they wanted "to take every opportunity to promote justice,

world peace and education, in the interests of children of all countries.” As a token of EI’s commitment to a culture of peace, General Secretary Fred van Leeuwen, was one of the first to sign the Manifesto 2000 appeal and to support the International Year for the Culture of Peace.

In a resolution adopted in 2004, *Education International* Resolution on Education for Peace, *Education International* member organizations “pledged to promote education for peace and intercultural learning as the best antidote to racist and fundamentalist phenomena in order to prevent social conflict and the recourse to social violence.” In 2007, teacher organizations were also invited to promote peaceful behavior in school environments through dispute resolution and peer mediation.

It is important to have idea about peace. We can take a few minutes and practice meditation as below,

Let me be loved, let me be happy, let me be peaceful

Let my friends be happy, loved and peaceful.

Let my perceived enemies be happy, loved and peaceful.

Let all beings be happy, loved and peaceful

Let the whole world experience these things

HOW PEER-ASSESSMENT IS PERCEIVED IN CHEMISTRY TEACHING AND LEARNING?

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Abstract

This study is aimed to explore the perspectives of teachers on the implementation of peer-assessment in chemistry teaching and learning. The sample of the study included sixty advanced level chemistry teachers from different media of instruction of schools. For the purpose of data collection, qualitative methods were used; individual interviews and classroom observations. Data gathered from interviews and classroom observations were triangulated in the analysis. The results indicate that the chemistry teachers show negative attitudes towards peer-assessment. This negatively influenced the implementation of peer-assessment in chemistry classrooms. The results further indicate that the teachers have limited pedagogical knowledge and skills about peer-assessment and so they find it challenging to implement different peer-assessment strategies in their classroom assessment practice. The findings suggest that the teachers need practical help to acquire knowledge and skills to implement peer-assessment to facilitate chemistry teaching and learning.

Key words: Assessment practice, peer-assessment, learning chemistry, teaching chemistry

Introduction:

The concept of student-centred teaching and learning approach reflects involving students in learning process indicating that meaningful learning happens when students are actively engaged in constructing and developing their own understanding (Peatling, 2000). In this point of view, a teacher at best can only establish an atmosphere for learning; the student must learn as a result of his own his own effort. To achieve this purpose, teachers need to provide scaffolding to facilitate students' learning process. Students should be self motivated with an inquiry nature. This puts more emphasis on involving students in assessment process to give them the opportunity to monitor their own learning, ask questions and use a range of strategies to decide what they know and can do, and how to use assessment for further their own learning.

Peer-assessment has received much attention in chemical education, since it has been recognized as an integral component of involving students in assessment process. When effectively implemented, peer-assessment promotes critical thinking and learner autonomy (Race, 2001), both desired characteristics of life-long learners. If students begin to see themselves as partners in the assessment process rather than the 'victims' of it, (Clarke, 2005), it will intent to empower students to make decisions that contributes to individuals' learning experiences (Noonan & Duncan, 2005).

Although, peer-assessment has been identified as an key component of modern assessment practice, it is not found to be practiced in advanced level (collegiate level) science classes (grades 12-13) in Sri Lanka. The aim of this study is to explore advanced level chemistry teachers' perspectives of peer-assessment, and the ways these are translated into their classroom practice.

Related studies in Peer-assessment:

The term "peer-assessment" refers to the process undertaken by students to assess the performance of themselves and their peer group. Topping (1998) defines peer-assessment as a process in which individuals judge the amount, level, value, quality, or success of the outcomes of their peers of similar status. Similarly, Van Den Berg, Admiraal and Pilot (2006) propose that peer-assessment is a process in which students assess the quality of their fellow students' work and provide each other with constructive feedback. Nilson (2003) indicates that peer learning and assessment are quite effective in terms of developing students' critical thinking, communication, lifelong learning and collaborative skills. Cassidy (2006) points out that peer assessment is one example of modern educational practice which is likely to contribute positively towards the development of employability skills (p.509). It is important to highlight that descriptions of peer-assessment emphasize the role of students as a major component in assessment process. Another fundamental concept is that peer-assessment may be used, to be able to make productive assessments of the work of others and respond positively to assessments of their own work.

Since peer-assessment lies at the centre of student-centered assessments, the crucial feature is that it produces a community of learning among students while they are involved in assessing process. In this learning community, students have to take up different positions as assessee they get reviewed and as assessors they give feedback to other learners. This can make students

think more deeply and see how others solve problems and so lead to greater motivation and deeper learning. Johnson and Johnson (1996) state that peer-assessment creates cooperative learning as opposed to competitive learning (Lejk & Wyvill 2001; Orsmond, Merry & Reiling 1996). Students engaged in cooperative learning using peer-assessment have indicated that they have been encouraged to participate actively and have found it an interesting experience in knowledge construction (Lourdusamy & Divaharan 2000). In this context, peer-assessment can be compared to the practices that go by the name peer-learning (O'Donnell & King, 2014). In fact, the students expect their peers to take the group activity seriously and thus develop trust in their group members, in addition to the rewarding experience of cooperative learning with peer assessment (Purchase 2000).

Since students work together, peer-assessment is critical to students' interaction, understanding and learning gains (Anthony & Lewis, 2008). It enables students to take control over their own learning and to gain insight into their own performance (Heywood, 2000). Similarly, Topping (2005) claims that peer-assessment is advocated as a means of improving self-assessment, and both can yield metacognitive gains. According to Black and Harrison (2001), in peer-assessment, students can see a wide range of examples of faults for critical discussions; and that in such evaluation; students will be less inhibited by defensiveness than they might be with their own work. It can give students greater insight into institutional assessing process. They further point out that it is valuable because in appraising one another work; students can learn what the criteria mean by trying to apply them and by justifying their findings to others. Thus students might more confidence in the process and greater tolerance of the inevitable difficulties of discrimination.

Additional studies have suggested that peer-assessment promotes reflective thinking through observation of other learners' performances, which in turn allows learners to understand the requirements of a classroom task (Falchikov, 1986; Topping, 1998). According to another study, when students are taught through peer-assessment as instructional tasks, satisfaction with the class increases (Sluijsmans, Brand-Gruwel, & Van-Merriënboer, 2002). Similarly, a study done by Qu and Yang (2010) implies that through peer-assessment students can promote mutual supervision among members of the group and learn from each other and it helps stimulate students' motivation.

The above-mentioned researches positively support peer-assessment. Some studies, on the other hand, reveal different perspectives. The issue of validity and reliability has been frequently discussed. Cheng, Warren & Martin (2005) indicate that they have not found sufficient reliability of peer-assessment. Kwan, Kam-Por, Leung and Roberta (1996) stress the importance of providing students with training on peer-assessment. They believe that the skills of assessment do not come automatically. Training and preparation include complex procedures, such as setting the criteria to be used, formalization of the groups and making the process transparent to student, which are time-consuming tasks during the process of implementing peer-assessment (Falchion, 2005). In addition, Pond, UI-Hag, and Wade (1995) present sill effects on students' personal relationship within a group. The extreme subjectivity a student could bring in marking their peers and the influence of personal dislike could lead to conflict among the students. Despite the complexity and difficulty of peer assessment, it is vital for teachers to adopt any teaching strategy that would motivate the students.

Research Questions:

The main purpose of this study is to explore chemistry teachers' attitudes towards peer-assessment. There are two key questions to be answered as follows:

- (1) What are the participant teachers' perceptions towards peer-assessment?
- (2) What are the perceived difficulties when the teachers adopt peer- assessment in their chemistry instruction?

Methods and procedures:

Sample:

Thirty 1AB schools were selected from Kandy district of central province in advanced level chemistry classes including Sinhala, Tamil and English media of instructions. (Schools with advanced level science classes are categorized as 1AB schools.) Each medium included ten schools. Stratified sample technique was used in selecting the school sample. Two teachers who teach in advance level chemistry classes from each school were randomly selected as the teacher sample in this study. All of these teachers had been teaching chemistry for more than 10 years. They all had a bachelor degree in science. At the same time, for their professional qualification, they all had postgraduate diploma in education.

Data collection:

Two different kinds of data were collected in this study. For this purpose, qualitative methods were used; individual interviews and classroom observations. In the first step, semi-structured interviews were individually conducted with all the participant teachers. Each interview was lasted approximately 60 minutes. In the interviews, the participant teachers were asked to mark on a continuum how often they used peer-assessment in their classroom and how high a priority they placed on peer-assessment in their teaching practice. According to teachers responses probing questions were asked to compare and discuss any mismatch between their priority and their practice. Specific questions were then explored in the interview discussions. These included: What does peer-assessment look like to you? How would teachers use them? Who benefits? Further, in the interviews, discussions were made focusing the nature of teachers' resistance to peer assessment; what factors influence that resistance; and how teachers' perceptions impact their assessment practice. The dissections were also made paying attention in understanding the participant teachers' perceived difficulties when the teachers adopt peer assessment in their chemistry instruction. Interviews were tape-recorded and transcripts were made. In the second step, three schools from each medium of instruction were purposively selected. Then, one of the teachers' chemistry classrooms was randomly selected and observed for a month period paying attention to practice of peer-assessment strategies in teaching and learning chemistry.

Data analysis:

During the data analysis process, data gathered from interviews and classroom observations were triangulated using grounded theory. A basic picture about the selected teachers' attitudes towards peer-assessment was got through qualitative analysis. In addition, some of the data obtained from the interviews were analyzed in the form of percentages in supporting qualitative data.

Results and discussions:

These results indicate that the participant chemistry teachers have a narrow view of what constitutes peer-assessment. According to teacher responses in interviews, peer-assessment strongly associates with peer-marking/grading. For instance, one teacher said, "Perhaps peer-assessment is about getting students involved in grading or marking others' work." Another teacher said, "Peer-assessment means giving the correct answer and let my students to mark each others' work." According to another teacher, peer-assessment is, "Students mark each

other's work right or wrong as I instruct." In support of their view points, the chemistry teachers expressed the way they implement peer-assessment in their assessment practice. For instance, one teacher said, "I use peer-assessment only in marking M.C.Q problems or in problem set or homework. Another teacher said, "I give the correct answer and let my students to mark each other's work such as numerical problem solving." Another one reported, "It is an evaluation method to check and collate the marks given by students to their peers." The teacher statements about the meaning of peer-assessment inform that they perceived only peer-marking as peer-assessment.

The results, further, show that the participant chemistry teachers did not have a clear understanding of the effectiveness of peer-assessment in learning chemistry in teaching and learning chemistry. The teachers, according to their own evaluations, ranged from those for whom peer-assessment played a moderate role in their classrooms to those for whom peer-assessment was unimportant. Out of sixty chemistry teachers, 25% of teachers said that they felt peer-assessment was important. Among them, 15% reported using peer-assessment "a little" and the other 10% reported using those strategies "somewhat". In contrast, the 75% of teachers said either that peer-assessment was unimportant, or they were unable to clearly articulate what peer-assessment strategies look like. Responses such as "*seldom*", '*rarely*', or '*use below 5% of the time*' were typical of this teacher category. This indicates that the participant teachers are rarely incorporated peer-assessment in their classroom assessment practice. If so, why do the teachers think that the assessment process should not include peer-assessment: should not be used to develop students' ability to assess themselves and each other? More importantly, why do teachers appear to have misgivings about students developing the ability to assess themselves and classmates? In this perspective, when further moving the analysis, the participant chemistry teachers, however, had reasons for why they did not use peer-assessment in their classroom. The teachers reported that their students as having misgivings about awarding grades to peers with some regarding it as unfair and risky because of doubts about the seriousness and objectivity of their classmates. For instance, a teacher said, "Students do not pay personal attention when marking their friends' paper. It does not help improvement immensely." Similarly another teacher reported, "Students do not take it sincerely.....they allow friendships..... entertainment to influence their marking." Correspondingly another teacher expressed, "Allowing peers to mark is not a good idea.....without teacher intervention, students may misinform each other." She added, "These types of assessments will only increase my workload, because I have to check and

collect the marks by students.” According to another one, “I do not use peer assessment, because I think trustworthiness is a problem.” He continued, “Relationships among students may get in the way of fair grading.” This indicates that the participant teachers do not trust on student judgment and quality of their work.

Further, the participant teachers were ambivalent about the value or appropriate use peer-assessment strategies. Teachers regarded peer-assessment as unfair and often believe that students are unqualified to review and assess each others’ work as they do not have a quite good knowledge on subject matter and lack assessing skills. For example, one teacher mentioned, “Students do not understand how much they know or their peers know”. Similarly another teacher said, “Students do not know what to look for”, she continued, “I have to monitor it”. In addition another teacher said, “Very little of either, it is rare to see the maturity and skills necessary for this kind of marking”. Another one expressed, “I don’t find students are strong enough in knowledge to evaluate each others.” This indicates that teachers view that students should not be involved in assessment process due to their lack of subject knowledge in chemistry.

According to the above findings, the participant teachers were hesitant about using peer-assessment and not trusting on student judgment and quality of their work. This indicates that the reliability and validity of peer-assessment is a big problem in the implementation of peer assessment in advanced level chemistry classes, which has been discussed in similar study (Falchikov and Goldfinch, 2000).

In support of these findings, data collected from classroom observations acknowledge that teachers’ perceptions about what constitutes peer-assessment and the fairness of peer assessment drop significantly involving students in doing peer-assessment. During the lesson observation, participant teacher’ views about pee-assessment reflected in their classroom assessment practices. Within one month period of time, out of the nine participant teachers, only two (22.22%) used peer-assessment strategies such as students marking their peer’s class work right or wrong or grading homework. For instance, the two teachers occasionally asked their students to exchange their notebooks and mark each other’s answers right or wrong while he was dictating the correct answers for numerical problems that were given in class work or home work. Of course, there are other aspects to student contribution which do not entail marking, but they didn’t utilize.

During the observation, the all the participant chemistry teachers played a dominating role in their classroom instruction. They decided the teaching materials, transmitting them in one way or another. In their classrooms, the test of learning was dependent on the students' ability to remember and produce the information they learned from the instruction at stated intervals. In such a context, the students were expected to listen, remember, and then give evidence that they have learnt. This informs that the pattern of teaching and learning in the observed classes leads students' over-reliance on their teachers.

The findings, further, indicate that the participant teachers lacked the knowledge and skills to implement peer-assessment strategies in teaching learning process of chemistry. The participant teachers viewed that assessment need to be teacher centered as they are the expertise in subject matter and assessment. Hence, they took the major responsibility in administering assessment; making decision about what is learned and how it is assessed. These teachers were not ready to share the assessment process with the students. They perceived that the teachers should be the centre of assessing process to maximize learning. These teachers had trouble with the non-traditional idea of peers-assessment in place of teacher assessment. This reveals that the participant teachers have shallow understanding about the alternative methods of assessment and their usefulness in teaching and learning chemistry.

Further, almost all the teachers mentioned professional support as one of the other important factor in implementing assessment. Although all of the teachers had followed some kind of professional development programmes regarding assessment, according to 88.33% of the teachers, they had not included some aspect of empowering students in their learning. For example, one teacher said, "The training programme that I followed did not provide a variety of ways to use peer-assessment with students." Similarly another one responded, "I have attended some training programmes, but they have not helped me in gaining new knowledge in using pee-assessment". This gives evidence that teachers found it challenging to implement peer-assessment to support student learning in advanced level chemistry classes. This suggests that chemistry teachers need adequate support and time, to reach the stage where assessment for learning strategies become part of the everyday classroom practice the benefit of chemistry teaching and learning.

Conclusion:

The findings, in this study, on the beliefs, nature and extent that chemistry teachers use peer-assessment in their classrooms, it can be concluded that chemistry teachers' perceptions about peer-assessment are fundamental to whether they will provide the space for students to use peer-assessment strategies in learning chemistry. According to the results, the participant chemistry teachers hold negative attitude towards the impact of peer assessment on students' learning in chemistry. Since the teachers were not aware of a variety of peer-assessment techniques and strategies, they could not adopt peer-assessment as part of their classroom assessment practices. The teachers had reservations about appropriate use of peer-assessment strategies. They believed that students lack the ability to perform peer-assessment indicating that without teacher intervention, students may misinform each other. Further, existing classroom culture is not appropriate for effective peer-assessment practice in chemistry classes. As a consequence, changing teachers' practice of peer-assessment is challenging in chemistry teaching and learning. It is vital for chemistry teachers to help to acquire the practical knowledge and skills to successfully develop and implement peer-assessment strategies with students for the benefits of chemistry teaching and learning. Chemistry teachers also need to be enthusiastic and persistent to ensure the success of the implementation of peer-assessment in classroom practice. Hence, sustained and planned professional development is a necessary component of developing a classroom culture for peer-assessment.

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USE OF TELEVISION AND COMPUTER AS SUPPORTIVE TOOLS FOR STUDENT'S SCIENCE LEARNING

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Introduction

Sarkar (2012) says the world is moving rapidly in digital media. Chalk-and-talk or paper-and-pencil was considered as technology for teaching and learning in early days. Technology is today the greatest factor in changing the manner of education. Technological devices or electronic devices used in learning such as laptops, computers, televisions, iPods, mobile phones, have now taken the place of textbooks and some time libraries at present. This has broadened the opportunities of students' way of learning. The researcher further says that our students now live in a world where they can have immediate access to information at any time. Ghosh (2010) says students are more engaged and motivated to learn when they used electronic devices for learning. Sometimes students were unable to understand the science subject properly in the classroom. Holt (2010) says students have many difficulties in learning about complex and dynamically changing systems and phenomena in science. There was a growing need of more powerful tools to assist students and teachers with understanding these dynamic systems. Electronic devices were widely spread throughout the world that could enhance teaching and learning of science. La Roche (2011) also expresses that the advent of computers over the world has changed the face of education and the internet would make it easier for the students to access various kinds of information. There is a high competitiveness in passing G.C.E. (O/L) examination among the students in Sri Lanka. Hence students seek various ways to overcome this competitiveness. Students still use printed materials to overcome of this competitiveness. Visual media is already an essential component in giving classroom instructions nowadays. The internet has brought a revolution in the minds of children. Education has significantly changed with the use of ICT in effective teaching and learning in the world. Due to technological development, there are easier ways that students could collect information in their learning of science which can be more easily learned and remembered. Today's children have grown up in an environment which is surrounded by television, video and there is a lot of room for improvement of science learning in Sri Lanka. Visual media is

already an essential component in giving classroom instructions nowadays. This study aimed to investigate the use of television and computer as supportive tools for learning of science by grade 11 students in urban schools.

Materials and methods:

Data were collected from four urban schools in Kandy district, students those who were used electronic devices (purposive sample). I have selected grade 11 students of age 16 years those who are using electronic devices. This is the age group that students are more interested in finding new things as well as need extra support for their studies because of the competitive public examination, G.C.E Ordinary Level. The sample size was limited to 100 in number (50 male and 50 female). The selection of schools were done in representing two government schools and two semi government schools including girls' and boys' in the basis of geographical proximity to the researcher. Four schools were selected of 1 AB type included 2 government schools and 2 semi government schools of both males and females.

This study was based on mixed methods, where Quantitative research and Qualitative research methods used to collect data and analyzed data. Mixed methods provided a better understanding of the research problems than using either approach alone.

The data were collected quantitatively by administering a survey questionnaire with hundred numbers of students. Before data collection questionnaire was piloted with 10 students. Final questionnaire was prepared by removing the problems. The questionnaire was distributed among the main sample by explaining the need of data collection and stated that confidentiality was maintained in all stages of the research. Qualitative research method was done by conducting in-depth interviews. Prior to conduct interviews the semi structured interview schedule was piloted with 3 students. Ten students were selected purposively based on their responses to the questionnaire for an in- depth interviews. SPSS (Statistical Package in Social Sciences) was used for Quantitative data analysis. All the interview data were recorded and audio clips were transcribed. Qualitative data were analyzed by using thematic analysis technique.

Results:

It was revealed that students used electronic devices. It was found that 94% of students had watched television (TV) and 90% of students had worked with computers, 82% had used telephones, 66% of students listen to the radio, 17% of students used iPod, and 3% of students used other devices such as Kindle and Galaxy tablet computers. According to the data we can

state that students had used variety of electronic devices. The television and the computer were the most common electronic devices that the students had used.

Students had mentioned that they are not using electronic devices only for learning but also for other purposes, such as a hobby to spend time with pleasure, to watch news, movies, musical programmes, cartoons, tele dramas and sports. It was observed that the students had used electronic devices for learning science.

Most of the students had used television (77) and computer (70) for learning of science. 27% had used telephone, 7% had used radio, and 5% had used iPod for learning of science. 2% students had used other devices such as kindle and galaxy tab computer. Many students had used television for learning of science and next were the computer.

Students had used television for learning of science. It was revealed that the television had provided number of educational programmes in Sinhala medium as well as in English medium which were useful for student's science learning. As recoded Examples for Television programmes in English language were Wild Asia, Discovery, Discovery Science, Animal Planet, National Geographic, Science Class, Man Vs Wild, Knowledge TV, Learn TV, e-Teacher, Did you know, Science channel, Human body. As recoded Examples for the Television Programmes in Sinhala medium are wOHdmk i;aldrh isri ,Ëm;s úoHdj yß f,ai cd;sl mdie, úoei ;lai,dj f,dal is;shu wgmÜgu úoHd .=re ießir úoHd.drh. Qualitative data analysis reported that most of the students like to use television (TV) as supplementary tools in learning science. Students expressed that the learned things, which they watched using the television were in their memory for a long time. Students appreciated the attractiveness and the way of subject matter presented in the television was in a favorable manner in order to understand and remember.

As the television programmes presented audio visually, students mentioned that there was a conversational style of explanation. That means explain lessons in a way of conversational style. Hence students could listen, and it was easy to understand. Students' stated even weaker student too could understand their way of conversational style. But students stated that reading books were help to improve their writing. As well as the subject matter in the television is usually explained ranged in complexity from simple to advanced at the beginning to the end hence students try to understand what it is. Students said that this would make better

understanding of the subject matter. Data analysis also pointed out that the student had problems when using television for learning science. It was reported that interruption to the attention by telecasting more commercial advertisements during the educational programmes, telecasting educational programmes in the early morning hours, and unavailability of a special channel for educational programs as problems.

As reported in quantitative data analysis 70% of students had used computer for learning science. It was found 68% students had used the internet. Students stated that using computer for learning was quite different from learning in school. Computer supported them receiving related subject matter step –by –step this enhanced their understanding of scientific information without the support of their teacher. Most of the time teacher used one colour chalk to write on the board in the school. But internet presented subject matter with details and with coloured diagrams. As well as internet could explain three dimensional diagrams in physics but teacher unable to do with the whiteboard.

Students had stated that there were lots of web sites to search details in the internet and students can refer the same subject matter from the internet hence it was easy to remember. It was revealed that in the internet, there were different kinds of pictures. Example, three dimension, over view and side view pictures. So that presentations of subject matter in the internet were in an understandable way. Students had stated that searching of internet makes it easy to get required details quickly. It was observed that students need quick and easy way of collecting information for learning, because they have very limited free time during the schooling. Interview data revealed that students used internet to search learned things when they meet problems. Students stated that operating computer is easy and they could improve their English knowledge. It was reported that students refer difficult subject matter in different web sites using internet. It was revealed that there were question papers in the websites. Students stated that they could evaluate themselves by going through question papers in the website. Finally interview data revealed that students were more interested in finding new things and new inventions in the world.

Discussion:

According to the quantitative data analysis students had used electronic devices and many students had used television for learning of science (77%) and next were the computer (70%). Furthermore, interview data had reported that 60% of students said that what they learnt from school was enough. Students had stated that if they want to learn more details about the subject

matter learned from school, or if there is a problem in learnt things, it was easy them to learn from television and computer rather than reading books. Salomon (1984) had reported that school children tend to view television as an “easier” medium than text books because of the audio-visual presentation. Cromley (2000) says, television offers information in multiple forms. Images, motion, and sound at times, text. Richness of the above mentioned multiple forms benefited learners by enabling them to learn through both verbal and visual means. This finding has been supported by Binkley (1959) who says that audio visual aids keep the audience attention throughout the presentation and help them to remember particular information. It seemed that telecasting educational programs in both mediums will be beneficial for student’s science learning. Students had mentioned that watching the above television programmes students could collect extra information in subject of science. Qualitative data analysis revealed that students stated the subject matter learnt from television was helped them in remembering facts for a long time. Students had pointed out that learning by listening and watching is better than reading books. Students had stated that they preferred it and it was easy for them. Thus, the television is a powerful aid for learning science because of the combination of sound and image.

As reported, during the interviews students preferred the way of subject matter explanations in the television. Conversational style of explanations in the television with coloured diagrams and pictures made more attraction towards television for learning of science. Explanations related to the subject matter were clear and examples are presented visually, so that the learner gets motivated for learning science.

Also students stated that the subject matter presentations were ranged in complexity, from simple to advance. Therefore learning and remembering becomes easier. Television has presented number of educational programmes in two different medium. This was another reason for the students’ preference to use television for learning science. Hence many students had reported that they used television as a supportive tool for learning science.

During the interview it was stated that students obtained daily experience in learning science in the formal classroom and using computer was quite different from learning in school. Explaining this further, the student said that in the classroom, teacher guides the student’s learning. When learning with computer student could work independently on their own speed and during their leisure time. Phadke, (2008) says that with the advent of specially computers

and technological advances like the internet make room to learn science independently. However, it was noted that the students highly appreciated learning basic knowledge of science from the school science teacher. Students said that they want to get basic knowledge from the school because the teacher teaches according to the syllabus. Moreover the students had reported that computer supported them receiving related subject matter step –by –step. This enhanced their understanding of scientific information without the support of their teacher.

During the interview one student said that her teacher uses white board or black board to explain science lessons in the classroom. Most of the time teacher used one colour chalk to write on the board. But the internet in the computer presented subject matter with details and with coloured diagrams. This would attract her to read things in the computer. It was found during the interview, that teachers were unable to explain three dimensional diagrams in physics in the classroom but internet could explain three dimensional diagrams in physics. Hence student said that using computer, made it easy to understand three dimensional diagrams in physics. During the interview students said that there were lots of web sites to search details. Most common search engine was the “Google” among the students. The interviewed data revealed that the students browse the internet to find answers to the problems that arose when they learn in school. Students further said that they can refer the same subject matter from the internet hence it was easy to remember too. If a student wants to verify learning things students expressed that searching the internet was easiest way.

Interview transcript revealed that there were front view pictures in the pages of the text books. Any way in the computer internet, there were different kind of pictures. Example, three dimension, over view and side view pictures. Student says that this would develop interest to use computer for learning. Students expressed that they had very little time for reading newspapers, books to collect additional information. Therefore searching the internet makes it easy to get required details quickly. This also increased student’s interest towards to use of the internet.

Students had believed that internet gives accurate subject matter and explains with diagrams. Interview data revealed that they used internet to search learned things when they meet problems. According to interview data one student stated that operating computer is easy. They can refer learning things at the school from the computer after going home. When searching things from books, students have to use the library and it was taken long time to fin out required details. Student said that it is easy to search the information in the internet rather than going to

the library. If a student wants to verify learning things student expressed that searching internet is easy. It was observed that students need quick and easy way of collecting information they had identified that using internet was an easy and time saving way of collecting information.

Interview data revealed that students were more interested in finding new inventions in the world. Internet gives hints and details about new inventions before it comes to News papers and other media. Students have noticed that they can improve their English knowledge by using especially computer. It gives instructions, can check correct spellings, and grammar. Unknown words can be searched from a dictionary at the same time while working and students do not did not feel difficulty. Hence it makes self regulated learning.

During the interview students revealed that there were question papers in the websites. Students could evaluate themselves by going through question papers in the website. It would help to give correct answers as well as it helps to do corrections at the same time. This would help them in self regulated learning of science. Finally student said that more time has been taken for reading books to find out relevant details in their project work but less time has been taken for internet searching to find out required details. Students do group projects as well as individual projects during their schooling time. It was noted that students had to collected data from their friends and used computer to prepare final group project report.

Conclusions:

By considering the qualitative and quantitative results, finally I drew out conclusions of this study. Data analysis revealed that students had used electronic devices. Television was the common electronic device that most of the students had used and next was the computer.

Students had used television for learning of science. Among the devices television is one which is available in almost every house in Sri Lanka. Audio-visual facilities of the television had helped students in retaining the learnt things for a long period of time. Many students had used television for learning science as it presents educational programmes in Sinhala medium and English medium, with coloured diagrams and pictures. Explanation of subject matter in a conversational style which was ranged in complexity, from simple to advance was helped them in better understanding of the subject matter when learning science.

It was reported that 68% of students had used internet for learning of science. Learning with computer student could work independently. Also accurate details in the internet encouraged

students to use of computer as a learning tool. Computer supported them receiving related subject matter step –by –step enhanced their understanding of scientific information.

Computer presented subject matter with details and with coloured diagrams. Explain three dimensional diagrams in physics, there were lots of web sites to search details, and there were different kind of pictures in the internet. Student says that this will develop interest to use computer for learning science. Searching internet makes it easy to get required details quickly. Students' stated that they could improve their English knowledge by using especially computers and they can make corrections while they were working. It was revealed that there are question papers in the websites. Students could evaluate themselves by going through question papers in the website. It was noted that students had collected data from their friends and used computer to prepare final group project report in the school.

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EXPLORING THE READINESS AND PERCEPTIONS OF UNDERGRADUATE STUDENTS TOWARDS THE USE OF MOBILE PHONES FOR LEARNING

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Abstract

The aim of this study is to explore the readiness, attitudes and perceptions of undergraduate students towards the use of mobile phones for learning. The sample was purposively selected 300 undergraduate students from the Faculty of Arts of the University of Peradeniya. The research approach of this study is mixed methods. Quantitatively data were collected by administering a survey questionnaire and analysing with the use of SPSS statistical software. Focus group interviews were used to collect data qualitatively and the data were analysed using the thematic analysis techniques with the help of the NVivo10 software. According to the findings the majority of the students had already used mobile phones for their learning purposes and they were positive towards the use of mobile phones for teaching and learning in the Faculty.

Financial assistance given by the the University Research Grant (NRC Grant No. RG/AF 2013/55/A) of the University of Peradeniya , Sri Lanka is acknowledged.

Keywords: Mobile learning, perceptions of undergraduates,

Introduction

A recent rapid advancement in the capabilities of mobile devices has enabled users to perform a wide variety of tasks such as communication, socialisation, entertainment, work, and learning using mobile devices. Furthermore, the decrease in price of mobile devices made the mobile phone to be ubiquitous. It is now recognised that mobile devices offer new opportunities in teaching and learning. By reviewing the literature relating to the use of mobile devices Naismith et al. (2004) conclude that due to the personal and portable attributes of mobile devices there is potential for creating new forms of interactions in the learning process and its surroundings and the potential of giving an individual learning experience while increasing ownership and the responsibility of learning. Moreover, Cooney et al. (2007) state that in an increasingly fast-paced world where the ability to communicate is ever present, the portability

of mobile devices facilitates learning, irrespective of the time and the location of the learner. Csete et al. (2004) state that the primary reason for portability is the small size and light weight of the mobile device, which is designed to fit in a pocket. In addition, Naismith et al., (2004) note that portability provides opportunities to obtain learning experiences outside the teacher-managed classroom. Emphasising the learning opportunities provided by mobile devices, Kukulska-Hulme & Traxler (2005) argues that mobile learning certainly increases mobility, in the sense of providing the opportunity for the learner to engage in learning activities without being constrained by the physical location. In terms of the functions of mobile phones, Marriott (2005) states that present-day mobile phones are complete multimedia centres that combine the capabilities of a still and video camera, a personal organiser and a web browser in one device. Highlighting this Strohle, (2004) states that “recent mobile phones can display a variety of document formats and have considerable computing capabilities as well, which is an interesting tool for course authors, learners and tutors as their teaching and learning can be enhanced further in terms of exchanging information using voice (sound), SMS and the image functions of the mobile phone (p. 107)”.

Moreover Ekanayake & Wishart (2011) reported a study where the students use of mobile phone camera to bring the outside world to the classroom. They also emphasised how this support for teacher to teach science in a context where of students already known. In Sri Lanka, the penetration level of mobile phones has now reached more than 95% (International Telecommunication Union¹¹). With the opportunities provided by mobile devices for teaching and learning, their low cost, versatile nature (could be an alternative for a computer, still camera and a video camera) and rapid uptake among students, mobile phones will soon become a standard teaching and learning tool. Under these circumstances, it is inevitable that in the near future even Universities have to employ this new technological tool for teaching and learning. In order for a mobile learning initiative to be employed in the universities, students and faculty must see a need for their educational use. Therefore, the main purpose of this study is to investigate whether the students are ready and open to the potential benefits of a change in the teaching and learning environment. The objectives were to investigate whether university students currently use their personal mobile devices for educational purposes, to identify the perceptions of the university students towards the use of mobile phones for teaching and

¹¹ <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>

learning and to investigate whether university students are ready to adopt the use of mobile devices in the classroom.

Methodology:

The nature of this study is exploratory. Due to the nature of the research questions as the methodological approach the mixed methods was used. In order to collect quantitative data a questionnaire was used. Supporting the selection of this, Scott & Usher (2004) and Wellington (2004) suggest that a questionnaire is the usual and commonly used method to collect data from a large number of respondents and it enables one to get a wider picture and an overview. Even though a survey gives an overall picture while producing a large volume of data, and as it does not provide in depth information Punch (2005) on why and how students use mobile phones a focused group interviews were also used, to obtain in depth information.

Sample

Participants were the 300 undergraduate students from the Faculty of Arts, University of Peradeniya. Among them the majority of students were following 'Education' as an optional subject at the Department of Education to whom the researcher had immediate access. Thus, the sampling technique was purposively, based on the easy access to the selected sample.

Data collection procedure

Quantitatively data were collected by administrating a questionnaire and then focus groups were used to collect data qualitatively.

First, a survey questionnaire was piloted by circulating it among a sample of six undergraduate students in order to make sure the questionnaire measured what it was supposed to measure face and content validity (Bryman, 2004). The pilot study helped the researcher to identify the questions, which should be eliminated or modified due to ambiguities, lack of clarity, contrary to initial expectations, or which turned out to measure something irrelevant. Based on the feedback of the students the questionnaire was updated. Then the updated questionnaire was self-administered with 300 undergraduates.

For the focus group interviews, an interview schedule was created and piloted with 3 students in order to achieve familiarity with students' answers and to do the modification to the interview schedule so as to obtain in-depth information. The sample for focus group interviews

were fifty students, selected based on the students' responses to the survey questionnaire, which might have opened up some interesting lines of inquiry and also based on the students' responded to the last question, 'Would you like to take part in the interview?' which was added at the end of the questionnaire. However, due to a number of reasons (mainly their unavailability to attend during the limited time I had to do the study) only 43 of them were interviewed.

After identifying the participants, I contacted them in advance and explained the purpose of the study and the need for the interviews. They were given freedom to choose a date (a date within two weeks) and a venue for their focus interviews. The interviews were audio recorded (after getting consent from the interviewee). The length of the interviews was between 20-40 minutes.

Data analysis:

The quantitative data (obtained from the survey questionnaire) and the qualitative data (focus interview) were analysed separately. However, the responses for the open ended questions in the survey questionnaire were also considered as qualitative data and were analysed with focus group interview data. The SPSS statistical package was used to analyse the survey data. The qualitative data were analysed using the thematic network techniques with the support of NVivo10 software.

Results:

Current use of students' mobile devices:

According to the analysis of data from the questionnaires all the students (100%) in the sample responded that they had their own mobile device. Out of 300 students 36 had more than one mobile devices and 6 of them had more than 3 mobile devices.

From the survey questionnaire the students' existing use of mobile devices were explored. Their responses for the question on the purposes of their uses were shown in Figure 1.

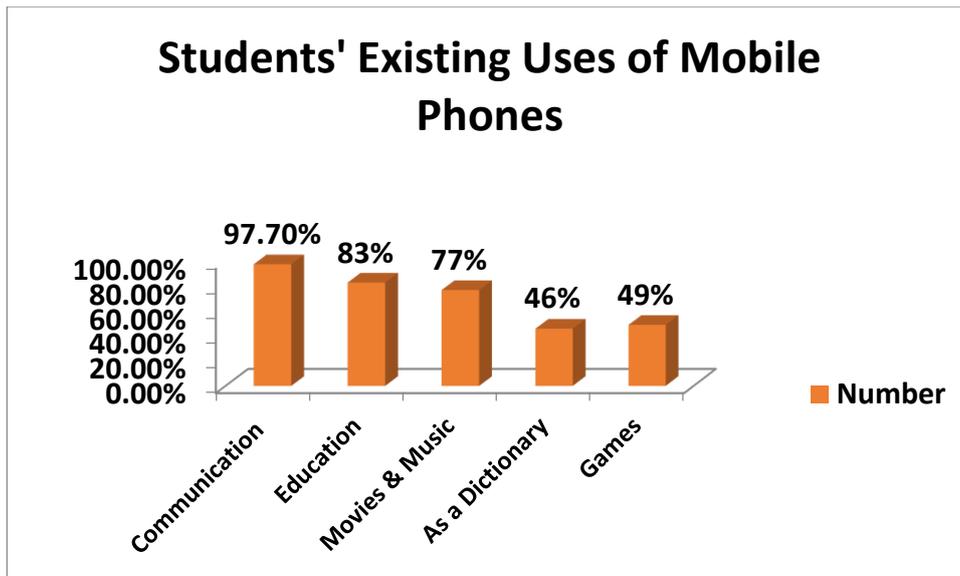


Figure1: Students' existing use of mobile devices

As illustrates in Figure 1, the majority of students' purpose of using a mobile device was for communication. Interestingly, 83% of them had used mobile devices for educational purposes. Even though, the use of mobile device as a dictionary was inquired separately, that can also be considered as an educational purpose. Interesting information that Figure 1 also provides is 77% students had used mobile devices for entertainment such as watch movies and listen to music during their leisure times.

Table 1 provides a breakdown of the education related tasks 83% of students carried out using their mobile devices.

Table 1: Students' educational uses of mobile devices

Purpose	Number of Students
To browse the internet to search information	64%
To discuss the educational problems with peers	64%
To share learning materials	46%
To record lectures	51%
To capture videos and images for learning purposes	53%
To get online dictionary	35%

To take notes	25%
To read articles	19%

As noted in Table 1, it is interest to see that most of the students use mobile devices for some kind of learning. Among them most of the students had used the Internet facility of mobile devices to search information (64%), to discuss educational problems with peers (64%), to share learning materials as well as to get the support from online dictionary (there were some students who were using downloaded dictionaries). Interestingly 53% of students had used the video and image capture facility for their learning purposes. Moreover, 25% had used mobile device to take notes and only 19% had used to read articles.

Even though, the students had their own mobile devices and also used them for different purposes including learning, according to the data students had a number of issues regarding the existing use of mobile devices.

Table 2: Issues students had faced in the use of mobile devices

Issue	Number of Students
No understanding about the potential of mobile phones for learning?	28%
Technological Issues	63%
No money to buy mobile phone apps	46%
Lack of time	29%
Cost money for the use of functions of mobile phone	58%

Among these (Table 2), technological issues were highlighted as the main problem that the students had faced. Furthermore, the cost for the use of the devices (58%) and buying necessary software (46%) were also identified as major issues. However, 28% of students pointed out that they had not have enough understanding of the facilities that their mobile device offered.

Students' suggestions regarding the possible services that the faculty can provide towards the enhancement of students' use of mobile devices for learning were also examined. About 62% and 52% respectively had suggested to the university administration to send important

messages regarding the examination issues as SMS and to deliver students handbook and time table as email attachments. Further they suggested to use mobile devices (49% of students) to distribute lesson handouts and presentations prior to the lesson in a way that students can receive using the facilities in their mobile devices.

The participant students' perspectives on the use of mobile phones for learning purposes also explored in the questionnaire. Among the students 89% agreed with the statement 'I think the mobile phone can be used as a learning tool in the Faculty' and 72 % agreed with the statements 'I can get the support of mobile phones to find additional information for assignments.' and 'the camera in the mobile phone helps me to capture images as well as videos'.

However, it is important to consider that 14% and 24% of respondents agreed with the statements 'the mobile phone wastes time' and 'as it is a risk to health it is not good to use mobile phones as a learning medium.' respectively. Among the students (64%) who had used mobile devices to browse the internet used it to search more information for further understanding of the content that they had already learnt in the lecture room. One student expressed her view as follows;

“Sometimes there are subject matters that we could not understand only being in the lecture and reading the lecture notes after the lecture. That may be due to our poor prior knowledge relating to these concepts. So most of the time I collect background knowledge while reading more about learnt concepts using my mobile phone's internet”. (Student-1 comment)

Moreover, the survey data shows (53%) students had used their mobile devices to capture videos and images. During the interview they revealed this. One student's view on this was as follows;

“After finishing our field trip usually we need to do presentations based on it. So capturing images and videos mm.. for example historical important places, are really useful for us to create presentations”.

(Student-3 comment)

Another student described how she used the collected photos and videos from the school observation session during the last semester and also how the photos and videos support them to present information (as a team) with evidence in a professional way.

The use of the voice recording facility of mobile device for recording notes also highlighted. Students' views on that are as follows:

“In most of the lecturers, lecturers do not provide notes. So we have to takedown them and make our own note. But when we taking our own notes sometimes we miss important points due to various reasons. So we use recorded notes to complete our lesson notes irrespective of the time and the place”.

(Student-5

comment)

Besides these, students emphasized the support of image capture facility of their phone to capture latest news on the news board, as well as the assignment topics and time tables as images.

Except the above facilities students mentioned that 'google map' is another facility of mobile devices that supports their learning.

“Last year when I was learning Archaeology we went to a site. To recognise where we were google maps were used.”

(Student-8 comment)

The students' use of mobile devices for communication purposes was also highlighted among the survey data (64%) and also in focus group interview data. SMS was noted as the most frequently used function. Among different purposes of using SMS, to solve the problems that arise from the lecture notes, to share information while writing assignments, to share information on changing of timetables, extra lectures and changing of lecture venues were highlighted by the students. Further some students had used SMS to contact students from other universities as well as expert people in getting more information. Furthermore, the students reported that they already shared some images while getting ready for one of their project reports.

Except these most of the students had used mobile devices to view face books. Even though some students criticized about the use of Face Book (FB), one student mentioned that sometimes FB is a learning platform.

The students' perceptions towards the use of mobile phones for teaching and learning

The survey and interview data revealed that the majority of students had positive perceptions towards the use of mobile devices in teaching and learning process. As the main point, they had already recognized how mobile devices support for their various learning activities by making them easy as discussed below.

About 89% of the students thought the mobile phone can be used as a learning tool in the Faculty. By showing the evidence to this, 72% said that they obtained more information for their learning using the Internet facility of the mobile phones. During the interviews, students valued the possibility of getting information when and where they want. They compared this with getting information from the library books as follows;

“Library is closed during the weekends, public holydays as well as during some of our mid semester breaks. As we are following semester system we have to write assignments or prepare presentations at least two per month. So we can't use the library facilities. However, mobile phone supports in this irrespective of the time and the venue.”

(Student-11 comment)

Furthermore, 64% students agreed with the statement “the mobile phone save my time as it supports irrespective of the time and the place.” This indicates that many students had already experienced the support provided by the mobile devices irrespective of the time and the place. This support is highlighted by Cooney (2007); who emphasized that the attribute of portability of mobile device which facilitate its use irrespective of time and the space.

The following student's expressions during the interviews were also highlighted the above point. “My mobile phone is always in my pocket. So when I want I can use it. Even though I have an IPAD I experience that the mobile phone is more useful because of it. The other thing is we can activate a function within a less time than an IPAD because it takes some time to switch it on.”

(Student-10 comment)

While appreciating the potential of mobile phone functions and attributes, the majority of students had seen the possibilities of using it for learning purposes in the university. For instance 89% of students responded as 'agree' for the statement, "I think the mobile phone can be used as a learning tool in the University." Not only that but also they identified the possibility of the use of mobile devices in learning and also in administrative activities. Even though students appreciated the use of mobile devices for communication purposes related to learning, some students mentioned this possibility decrease their interpersonal interactions due to use of mobile phones.

A students view this as the below,

"I think person's face to face interactions are really important, especially as university students. Due to the availability of mobile phones student use to send SMS or call without meeting colleagues even though they are in their neighbouring room. So I feel like this is not good. Someone can argue that as a result of this we can save our time; as when we meet to discuss one thing automatically we are discussing more thing; sometime unnecessary gossips".

(Student-11 comment)

During the focus group discussions, many of the students pointed out about the use of face book (FB). Some students thought FB creates lot of issues. This was also evident by the survey as 14% responded as mobile phone is time waiting. Some students think that the use of mobile phone is not good for the health.

Conclusion:

In this study the current use, attitudes and perceptions of undergraduate students towards the use of mobile phones for learning was explored. According to the survey results and focus group interview results, 100% of students had their own mobile devices and students had already used the functions such as SMS, MMS, image capture, the Internet and google map for their learning purposes. Among these they emphasised the support of the SMS, image capture and the Internet.

Students' perception towards the use of mobile phones for teaching and learning was positive and they valued and appreciated the support of functions and attributes of mobile devices for their learning activities such as recording lectures and listening them, communicating facilities

and also the browsing more information to further understand what they had learnt in the classroom and also to complete assignments and project reports. However, some students had negative thoughts towards the use of mobile devices in teaching and learning. They were the bad impacts to the health, time consuming, addiction to use of FB through it and also minimizing of personal interactions among peers.

However, collecting data only from 300 students can be considered as a limitation. Further the investigation period of this study is short compared to the life cycle of an academic period of a student.

Acknowledgments:

Author would like to acknowledge the University of Peradeniya for providing funds to carry out this study.

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**HOW TO OVERCOME ENGLISH LANGUAGE BARRIERS IN TERTIARY ICT
EDUCATION IN RURAL AREAS OF SRI LANKA: A MODEL DEVELOPMENT
THROUGH A CASE STUDY ANALYSIS IN ADVANCED TECHNOLOGICAL
INSTITUTE (ATI) –BADULLA**

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Abstract

The research work was done as a case study analysis for one of the higher education institution in Sri Lanka called Advanced Technical Education (ATI) in Badulla, which is governed under Sri Lanka Institute of Advanced Technological Education (SLIATE). The organization offers higher national diplomas in Information Technology (IT), accountancy, management and English. This study investigated the English language barriers in tertiary Information Communication Technology (ICT). Besides for the research it concerns only the diplomats who follow IT, accountancy and management since they have to follow ICT subject modules. The diplomat students of all three departments (IT, accountancy and management) and the lecturers of IT department was the target group of this case study. Both the qualitative and quantitative multi method was used for this research and two primary data gathering instrument are used for data collection. The secondary data also used when and where necessary to resolve the objectives of this research. This study indicate the successful approaches for overcome those language barriers which are identified in first part of this and explains a procedure and set of recommendations to use those approaches in an effective manner where the diplomat student can conveniently learn in better environment.

Introduction

The rapid developments in Information and Communication Technology (ICT) have greatly contributed in enhancing human living standards as the advanced capability of the technology facilitates with extremely efficient collaboration and access to correct, consistent and effective information worldwide, which is fundamental to manage the quality in total. In successful world, most of the key economically effective environments are increasingly ICT dominant

and therefore, investing on ICT developments in the 21st century has become a compulsory requirement for a country to survive. For justification and proper direction of the investments, continuous progress monitoring, again with timely and accurate information on ICT achievements itself is also essential.

Information and communication technology (ICT) has become an important part of most organizations and business these days [1]. Computers began to be placed in schools in the early 1980s, and several researches suggest that ICT will be an important part of education for the next generation too [2], [3], [4].

Increasing the quality of teaching and learning has been a seemingly important concern for education. Since the beginning of this century, education has faced a variety of social, cultural, economic, and technical challenges. As the study and practice of facilitating learning and improving performance [5], the field of information technology attempts to overcome challenges by developing new approaches and frameworks. In this context, education in Information and Communication Technologies (ICTs) represents a new approach for enhancing the distribution of information and helping to meet these challenges.

A predetermined process is important for the ICT education in the tertiary educational system. Education of ICT enhances the quality of education by helping teachers to do their job and by helping students to learn more effectively. At this point, necessary skills and the level of student's readiness are the important key factors in learning ICT. Tertiary education is a major part of Sri Lankan higher education, where students enrolled in graduate programs or higher national diploma programs either in government universities or private universities. In order to proceed with higher education Sri Lankan students want to get through form Advanced Level (A/L) examination which conducted by the examination department in Sri Lanka.

This study proves significant in contributing to the underdeveloped area of research related to the academic persistence of diplomat students in higher national diploma programs, and in posing numerous pertinent questions to guide future research. The main significance of this study lies in the fact of the language barrier that students face learning ICT subjects in English medium environment. Knowledge and understanding of the factors affecting students' persistence in diploma programs may provide additional insight into the study, as well as their motivation. The research of this kind is significant to adult learners contemplating such

learning experiences, but also to institutions of higher education offering higher national diplomas and national diplomas. Knowing the predicting power of selected external and internal factors to students' language barriers in the English medium learning environment may assist tertiary education institutions in developing higher national diplomas and national diplomas programs and creating learner support systems, which will help enhance higher student pass rate in ICT subjects and persistence in diploma completion.

Except HND in English course, all the other three diploma programs included ICT subject modules in each semester, where HNDIT focus more on in-depth knowledge of ICT and other two i.e. HNDA and HNDM focus only on some areas where ICT is applicable in those streams. As mentioned above all the diploma courses are conducted in English medium and the lectures were conducted in English. Anyhow all of these diplomats have completed their primary and secondary education in Sinhala medium, therefore this study environment change effect at a great level to their studies. It was salient that the students are not familiar with the study environment and most of them feel that learning ICT in English medium is a complex task.

Even though they are interested on the subject because of this reason they feel that it is so difficult and that leads to discourage them to study it effectively. Therefore the English language becomes a barrier to complete ICT as well as the other subjects to them. Furthermore, in higher education the students are expected to be more independent and autonomous learners at this stage. Hence the lecturers' contributions to the understanding of the subject are minimal. Besides students who will attend teaching sessions the traditional way, there is a high proportion of learners who are more dynamically involves in their studies.

Due to this language problems higher failure rate and the ever increasing time to complete the diploma was reported as a chronic problem in this education and results in a loss of high-level resources. In institutional reports, it shows that the output of the programs are estimated at approximately fifty percent when its completion. Furthermore, of this fifty percent, about twenty percent give up at the final stage. Failure at this point is not only painful and expensive for a student, but also discouraging for IT department involved, and injurious to an institution's reputation. Correspondingly the high dropout rate among diplomat students seems incongruous given the importance of study to research. Why diplomat student fail to meet their academic goals and leave programs without completion? has long been a focus of researchers' attention.

Additionally, this study was yield valuable results due to the mixed methods research design. The need for both qualitative and quantitative research to determine the extent to which the variables can predict dropout in diplomat students has been articulated in the literature [7], [8]. This study was made a step forward by combining both quantitative and qualitative approaches within one study [9], [10]. This integration was provided a deeper insight into the problem of “How to overcome English Language barriers in tertiary ICT education? “ , First, by identifying the predicting power of selected internal and external factors contributing to and/or impeding students’ academic success, and, then, by exploring the participants’ views regarding the statistical findings in more depth.

Objectives of the research work:

The main research objective of this is to identify what are the language barriers in English that students are facing when learning ICT subjects? And the possible approaches to overcome those barriers. Further the main objective decomposed into sub objectives which lead to successful investigate on the main objective. The sub objectives are stated as follow;

- What is the current English language skill level possess the diplomat students, those who follows Higher National Diploma in Information Technology/ Accountancy/ Management?
- What are the content of ICT education given for diplomat students and the English language skill levels need for different diploma courses?
- What is the gap between the current language skill level of diplomat students and the required language skill level?
- What was the different factors (internal/ external) effecting to diplomat students when learning ICT in English?
- What are the successful approaches to serving English language? and ways of strengthening the system to maximize the effectiveness with the available resources.

Literature Review:

The popularity of information communication technology over the past decade has brought about the innovative use of the Internet in second language learning and teaching, particularly in the English as a second language (ESL) [12]. Obviously, information communication technology (ICT) has changed the language learning and literacy acquisition environment as well as the dynamics of the language learning settings. Since the early 1960s, affective/psychological factors have been identified as having an influence on second language learning. Being afraid of poor performance in front of other people, students tend to be silent in most time. This is particularly noticeable in Asian English as second language learning in higher education classes. In the related studies indicated that students who used to be shy in face-to-face discussion and who were considered low achievers in language learning became more active participants in computer-assisted learning environment [13].

Students with thin ego boundaries might exhibit better performance in language learning situations. In consequence, the teaching of ICT is therefore perceived as a subject or process that eschews responsibility for making value contexts explicit. As a result, ICT has been variously cast as a functionalist discourse where the gaining of ICT skills and competences has been seen as dominating the higher studies.

The act of learning ICT in English medium environment would be a complex process for the students who may did their primary and secondary education almost in Sinhala medium and one that may encounter a number of difficulties. These difficulties are known as "barriers" [14]. A barrier is defined as "any condition that makes it difficult to make progress or to achieve an objective".

Several studies have divided the barriers into two categories: internal and external barriers. In one study had referred to external barriers as first order and cited access, resources training and internal barriers as second order and cited attitudes, beliefs, practices and usage. Whereas external barriers as pertaining to organizations rather than individuals and internal barriers as pertaining to staff members, administration and individuals [15].

Data and Methods:

This study was used two distinct phases in collecting data. In the first phase, the quantitative, numeric, data was collected [24]. The goal of the quantitative phase was to identify potential

predictive power of selected variables which identified as the factors effecting in ICT education.

In order to collect primary data the questionnaire survey technique was used (appendix 1 and appendix 2). It was conducted with first year students from courses of HNDIT, HNDA, and HNDM and lecturers from IT department as two different questionnaires. The primary technique for collecting the quantitative data was a self-developed questionnaire, containing items of different formats: multiple choices, asking either for one option or all that apply, dichotomous answers like “Yes” and “No”, self-assessment items, measured on the 5-point Likert type, and open-ended questions. Occasionally a mixed method project was designed with both a quantitative questionnaire and qualitative, opened-ended questions as a part of the questionnaire. Before the survey all participants was aware about the importance of their input for the study. The second, qualitative phase in the study was focused on explaining the results of the statistical tests, obtained in the first, quantitative phase.

The primary technique was conducting in-depth semi-structured face to face interviews with total of fifty students. Individual interviews with the significant others of these selected participants might also be conducted. Triangulation of different data sources is important in case study analysis [27]. Academic transcripts were used to validate the information obtained during the interviews.

Discussion of Results:

The data that gathered through the research was analyzed using the Statistical Package for the Social Sciences (SPSS) and Microsoft Excel softwares. The data was gathered using two questionnaires separately for diploma students in three courses and the lecturers of IT department. According to the analyzed data it shows that most of the students are having a simple pass for the English subject in O/L examination. Only very few of students are having the grade B or grade C. as a percentage it is 45.8%.

Furthermore when analyzing the English subject grade in the A/L examination it was revealed that 61.0% got grade ‘S’ for the subject and 37.3% got a grade ‘F’. This exposed that the diploma students are having the skill level of English language which not even equal to the knowledge level of grade 13 student in Sri Lankan School system. So that it derives one of the objectives of this research that is identifying the English language skill level of the students.

Several questions have been used to find the types of language barriers that students have identify within themselves and the causes for this language barrier. The first question is focusing on finding out whether the students can understand the theories and the practical in IT subjects. 78.0 % of students cannot understand when lectures are conducting in English medium. Only 15.3% of students can understand the content of the lecture and the rest of 6.8% is in average level. So this depict that most of the students are having an issue on understanding the lecture since it is doing in English medium.

Mean times on average 47.5% of students are using the English reference materials in their studies. Also 11.9% of students are frequently use English reference materials. This depicts the reading ability and understanding ability skill levels of students in English language.

When considering the different skill level problems that the students are facing with regarding to the third question 85.7% of responses shows that the students are doing more mistakes when they do their assignments. The some of these written mistakes were spelling mistakes, grammar mistakes and incorrect vocabulary usage. Also 71.5% of students cannot do presentations with fewer mistakes in prior to the fourth question. Some of the spoken skill problems were problems of pronunciation, incorrect usage of words, grammar mistakes and lacking of presentation skills. The students are not having much confidence on what they presenting rather reading the sentences in presentations. 57.1% of students could not able to do the practical by themselves and needed to explain the instruction in their own language. Therefore most of the time the lecturers wanted to translate and explain the instructions of the practical session.

Furthermore 28.6% of students ask questions in English and the rest of the students are not Only 71.5% of students can take down notes while lecturing and 14.3% of students could not take down the notes. Also 26.8% of students are showing the great interest to learn ICT subject in their courses.

The above data analysis reveals that the students are very weak in studying in English medium and an effective strategy and practice activity should be introduced to overcome this problem. It is a painful truth in Sri Lanka that the students are not exposed to the second language other than the text book provided by the government. Most of the English teachers in the rural areas do not teach the text book complaining the students are not in the standard of the text book. As

a result of that the students lose the only one chance of exposing themselves to the language. Most of the students in the sample have not been exposed to an English teacher time to time in their school education. Disparities in education system should be reduced and English teachers should be provided for the remote schools for the child to have the teacher's guidance from the beginning to end continuously.

English language learners who have already learned to write in another language have knowledge and literacy skills that can help them write in English, but they still face many difficulties [28]. The students in the selected sample have mastered Sinhala or Tamil as their mother tongue and the disparities between the structures of the language makes it difficult for the students who do mistakes in the English language.

The different types of reasons were identified in the process of analysis of the reasons of language barrier. The following are the findings of the theses.

- Lack of exposure to the language makes students weak in their language skills.
- Most of the students feel that English is difficult language, so they feel a phobia towards it.
- The difficulties of learning ICT subject in English medium
- The environment does not enhance the language skill development of the students

Furthermore there were some supplementary reasons exposed in the interview which leads to the language barriers when learning ICT subject:

1. Their ignorance over the language skills. Most of the students are aware that they having language problems but they have taken no interest in correcting themselves in an effective way.
2. Lack of exposure to the language. Students do not read as a habit. They are not referring the course materials which are written in English rather surfing the internet to find some information without having the knowledge of what they searching for.

3. Lack of presentation skills and language mistakes in speaking. It reveals that the students are having the difficulty of speaking the language and doing the presentation comes out of the difficulty of pronunciation and unawareness of the vocabulary.

4. Lack of vocabulary. If students are exposed to more words they are exposed to the new technical terms and words

5. Less practice of writing. It reveals that the students try to practice writing by the way of by hearting. In place of that the students should use the effectively in day to day writing and more familiar with the sounds of wordings

6. Lack of memory power. They can't keep the basic language patterns and wordings in their memory.

7. Lack of self-studies. They are totally dependent on the teacher. Not trying to improve the knowledge in English language.

The following facts were identified as the suggestions to overcome the problems of learning ICT caused by the lack of English language knowledge

- A deep study over a problem enriches the individual with the relevant knowledge of the particular area
- The students should be taught different language skills methodically in the process of teaching English from the beginning.

If the students are taught to refer the dictionary and find the vocabulary in the dictionary with the understanding of them, learning English will be more effective. A word study provides students with opportunities to investigate and understand the patterns in words.

- The correct guidance is very much effective in achieving the accuracy in the pronunciation.

Most of the students in the sample have not been exposed to an English teacher time to time in their school education. Disparities in education system should be reduced and English teachers

should be provided for the remote schools for the child to have the teacher's guidance from the beginning to end continuously.

- Students should be exposed to the language
- The teaching material should be arranged from simple to difficult
- The student centered approach gives very good results in teaching a difficult area for the students
- A deep study over a problem suggests a methodical plan to overcome the problem
- Cooperative effort is very much important in teaching spelling

- The student must be directed to explore and learn
- The immediate feedback and the evaluation are motivational factors for the students
- Students should be directed to think logically and creatively

Conclusion:

English language learners who have already learned to write in another language have knowledge and literacy skills that can help them write in English, but they still face many difficulties [30]. The students in the selected sample have mastered Sinhala or Tamil as their mother tongue and the disparities between the structures of the language makes it difficult for the students who do mistakes in the English language. On the other hand these adult learners have not been guided for a long time over their mistakes. Consequently based on this problem it was required to find a remedy for the below objectives targeting mainly the research question.

- To identify the current situation of the students.
- To find out the reasons for the language mistakes.
- To develop strategies to overcome the spelling mistakes.

According to education reforms, It is true that continuous learning produces effective practice in the language but what these students have tried in their education is the A, B, C, or S pass in English in GCE O/l examination. Truly these passes do not show the proficiency in the language. These students have mastered some aspects of language on their own with the long absence of the teachers. As a result they do not know that they do some mistakes and don't know how to correct them. If they try them they become some other mistakes.

The learning traditions of Sri Lanka, however, produce passive learners heavily dependent on teachers as a result of teacher centered learning in schools for over twelve years of the

education. So that it is clear that the students do not try to do something beyond what the teacher teaches and in the process of developing strategies for teaching spelling patterns the major objective should be to make the students creative and independent learners who work on their own.

The students in the selected sample are totally teacher dependent. It reveals the painful truth that though the new educational reforms implemented in recent years expect a drastic change in the teacher's role from the transmission, transaction to transformation the teachers still go on practicing the traditional methods of teaching which contributes the passive learners.

Recommendations:

The selection criteria should be changed in order to reflect the English subject skill level of the student. The recruitment criteria for the course was changed this year which was earlier three s passes from GCE A/L and A or B pass for the subject English in GCE O/L, to three s passes from GCE A/L and A , B or C pass for the subject English in GCE O/L. Furthermore the syllabus was changed for almost all the courses. and it was also implemented this year.

Disparities in education system should be reduced and English teachers should be provided for the remote schools for the child to have the teacher's guidance from the beginning to end continuously. All these research findings prove that teaching of the language skills comes in the young age of children and it should be a process that should be gradual from the beginning of the language and it becomes an extra difficult task when these things are taught after passing all these stages of learning. It is easier to teach a group of students who have not exposed to different patterns languages but it is very difficult to teach a group of students who have developed wrong language patterns due to their own wrong language skills.

In order for teaching to be effective, tasks also need to be novel and varied and should include active student participation. Motivational strategies, methods of effectively communicating content, and providing students with tools for memorization would seem to be key components in solving the problem that is the focus of this study.

In developing the strategies to teach this sample of students, a set of interesting tasks should be introduced to the students with the following qualities. The tasks should be interesting and meaningful to students' experiences, they should be diverse and novel and they should involve

active participation, personal challenge, and control over mode of engagement and type of product.

The English language is difficult for even the most adept students. Students who show consistent patterns of below grade level achievement can be especially challenged. For these students, rule based instruction is important but must be augmented by techniques which bring morphological awareness. In addition, students must be able to see an advantage to learning Standard English in order to develop a desire to use language correctly. "Though spelling may be difficult, it need not be dull. It is, indeed, by no means the least interesting element in the structure of our rich, living, and complex language" [32].

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ENHANCING GRADE SIX STUDENTS' PARTICIPATION IN SCIENCE THROUGH ACTIVITIES

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Introduction

Learning science helps to develop many skills of students. According to Hollon, Roth & Anderson, (1991) science helps to see the world with a critical mind through many lenses. Even though the activity - focused, student - centered and competency - based teaching curriculum approach is used to teach science in Sri Lanka, still some teachers' state that students do not participate for the lessons actively. Therefore well planned, more effective and active participatory teaching - learning process is very essential. Sri Lankan education system is examination oriented and students tend to memorize facts without understanding the subject matter. Under this circumstance, although students perform well at the examinations, they are unable to provide answers with scientific reasons even to a simple question in real life. So science teaching must be done with variety of activities. 100% of students' participation for the activities during the teaching – learning process is essential. So the students' performance for the competencies and number of skills like self – discipline, working cooperatively with others, management of time, leadership, decision making and higher order thinking skills such as analysis, synthesis and evaluation can be improved. Grade six was selected for this study because the students start to learn science as a separate subject from grade 6 in the present context. The competency 'Investigation of Plant Diversity' was selected for this study because the plants play a major role on earth. The aim of this study was to enhance grade 6 students' participation in science through activities.

Specific objectives

Identify weaknesses in the existing teaching – learning process.

Implement activities to teach the competency

Assess whether students' participation for the activities affect their performance.

Methodology:

This study was conducted in three steps. In the first step structured interviews were conducted with 21 grade 6 science teachers from two 1AB schools, five 1C schools and six type 2 schools in Galewela Education Zone to identify the existing situation of teaching - learning process. During the second step of implementing activities, 212 students (74 students from 1AB school 72 students from 1C school and 66 students from Type 2 school) were randomly selected. The pre -test paper was constructed and administered to identify the achievement level of students on plant diversity. The experimental and control groups were selected randomly. 9 lesson plans with activities were developed to teach for the experimental groups. These lessons were taught within 12 periods of 40 minutes. Selected activities and number of periods for each lesson is given in Table 1. The experimental groups were taught by using activities to participate for all students, developed by the researcher and the control groups were taught by the same teachers using lecture method. Classroom observations were done throughout the lessons. In the third step a post – test was administered after completing the competency to evaluate the achievement of students. Data were analyzed quantitatively by using graphs and t – test. Qualitative data were analyzed by triangulation.

Table 1 Activities and number of periods allocated for each lesson

Lesson no	Lesson	Teaching – learning method	No of periods
1	Parts of a plant	Group activities	1
2	Diversity of plant leaves	Field observation	1
3	Diversity of plant roots	Computer Assisted Instruction	1
4	Diversity of plant stems	Card game	2
5	Diversity of flowers	Think, Pair, Share	1
6	Diversity of fruits and seeds	Cooperative learning groups	1
7	Diversity of plants according to their habitats	Jigsaw	2
8	Classification of plants	Role Playing	2
9	Summary of the competency	Concept mapping	1

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Results and Discussion:

Out of 21 science teachers, 16 teachers (76%) have used traditional lecture method while 5 teachers (24%) have used activity method to teach the competency. According to grade 6 teacher instructional manual, the allocated time for the competency 'Investigation of plant diversity' is 9 periods. According to the interviews, 19 teachers out of 21 (90%) used more than 9 periods to cover the above competency and 2 teachers (10%) used exactly 9 periods to cover it. None of the teachers used less than nine periods. Pre – test results indicate that there is no significance difference among students in the six classrooms in their performance. Post-test results suggest that there is a significant difference in the level of performance among 2 groups. According to two sample t – test conducted for the post – test, P values are zero in three schools.

Most of the teachers use lecture method to teach the competency. In considering the number of periods used by teachers, allocated time was not enough to teach the competency effectively. The post – test results indicate that the teaching approach with activities to participate all students used in the experimental group is better than the teaching approach used in the control group. All students were actively participated in the class work in experimental group. So the students' skills such as leadership, active listening, decision making and communication could be seen during the lessons in all three schools.

Conclusion:

When considering above results, it is clear that teaching – learning process with activities to participate for all students is better than lecture method to improve students' performance and skills.

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CHARACTERISTICS OF CIVIC EDUCATION TEACHERS IN SRI LANKA

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Abstract

The study was aimed at recognizing problems of Civic Education teachers in junior secondary schools (Grades 6-11). Data were collected from randomly selected 40 teachers, 2 subject Directors and 2 In Service Advisor of Civic Education from 16 schools and 2 Education Zones through a questionnaire and interviews based survey. Data were analyzed qualitatively and quantitatively and according to the findings four problems related to teaching methods, teacher training programs, ISA's, subject directors and time periods were identified. Research suggests increasing periods of the time table for Civic Education and uplifting teacher training programmes on the subject. Teachers who had studied political science subject for the degree should be appointed to teach the subject. Teaching methods specific to the subject should be developed and used. The capacity of subject Directors and In Service Advisors of Civic Education should be strengthened. Links between text book and teachers' instructional manuals should be improved.

Key words: Civic education, Teacher

Introduction:

Teaching civics which was introduced to the curriculum in 2005 was a new experience to teachers. The fact that identification of qualified teachers, conducting teacher training seminars had not been done properly from the beginning was revealed by the teachers and the researcher. This subject is taught as a compulsory subject in grade 6, 7, 8, 9 and as a subject falling under the 1st category for grade 10 and 11 throughout 8 years until today. Since it is currently valuable to identify the issues of the teachers of junior secondary section and as researches have not been done recently based on the subject. This will provide a significant backup to the present day school system.

Research problem:

After achieving independence, the mainly done education reforms was in 1972 and accordingly the civic subject was linked with History, Geography and a new subject was introduced as social studies. And as a result, the main expectations of the subject were left out. Wijethunga (2004) revealed that the knowledge of Sri Lankan student on civic education was at a very low level. As a solution citizenship education subject was introduced to the school system. By analyzing G.C.E. (OL) results revealed that a majority had achieved simple and weak passes. Therefore it is necessary to find out whether there are any issues between the teachers and the teaching methods. However, Department of the Political Science at the University of Peradeniya has discovered that the teacher training seminars were conducted adequately for the newly introduced subjects.

Table 1. New Syllabus - Analysis of Civic Education subject results

Year	Medium	Sat	Pass	Pass	Percentage
2008	Sinhala	69574	55648	A - 8549	11'5%
				B - 7591	9'81%
				C -17100	22'09%
				S -22408	28'95%
				W -21753	28'10%
2009	Sinhala	78992	60703	A - 5409	6'03%
				B - 6113	6'81%
				C -16606	18'51%
				S -32575	36'30%
				W -29031	32'35%
2010	Sinhala	84006	78455	A - 7667	7'75%
				B - 9024	9'12%
				C -26182	26'46%
				S -35582	35'97%
				W -20478	20'70%

Source - Statistical Hand book - 2008/2010, Department of Examination

Finding out the problems faced by the teachers was there main target the content of the subject consist of civic knowledge, civic attitudes, and civic skills. Through civic knowledge the value and the necessity of a civic life is basically taught. By teaching civic education subject in school

can create a peaceful and lawful citizen. The main goals of civic education cannot be reached without developing civic attitudes under civic skills, in order to represented citizens, skills falling under categories such as physical, mental, social, environmental and spiritual should be improved.

Literature Review:

Wijethunga (2004) reviewed covering of the curriculum and training of teachers of civic education should be strengthened. Teachers' point of view school is most suitable and efficient place to teach civic education and teaching of civic education is essential for the programs for the citizenship education. The researcher has pointed out that to develop the subject to civic education, Sri Lanka has given priority to their main fields those are further training on subject matters, teaching methods, visual aids and text books. These are identified as issues which the civic teaches faced, even discovered by study based on these fields.

Premathilaka (1998) pointed out the view that prior to introducing a curriculum of citizenship education what type of a citizen Sri Lanka needs must be decided. It is noticed that systematic civic education program should be activated in order to establish peace and harmony in a multi-cultural society in Sri Lanka by the nature of and appropriate civic education in order to create a peaceful and lawful citizen. James A. Banks (2008) has discovered that when teaching civic education in school this particular process must be reformed through the multi-cultural education in globalization and nation diversity. He pointed out the importance of creativity background inside the classroom by the teachers to generate independent of a student.

Kendy and Kery John (2005) have shown that the teacher should improve his vocational skills and involve in learning teaching process. It is being discovered by the research that the above process is much easier for those who are concern about vocational development thoroughly.

Daniel and Mairs (2010) have discovered that childhood manner of conveying of civic knowledge, skills, attitudes and make them reach the children is made easier by giving a succession through learning teaching process and by working together with teachers, people in the society, parents as well as schools.

Methodology:

The study is planned to follow a survey research method using both qualitative and quantitative approaches. Questionnaire and interview methods were employed for data collection. Data were collected from randomly selected 40 teachers, 2 subject directors and 2 In Service Advisors of civic education from 16 schools in 2 education zones in Sri Lanka. Data were analyzed quantitatively and qualitatively. Quantitative data were analyzed by using percentage. The responses which were given in reply for the questionnaire which were included in the teachers sample. In that questionnaire five main problems of civic teachers who have faced teaching learning process in civic education subject had recognized. Those are teaching methods, teacher training programs, ISA's, subject directors and time period. These characteristics were analyzed by using qualitatively and quantitatively.

Table 2. Main Problems of Civic Education Teachers

Identified Main Problems	Percentage
Teaching methods	77.5 %
Teacher training programs	77.5%
ISA's and subject directors	72.5%
Time period	72.5%

According to the order of the highest response the issues regarding teaching methods, by qualitative data can be highlighted. ISA's statements are as follows:

- "When teaching civics our teachers only follow very few of the instruction in the Teachers Guide."
- Teaching the text without doing the activities included in the Teachers Guide is a major fault that our teachers do. Therefor they don't follow the teaching methods which are included in those exercises.
- Brain Storming is a good approach and method to teach civics. It is clearly mentioned in the teacher's guide. But teachers are not used these method. They just involve in a common way of teaching.

It is noticed in all civic books that the teaching should be done using the methods included in the Teachers Guide. But because of the problem occurred, it was revealed in random discussion that to teach the subject matter the instruction included.

Teacher's Statements are quoted as follows:

"Teaching activity of the teacher's guide not enough for the student because text book had full of subject matters. We have to teach that matters to children therefore we haven't enough time to use teaching methods which mentioned in Teachers Guide."

Finding and Discussions:

The teachers with degree of political science are very few. Awareness in teachers about teaching methods such as brain storming is at a very low level. The two periods given each week is not enough to teach subject matters. The time is not enough to follow the teaching methods. It is been discovered that there are many issues in the link between the teaching method, time, seminars, ISA's.

Suggestions:

Extending the periods of teaching in school time table is necessary. Appointing teachers those who have passed political science subject as a degree is also necessary. Extension of training sessions and seminars based on civic education to give a through comprehensive knowledge for teachers, improvement of the attention of ISA's and subject directors to the subject, giving attention for teaching methods such as brain storming, observation, workshop, practical work, interview based data collection about civic education topics, Field trips, launching projects, problem solving, questionnaire and self-study methods are suggested to improve the subject implementation at school level.

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**A STUDY TO FIND OUT REASONS FOR CONTINUOUS FAILURE IN THE
SUBJECT ENGLISH LITERATURE AND TO SUGGEST REMEDIAL MEASURES
TO OVERCOME THEM**

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Abstract

In the analysis of the results in the subject, English Literature of the students of HNDE I (Higher National Diploma First year) in an Advanced Technological Institution, it was revealed that a group of students have been failed in the subject in both first and second semesters in 2011. The study was started with the aim of finding out reasons for the group of students to get failed in the both semesters and develop suggestions to overcome them. Ten students who failed continuously named as group A and ten students who have increased their results in the second semester named as group B were the sample. The Survey method with a questionnaire was used as the research method. First the analysis of the results of the first semester and the second semester was used to select the two groups in the sample and to highlight the other subjects the sample of the students has to pay attention, to increase the performance of the subject English Literature. Then the questionnaire was analyzed deeply to find out whether there is a difference between the background of the students who performed well and the students who failed continuously. Then the answer scripts of the students for the English Literature papers for both first and the second semesters were marked and analyzed deeply in order to find out the further reasons for the continuous failure.

Lower language proficiency in the GCE O/L and GCE A/L, lower contribution of the remote schools towards the language development of the students, lack of exposure to the subject, lower commitment of the students towards the subject, lack of cooperative learning, non-attendance of the students, students missing lectures, and language mistakes were found as the reasons for the continuous failure of the group A. Using some remedial measures to develop the other related subjects, changing the recruitment criteria to A or B passes in GCE O/L English, increasing the number of hours allocated for the subject English literature for the first semester, including the subject practical criticism in the new syllabus, avoiding non-

attendance, increasing the students' dedication to get the higher education more than they dedicated for their GCE A/L, cooperative effort in place of the individual effort, students becoming explorers, self- evaluation, practice in writing answers were identified as the remedial measures.

Introduction

In the analysis of the results in the subject, English Literature of the students of HNDE I (Higher National Diploma First year) in ATI (Advanced Technological Institution), Badulla, it was revealed that a group of students have been failed in the subject in both first and second semesters in 2011. The considerable decrease in the results in the first semester 2011 in the above mentioned subject in contrast to the earlier semesters, paved the way to apply some remedial measures to increase the results in the second semester. Fourteen students out of seventy getting failed in the subject in the both semesters showed the need of the study over this group of students. As a result the study was started with the aim of finding out reasons for the group of students to get failed in the both semesters and develop suggestions to overcome them and with the following objectives.

Rationale for the study:

SLITAE (Sri Lanka Institute of Advanced Technological Education) is one of leading educational institutions in Sri Lanka for higher education and is statutory body coming under the preview of higher education. At present it manages and supervises 10 separate Advance Technical Institutes and 7 Sections housed in the Technical Colleges under Department of Technical Education. ATI, Badulla is one of them where the study is carried out.

At present there are five higher national diploma courses conducted in ATI Badulla and HNDE (Higher National Diploma in English) is one of them. The basic Qualification to enter ATI is three simple passes in GCE A/L along with other special subjects in GCE O/L relevant to each course. After completion of the HNDE course the students are given government English teaching appointments in the provincial level, and there is a generation of English teachers who have got English teaching appointments after the completion of the course. On the other hand the students can make it a qualification to join any other suitable job. As a result of that there is a greater demand for the HNDE course in ATI, Badulla.

The entry qualification for HNDE(Higher National Diploma in English) was A/L three simple passes along with A or B pass for English in GCE O/L before 2010 and it was changed in 2011 as three simple passes in GCE A/L and A,B, or C pass for English in GCE O/L.

The study is carried out with the full time students who were recruited in 2011. The full time course is conducted in four semesters and the examinations are conducted at the end of the each semester. If the students get failed in any subject they have to do the subject again with their juniors next year in the particular semester. If they get failed in the first year first semester and the second semester they can get them completed by the end of their course by the time they get the results of the second semester examination in the second year, but if they get failed in the second year they will miss their batch and they will have to pass out with the junior students. The students come to ATI after completing their A/L examination in the hope of getting qualified for a job but if they continually fail in some subjects, it takes long time and the those students who have to contribute for the development of the country under go some heartbroken situation and their faith over themselves and ATI goes down. Furthermore it can be a reason for less number of students to apply for the course in the coming years. So that a study is needed about the continuous failure and the strategies to overcome them should be developed.

The entry qualification for the HNDE course was changed in the recruitment of 2011 and the subject area was changed from five subjects to ten subjects. The analyses of the results in the first semester examination 2011, in HNDE-I (Higher National Diploma in English-1st year) in ATI showed a great decrease in the pass rate of the subject, English literature as well as some other subjects. Some remedial measures were practiced after the first semester examination in order to increase the results in the second semester 2011 but there was a group of fourteen students who have got failed in the subject in both semesters.

Research problem and specific problem:

Normally the students who are recruited to HNDE course have not done O/L or A/L literature in their school studies except three or four students. Gradually students create a great desire to learn the subject and it becomes the favourite subject for most of the students. With great effort researcher there was 100% or 95% results in the subject in the earlier semesters.

As the students for 2011 were recruited with A, B or C pass for English in O/L literature I had to take much more effort to teach in the first semester 2011. With this much effort, the pass rate literature in 2011 first semester has been gone down to 57% and the failure rate was 43%. There was the same failure rate in many other subjects such as practical and professional writing, advanced reading skills, Practical phonology and listening in English. The analysis of the results clearly showed that the pass rate of Practical & Professional Writing and English Literature are same, 57% and they are the lowest results. Because of this decrease some remedial measures were practiced before the second semester 2011 examination and as a result of that the failure rate was reduced to 26% percent in English literature. In the same way in the second semester examination the number of failures has been reduced in other subjects as well but there is a group of fourteen students who have been failed in the subject in the both semesters. As a result the study was started to find out reasons for continuous failure in the subject literature and to suggest remedial measures to overcome reasons.

The sample:

Ten students who have been failed in the subject literature in both first and second semesters and ten students who have increased their results in the second semester were selected as the sample of study. These two groups were named as A and B respectively in order to compare and contrast the performance of the students who have been failed with the students who have increased their performance.

Limitations of the study:

This was a problem common to all ATIs in Sri Lanka. There were was a greater failure in the above mentioned subjects in all ATIs in a considerable way and there was the continuation of the failure in the second semester 2011. Moreover this is not a problem regarding only this subject but also other subjects as well. But this study is carried out only for this subject limited only to ATI Badulla and the findings of this study will not be generalized on the other ATIs of Sri Lanka.

Literature Review:

The mission of SLIATE is “Creating Excellent Higher National Diplomates with modern technology for sustainable development “So that The ATI should produce students who are employable to the society after completing the particular course that they do. University

of Exeter defined employability as; The establishment of clear mechanisms by which students can develop their abilities to use and deploy a wide range of skills and opportunities to enhance their own academic learning and enable them to become more employable (Lee,2000). Employment and employability is not the same thing and should be differentiated (Lee, 2002). Being employed means having a job, being employable means having the qualities needed to maintain employment and progress in the workplace.

The students in HNDE should be competent for the teaching carrier after completing their course to be English teachers of Uva province. Uva province has been considered as one of the most backward provinces in Sri Lanka considering some economical facts as well as GCE O/L and GCE A/L results. The close study of the GCE O/L English results in 2010 reveals that 71% of the students have been failed in the subject whereas the pass rate is 29%. Therefore the students who pass out from the ATI, should be excellent diplomates, who can contribute towards the development of the results.

A teacher is expected to be willing to put his/her students' learning needs ahead of his/her own behaviour (Brumfit, 1984; Savignon, 1991). Hence it is expected that the students would be allowed to take an active role in the language classroom. It has been argued that such a student-centered approach would lead to a friendly and supportive learning environment that minimizes classroom anxiety for students (Littlewood, 1984).

The classroom is not a homogenous group; it is made of individuals who are distinctly different in look, temperament, intelligence, and background. Rather than teaching to the generic mean, students would benefit from teachers who can match their teaching to the unique qualities of their students (Jennings, 1997).

Therefore if the language proficiency of the students is increased, the language proficiency of the future English teachers can be improved. On the other hand increasing the language proficiency will increase the results of the students who fail continuously. The mission of SLIATE "Creating Excellent Higher National Diplomates with modern technology for sustainable development" can be easily achieved if the reasons are identified and the proper remedial measures are given.

Research Methodology:

The quantitative survey research method was used. The results of first semester and the second semester and the questionnaire are data that is analyzed quantitatively

Aim of the study:

To reduce the continuous failure in the subject English Literature

Objectives of the study:

- To study the current situation of the students
- To identify the reasons for the continuous failure in the subject, English Literature
- Literature
- To develop strategies, in order to reduce the continuous failure in the subject.

Methods of data collection:

The data were collected using the results of the first semester and the second semester examinations, a questionnaire and the answer scripts of the students for the English Literature paper both in first and the second semesters of 2011.

Data Analysis and Interpretation:

Data Analysis:

The data collected in the chapter three were analyzed deeply in this chapter. First the analysis of the results of the first semester and the second semester was used to select the two groups in the sample and to highlight the other subjects the sample of the students has to pay attention to increase the performance of the subject English Literature. Then the questionnaire was analyzed deeply to find out whether there is a difference between the background of the students who performed well and the students who failed continuously. Then the answer scripts of the students for the English Literature papers for both first and the second semesters were marked and analyzed deeply in order to find out the further reasons for the continuous failure.

Analysis of the results of English literature of first semester and the second semester

Examination:

First the results of some selected subjects were analyzed for both semesters for the reader to understand the how these subjects are interconnected. The failure rate of all these subjects in the first semester was considerably low and in the second semester there is the development of the pass rate of these subjects.

Table 1- The results of the first and second semester examination 2011

Subject Name	Pass no of students 1 st semester	Pass no of students 2 nd semester	Fail no of students 1 st semester	Fail no of students 2 nd semester	Pass rate % 1 st semester	Pass rate % 2 nd semester	Fail rate % 1 st semester	Fail rate % 1 st semester
Listening in English I	64	51	19	6	91	73	27	8
Practical & Professional Writing I	54	40	30	16	77	57	43	23
Vocabulary Development I	47	64	6	23	67	91	9	33
Advanced Reading skills I	46	46	24	24	65	66	34	35
English Literature I	52	40	30	18	74	57	43	26
Language structure Usage & Linguistics I	63	42	28	7	90	60	40	10
Practical Phonology I	60	55	1025	10	85	64	36	15

With the findings of the pass rate and the fail rate of these selected subjects, the results of the students in the above subjects in groups A and B were closely studied to study the difference in the performance.

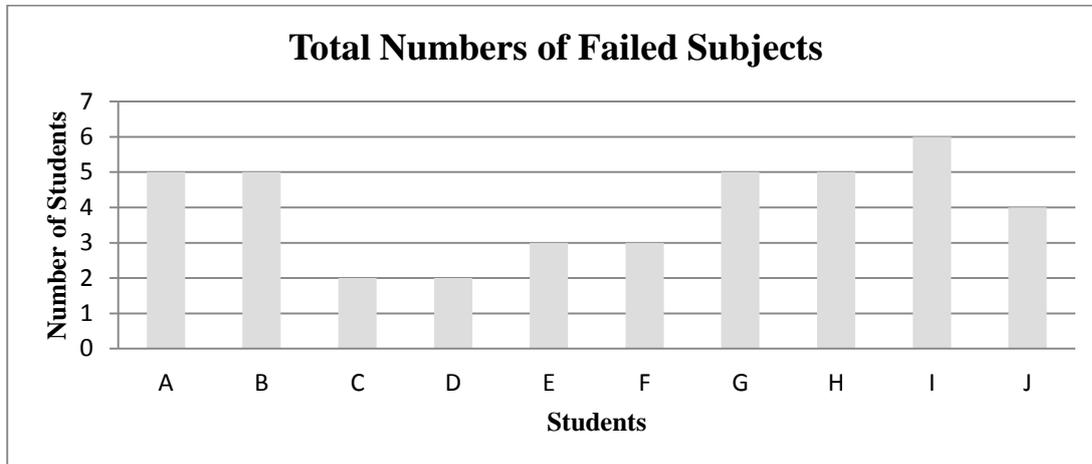


Figure 1- Results of Group A in the first semester 2011

The results of the subjects show that most of the students in this group have been failed in three or more than three subjects and there are two students that have been failed in two subjects. It shows that the students fail in English literature fail in other subjects as well.

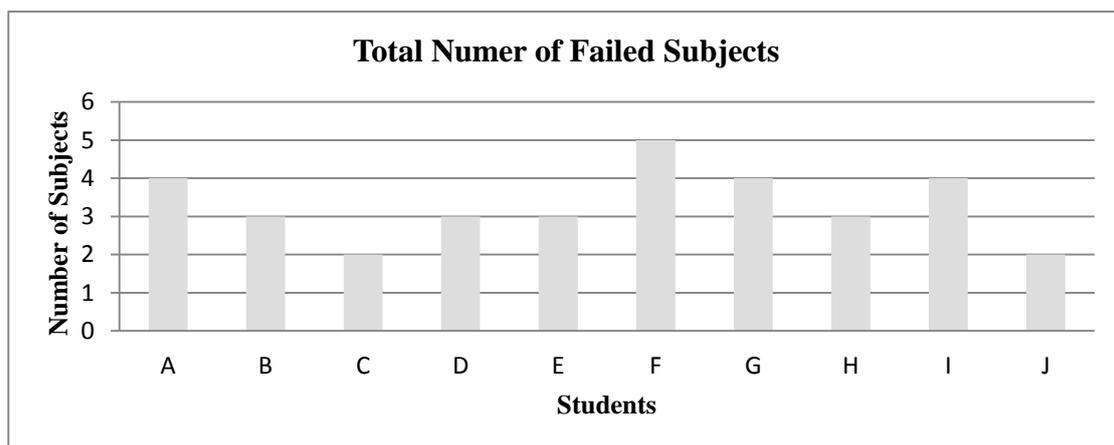


Figure 2 - Results of group A in the second semester examination

The results of the second semester examination shows that some of the students have reduced the number of failed subjects and two students have increased the number of failed subjects.

It is clear that most of the students that are failed in English Literature have been failed mostly in Advanced Reading Skills, Vocabulary Development and Practical and Professional Writing.

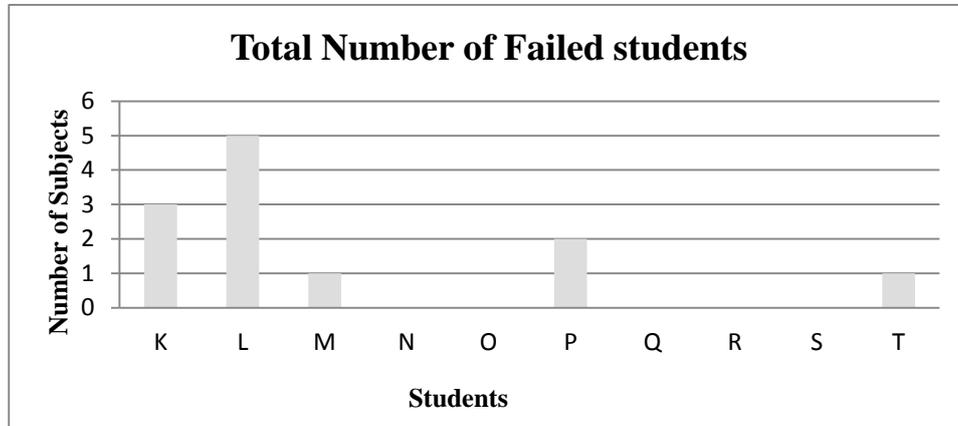


Figure 3- results of group B in the first semester examination

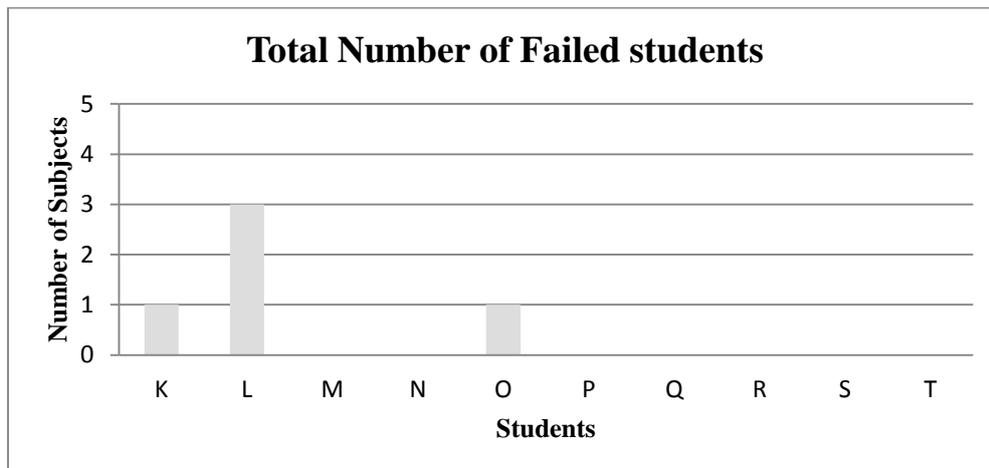


Figure 4 - results of group B in the second semester examination

The results of the group B in both semesters clearly show that the students who have developed their results in the subject English Literature have increased their results in the other subjects as well. So that we can decide that these subjects are interconnected and if the students try to develop other subjects the subject English Literature too develops.

Analysis of the questionnaire:

Educational Background of the students relevant to English

All the students in these two groups have been taught by the same lecturers but they show disparities in the performance in the examinations. The questionnaire was deeply studied in order to find out the reasons for the lower performance in the group A in contrast to group B. First the educational background of the students was analyzed including the details of School they attended, the grade they started learning English, the grades they obtained for the subject English in GCE O/L and GCE A/L, whether they have learned English literature earlier, family background and whether they have hobbies that contribute towards the development of the subject.

The schools the students attended and the grade they started learning English

Table 2- Students Educational Background relevant to English- Group A

Student	School category	Grade they started learning English	Grade for O/L English	Grade for A/L English
A	1AB Maliththa	3	C	W
B	1C Moneragala	3	C	W
C	1AB Badulla	2	A	S
D	1C Bibila	3	C	W
E	1AB Monaragala	3	C	Ab
F	1C Monaragala	6	C	W
G	1AB Bibila	5	B	W
H	1C Wellawaya	6	B	W
I	1C Nanapurawa	5	C	W
J	1AB Lunugala	5	C	W

The school category is given with the area to highlight the point that the performance of the students depend on the area of the school. Though most of the students represent 1AB schools. It shows that they are from far away areas of Uva province. Most of the students in the group A have started learning English from grade three or later except one student. It is noticeable that almost all the students have C passes for English in GCE O/L except three students. Only one student has the A pass for O/L English and only that student has the S pass in A/L General English.

Table 3- Students educational background relevant to English- Group B

Student	School category	Grade they started learning English	Grade for O/L English	Grade for A/L English
K	1AB Badulla	1	A	S
L	1AB Giradurukotte	5	B	S
M	1C Bibilegama	2	A	B
N	1AB Kandy	3	A	S
O	1AB Badulla	5	A	S
P	1C Monaragala	5	B	w
Q	1C Badulla	3	A	S
R	1AB Badulla	6	A	C
S	1AB Badulla	1	B	C
T	1AB Badulla	1	C	S

The table 4 shows that most of the students are from 1AB schools but these schools are in Badulla town. Six students out of them have A passes, three students have B passes and only one student has the C pass for O/L English. Furthermore all the students have passed in their A/L General English except one. Almost all of them say that their English teachers used English in teaching English except two students. It clearly shows that the students from popular schools and the students who have performed well in their O/L and A/L English have performed better in the semester examinations of ATI.

Earlier experience of learning English Literature:

It clearly revealed that no student of the both groups have not done literature earlier. In some schools the subject had not been available and most of the students haven't done it thinking that it is a difficult subject. Lack of exposure to the subject earlier has made the students to have lower performance in the subject

he students' comments about the performance of themselves

The latter part of the questionnaire deals with their comments over the performance of themselves. The students' common ideas are summarized in the table 5

Table 4 -Students' comments about their performance-Group A

Reason	Student									
	A	B	C	D	E	F	G	H	I	J
I Didn't work hard.	√	√	√	√	√	√		√		
I have lot of grammar mistakes.	√	√	√	√	√	√	√	√	√	√
I get much time for one answer.	√	√			√		√	√	√	
I don't have good idea about the syllabus.	√		√	√			√	√		√
I studied more than the last semester but I have been failed again.	√		√	√		√			√	√
I have less subject knowledge.	√	√	√		√			√	√	√
I couldn't write all answers.	√	√	√	√	√	√	√	√	√	√
I worked hard but I can't believe I have been failed.			√							
I missed some lessons.	√	√	√	√	√	√	√	√	√	√
My favourite subject is literature.	√	√	√		√		√	√	√	√
I lost time as I felt that I have to write lengthy answers.		√			√		√			√
I studied alone.	√	√	√	√	√	√	√	√	√	√
I didn't study whole syllabus.	√									
I studied but I couldn't understand the paper.		√			√	√	√	√		
Couldn't remember the quotations.	√	√					√		√	
I studied but I couldn't understand the paper.	√		√						√	√
I felt that the paper is easier but at the end I felt that I didn't write well			√		√	√			√	√

The table 5 reveals that the students in the group A have some common ideas of their performance. All of them have declared that they couldn't write all the answers, I missed some lessons and I studied alone. These comments give most of the reasons for their failure.

Table 5-Students' comments about their performance-Group B

Reason	Student									
	K	L	M	N	O	P	Q	R	S	T
I participated in all the lectures.	√	√	√	√	√	√		√		
We did group discussions.	√	√	√	√	√	√	√	√	√	√
We did group discussions.	√	√			√		√	√	√	
I found extra notes.	√		√	√			√	√		√
I prepared my own notes after the lecturers.	√		√	√		√			√	√
I answered so many questions.	√	√	√		√			√	√	√
I got notes from the internet.	√	√	√	√	√	√	√	√	√	√
I studied literature with good understanding.			√							
I worked hard.	√	√	√	√	√	√	√	√	√	√
I answered all questions.	√	√	√		√		√	√	√	√
I did extra work to develop my grammar.		√			√		√			√
I by heart some parts of the poems.	√	√	√	√	√	√	√	√	√	√
I collected best answers of other students and studied them at home.	√		√			√		√		
My friends taught me.		√			√	√	√	√		
I corrected my mistakes I did in the first semester.	√	√					√		√	
We shared our knowledge in groups.	√		√						√	√
I read a lot.			√		√	√			√	√
I understood how to write the answers.	√			√		√		√		√
I improved my way of writing.	√		√		√		√			√
I developed my grammar.		√			√		√	√		
I used simple sentences in my answers.	√				√					√
I read the questions well.			√		√	√	√			
I taught some poems to my friends.	√	√	√		√			√		

I referred the notes again and again.	√	√	√	√	√	√	√	√	√	√
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The table 6 summarizes the comments of the students in the group B about their own performance. It is clear that the ideas of the students in the group A and group B are contrasting. The comments of the group B are the remedial measures for the students in the group A.

Analyses of the answers written for the English Literature papers in the first semester and the second semester in 2011

The answers were marked by the researcher and the following mistakes were identified in their writing. Language mistakes, lack of organization of the answers, irrelevant answers were some common mistakes done by the students in writing their answers.

Language mistakes in the answers:

Almost all the students had a great number of language mistakes and these language mistakes are the spelling mistakes, grammar mistakes, wrong word order, wrong use of punctuation marks etc. Some students had language mistakes in almost all the sentences they had written for an answer. In the paper evaluation the criteria for marking the literature answers are mostly, language, content, organization and relevancy. When the students' answers are filled with the language mistakes the examiners do not give marks for the other criteria as well. The students in the group A had more language mistakes in contrast to the language mistakes of the group B. In the analysis the number of mistakes of one answer of all the students is summarized to get an idea of the mistakes done by the students generally. The answer written for the question no.4 of the English

Literature paper was considered in the analysis. The length of the answer was one and half papers.

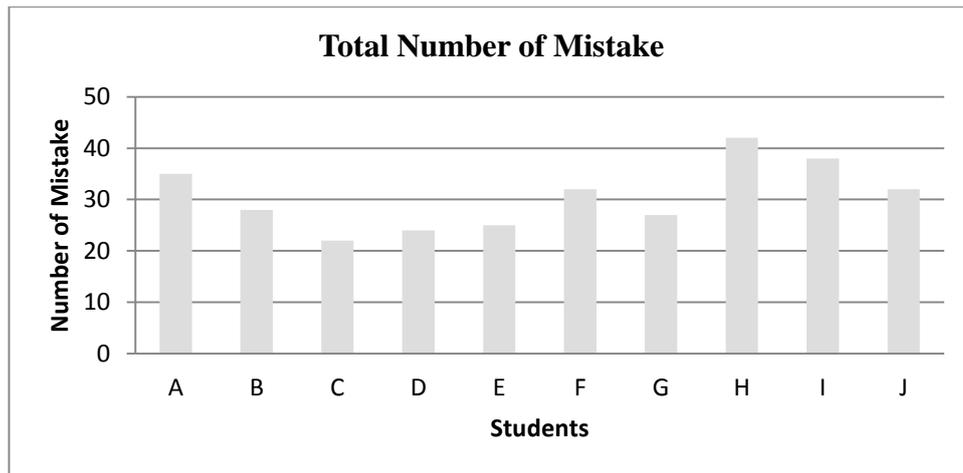


Figure 5-Number of language mistakes in group A

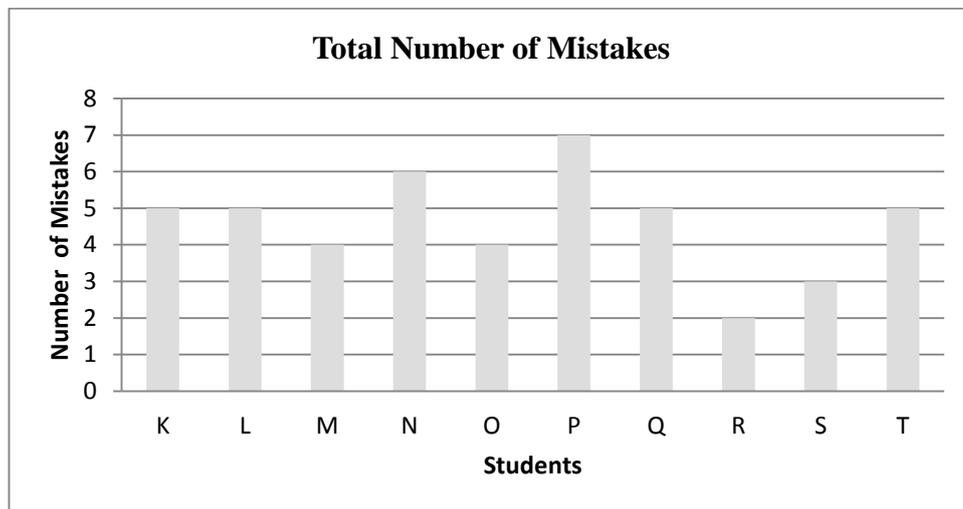


Figure 6 - Language mistakes in group B

The figures show that group A has more language mistakes in contrast to the students in the group B.

Conclusions and suggestions:

Conclusions :

The students in group A have to pay attention to increase the performance of other subjects as well to increase the results of the subject literature. It is clear that the almost all the students in the group A have C passes for English in the GCE O/L examination and almost all of them have been failed in the General English in GCE A/L. It is clear that the students, who have not performed well in the GCE O/L English, have been continuously failed. Students who come to HNDE have no literature experience in their school education. Therefore the students do not

have background knowledge of the subject, English Literature. Non- attendance of the students causes missing materials in the syllabus and it is very difficult for them to catch it up again. The comments of the students make it very clear that the students in the group A have lower dedication towards the subject in contrast to the group B. Lack of cooperation causes low performance. The findings prove that the students in group A have not discussed in groups in getting ready for the exam whereas the students in group B have done their group discussions. Students are not explorers. The students in the group A have not prepared their own notes regarding the materials and they have not tried to find out outside notes. But the students in group B have written their own notes and found outside notes relevant to the materials. Lack of self- evaluation of group A is revealed. The students in group B have understood their language mistakes and they have taken the attempt to develop their grammar whereas the students in group A have not understood the areas they are weak. Finally the study revealed that the students do not read the paper thoroughly before they answer. And on the other hand the students do not get practice with the papers before sitting the exam.

Suggestions :

When the results were lower in the first semester examination, some remedial measures were used to increase the results of the subject English literature. The students in the group B have taken the maximum of them to develop their results in the second semester. If some remedial measures were used in the other subjects as well the students in group A may increase their results. On the other hand the recruitment criteria should be changed to A or B passes in GCE O/L English. The number of hours allocated for the subject English literature for the first semester should be increased to give the background knowledge of the subject apart from the materials in the syllabus. In the earlier syllabus before 2011 there was the subject practical criticism which contributed very much for the development of the subject English Literature. So that practical criticism should be included in the syllabus again. Students should avoid non-attendance and should be very much dedicated to get the higher education than they dedicated for their GCE A/L. Cooperative effort should be practiced in place of the individual effort where the students become explorers with the changing world without being passive learners. Students should have self- evaluation with the practice of writing answers for the papers before sitting the exam.

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PERIPHERSL LEVEL ACTION RESEARCH IN SRI LANKA: A CASE OF NIKAWERATIYA

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Abstract:

The first peripheral level action research (AR) series in Sri Lanka was implemented in 2010 in Nikaweratiya Education Zone which is one of the difficult zones. Objective of the AR group of teachers (T) (n=53), In Service Advisors (ISA) (n=24), Assistant Directors of Education (n=3) and Teacher Center educationists (n=2) was while using and developing collaborative reflective action research, engagement of T and ISA to strengthen teachers in implementing classroom practices, to upgrade the achievement levels of students and guide them to continue their education up to the higher education system. AR team was guided using eight workshops and the output of the series was a compilation of 15 AR articles as a volume. School level problem of dropouts and underachievement were resolved due to innovative interventions. The second and third steps of the series were the compilation of 35 and 33 AR articles respectively in the first and second volumes of 'The Third Eye' in Provincial level in 2013 and 2015.

Key words: Action research, Teacher capacity

Introduction:

In 1987, I was appointed as a Science & Mathematics teacher under the Ministry of Education, Sri Lanka. In 2009, I joined the Teacher Educator Service as a lecturer of a National College of Education. Now I am working as an educationalist in Nikaweratiya Teacher Centre. Though there is a common notion that "teacher should essentially be a researcher", when considering the teachers in the present school system two questions could be raised.

- Does the teacher act as a researcher in the teaching learning process?
- How the experience of teachers could contribute to the field of education?

Discussions with teachers about the above problems showed, most of them apart from teaching the syllabus and performing other school duties they have never been involved in action research (AR) practices. Some teachers said though they had done action researches they had not reported them. When they were informed about the fact, by solving the problems in the teaching learning process the teacher becomes a researcher they said, they were not aware of that, seemingly the above notion is merely rhetoric in this context.

Therefore I focused my research on the question “Why teachers are not interested in doing action researches on class room situations?” I was able to form a team of teachers directing them to initiate ARs. After setting the programme consistently made them involved in research practices I could testify the above notion, finally making it a reality in Nikaweratiya Education Zone.

From the AR literature:

The main purpose of AR is not merely generating knowledge but improving application of that knowledge (Elliot, 1991). However in the context of Sri Lanka, the teacher possesses just a little knowledge of AR and a handful is involved in ARs to solve problems they face and to develop the education system of the country while acting the role of the teacher.

“I noticed while touring UK schools, a majority of teachers practice ARs in the classroom (Abeyapala, 2009). In developed countries the teachers have uplifted the standard of education, using the AR methods in teaching learning process. Thus they were able to generate innovative practices in education. Japan is one of the countries where 80% of the teachers (rest are novices) are self motivated, and supported by the research studies in the class room. They are known to be benefitted by these practices which had led them to feel job satisfaction, developing the children’s education making Japan outstanding among developed nations. (Abeyapala, 2009 P. 17).

Despite the fact that the developed education systems use ARs, In the context of the Sri Lankan education system it has not been utilized though there had been ample attempt to imitate the policies practiced by the developed world. In spite of the occasional brag of producing “21st century super child we have so far failed to empower our teachers to achieve such a height amidst all this the valuable AR approach is fading away from us.

As AR could be carried out in the classroom situations conveniently it has been proved to be the best approach to convert the teachers into the researchers (Kodituwakku, 1996). Generally AR does not demand a strict plan and analyze in order to improve this area and only a little training is needed though their research skills are low. The situation could be corrected through proper guidance. It has been proved that novices without a prior knowledge of AR too could involve in ARs. Some teachers who had done researches for higher education purposes, has a theoretical knowledge, however they find it difficult to identify research problem in the class room.

Kodituwakku (1996) shows when a teacher could identify a problem which challenges him or her, putting him in dilemma identified within the school is the best approach to catch the research problem. “Practice could immediately be applied to classroom improving the situation effectively”. The AR approach is not only good for the student but also it contributes to improve the teaching learning process of the teacher.

Studying how AR practices could empower education system of Sri Lanka the ideas presented by Rambukwella and Gunathilake (2011) are noteworthy. As “there is a comprehensive relation between theory and practice the actions caused by knowledge and is generated through changing the research situations in the development process hence that knowledge establishes as an applicable knowledge”.

Moreover “As a result of carrying out or action research and findings are acted out therefore it could be known as a combination of theory and practice” (Lomax, 1994).

“In sum total when solving a problem the nature of action research process is to understand the existing situation and searching how it could be changed into a state through reflection” Rambukwella and Gunathilake (2011).

According to Sidhu (1997) following four areas should be considered in AR practices.

- the enthusiasm in choosing the research problem.
- personal skills in carrying out the research
- the value of the problem
- ability to gather data

If a teacher fulfills his duty successfully he or she essentially is engaged in a good action research, was an internationally accepted fact Gunasekara (1997). Each teacher is an expert researcher says the research team of Horasman Lincoln Institute affiliated to the University of Collumbia. Identifying a problem forming a hypothesis testing and generalizing the results are important steps taken both in research and teaching. “However teachers are not aware of this” they added further.

Abeypala (2009) presents his ideas how this process could be beneficial for the practitioner.

- Teacher can add more knowledge to the existing knowledge of a certain subject.
- The teachers fulfill the responsibility of solving problems in school and the classroom without avoiding them,
- Teachers who are known as educational entrepreneurs become experts about the class room and school.

Accordingly Action researcher provides a better way to solve the problems in the class **room** Sidhu (1978). In ARs researcher tries to solve the problems dealing with small sample which are close to the researcher. It's very effective to use AR for professional development of the researcher (Whitehead, 1987).

Solving the student's problems and achieving carrier goals at the same time is fulfilled in AR approach and it has to be introduced into school system soon, hence student, teacher, education administrators and the parents are equally benefited. When AR culture is present in the schools, the solution will be more scientific.

Abeypala (2009) further explains the significance of the AR process in education.

- by involving the teachers in the AR practices problems pertaining to teaching could be minimized.
- The problems faced by the educators and the administrators are minimized.
- The success of AR practices directly transfers to the student population.
- The parents and the students build up the confidence about the school as they become satisfied with education process.

Objectives:

1. Informing the teachers of Nikaweratiya education zone about AR
2. Solving problems in the schools of the education zone providing guidance from the teacher center.

Steps and the process of the research:

When concentrating the idea that a teacher should be a researcher, I face with the problem how this could be done? I reflected that by directing teachers towards AR this could be overcome. And also in my reflections I felt that merely by doing researches this problem cannot be solved as it was thought by many, though a large number of researches have been carried out by institutions their findings have not been applied to the system. When dealing with researcher-teacher combination I felt the importance of AR practice. By introducing AR to teachers they could be established as a constant AR practitioner. By doing so the researcher could practically intervene the teaching learning process to solve problems.

I had to solve following problems as my first step.

- Whether the teachers have an idea what AR is?
- If they have an idea how can I lead them?
- How to educate those who do not know about AR?
- How to solve financial issues as the research area covers the whole education zone?

It was discovered that most of the teachers do not have a clear idea about ARs. 250 teachers have been interviewed by 10 expert researchers who attended ten sessions conducted at the teacher centre. Out of them 170/250 68% did not have any idea about ARs. When selecting the teachers for interviews 25, teachers were randomly selected based on the attendance register. Later each teacher was interviewed for 10 minutes. Out of 170 teachers, who did not have clear idea about AR, a voluntary team were selected for the AR, and in this selection a special attention was paid on the second criteria. After deciding whom should be involved in the AR following intervention was made. At the initial stage, there were 38 teachers and two I.S.As. First of all, the permission was requested from the principals and Divisional directors to secure an uninterrupted flow of this process. When selecting members for the team following criteria were considered.

- Active participation in extra and intra curricular activities in school.
- Getting the necessary support of the principal during the period of the research.
- The positive attitude of the principal.

From the allocated annual budget for teacher centers, a grant was requested from the Zonal Director in order to conduct one day session for the team members. Subsequently a well-known lecturer of AR, the vice president of the College of Education, North western province was invited to introduce AR to the members. In those workshops the differences of AR and other types of researches, advantages of ARs and the importance of maintaining a reflection journal, in order to carry out AR smoothly, the way of writing the journal were the topics discussed. In order to emphasize the significance of this venture to the schools, the zonal director and the additional director-education development were invited to take part in the first session. They stressed the importance of completing the research beginning to the end, and stated that the team get the full support of the Zonal Education authority. When analyzing the written feedback comments of the participants, it was clear a positive attitude change had occurred in the team.

The sum total of their attitudinal change could be presented as follows.

- Through AR practice, school education process can be developed.
- AR is a convenient and enjoyable type of research.
- I developed a passion to do AR on the subject I teach.
- Though we have completed 20 years in service, we did not have any knowledge about AR we received it from this workshop.
- In order to solve many problems exist in school AR approach is the best.
- Every teacher should be trained to practice AR. The principals should be informed to support the practice.

The teachers were directed to do AR s on the area which has greater influence on their daily teaching process. Guided them to review the reflection journal they had written for two months and asked them to write the research proposal based on their notes. Accordingly the proposal written in the prescribed format was accepted and discussed further how they could intervene to solve the problems. Only 28 teachers could specify the research problem and out of rest of them 12 teachers were informed once again about it. According to their proposals discussed the plan and the anticipated problems. By now all have started to write their reflection journals. The information they provided was helpful in forming the research topic and to engineer their future actions.

A female Muslim teacher “Adam Ali” could dissect her problems well by referring to the journal notes she has written. Her problem was that learners have not achieved the ‘competencies’ in sewing skills. I instructed her to record her reflections continuously throughout the period she teaches in her classroom. After couple of weeks her notes were reviewed and found out that her teaching style was not effective and this had an adverse effect on developing the learners competencies’. When she teaches different types of sewing techniques, the lecture method and the demonstration were the two teaching methods she had used. Following is the English translation of the Tamil note, describing a problem she faced while teaching .

“There were six, grade nine and ten classes stuffed to a ‘100X20’ hall. The classes were not separated by a wall. When a teacher is absent in one of these classes the students play havoc disturbing all the classes in the hall. Very often when I was teaching in Grade 10 A, the teachers were absent in the adjoining classes. I had to teach amidst the unbearable noise although I could demonstrate a sewing work on a piece of cloth it is doubtful whether the students who sit in fringe areas of the class room could hear or see me...”

After completing a cycle of discussion with her over this issue she mouthed that *“If I take the students under a shady tree and teach the students moving closer to each student showing how to do the sewing sometimes they would be able to achieve the expected competency level”*.

Following day she started to experiment her new method and tried to achieve success in her teaching. Another teacher attempted to tame an aggressive child in the classroom in order to involve the child in teaching learning process. It was evident from her earlier reflection notes that she had used physical punishments and threatening. However her further writings suggest the method was not successful. Therefore she has changed her behavioral pattern when dealing with the student and it had been proved a successful method. In this way, I discussed the steps of the researches which should be amended with the agreement of the researchers they were amended appropriately.

Accordingly the researchers started their researches in such a way that they solve the most prominent problem they face. Writing their journals daily, and reviewing them continuously they continued the right practices and rectified their wrong practices. They proceeded in the path, receiving guidance of the teacher centre whenever they needed it.

Although the programme started with 40 researchers, only 26 researchers submitted the research proposal and finished their researches officially. Variety of personal reasons, transfers, changing the subject they teach and some insoluble problems they faced while engaging in the researches were the reasons for abandoning their researches. However the rest 26 researchers continued the practice.

There was a teacher, as a result of insoluble issue stepped away from the practice. She initiated her research to make a student of Grade 10, who was regular absentee, attend the class. When interviewing her it was discovered that, rising number of other problems in her attempt to solve the problem caused her to abort the practice. Although she could manage the issue with the students she couldn't deal with situations beyond that level. During the time the child was absent to the class he used to do a small scale textile business at the fair with a partner. When the child returns to school the partner was annoyed and had forced him continue the business. Going to school again was a great lost to the family income the child too expressed his willingness to continue the business. Confronted with these challenges the researcher had aborted the research. She did not report for couple of weeks hereafter and had completely given up her effort. It was not possible to resurrect the practice. After six months time the team reduced to just 19 researchers but those who continued to the end had only to report.

When writing the report they were informed about the general content of the report didn't want to guide them to write it according to a specific format. They reported what they did during the research period at ease. Some researchers had a pre literature review and were benefitted by them. They added the list of the books they had reviewed. However only 15 of them could finish the report.

At least 350 students were directly benefitted due to these researchers except the researches launched on special education and library. Obviously the 13 schools where these 350 students were learning the students' educational achievements were improved. Two students from the special education unit were benefitted. In the library research at the teacher centre number of members increased from 212 to 267. The average value of daily users of the library increased from 3 persons to seven persons. DIVI coding system and five S system were applied. A regular user of the library had commented "Now it is very easy for me to find a book 'earlier it took such a long time, now I have enough time to read the papers, earlier the library was opened

only when a member visits but now the number of visiting members have been increased up to seven and it was opened all the time.”

A female teacher carried out a research on the subject “Drama”. She started the research to improve the competencies of that subject and was successful at the end. Finally she said “In vain I tried physical punishments while it could have been resolved very easily”. She turned out to be very sensitive in teaching this subject and emphasized the fact, If you want to teach Latin to John, first of all you must know about John. She knew very well about the JOHNES in that school later teaching became an easy task for her. Simultaneously the subject and the teacher became very popular in the school. Now “I teach at ease .I could understand any child with learning weaknesses therefore I could rectify that” she cited reminding me the theory of multiple intelligences” by Dr Howard Gardner.

The teacher who taught sewing said that a certain girl student complained to principal continuously about the difficulties of the subject. she didn’t see an alternative, was directed towards an AR. Once the research procedure was over teacher said “I was fed up with routine. I began to hate my profession. however AR experience was great. “Both the students and myself learned something”. All the 15 researcher had expressed their joyful statements. By hearing their responses I humbly felt a self-respect.

Reflection on intervention:

After compiling the reports, the 15 researchers were summoned to the center and their presentations were observed. All the researchers agreed that this practice helped them to upgrade their role as a teacher.They expressed their views on how to identify the children before teaching them and “using specific teaching methods a class room with punishment and insult could be turned into a happy and joyful classroom” they added. They said they gained much knowledge and experience by doing the researches than what they got from their three year teacher training course, a teacher researcher on the subject “Sinhala language” cited. Further they said they identified many new problems while doing the ARs s and wish to solve them in future practices. When some of them were engaging in this challenging work frequently they had thought of giving up and continue their usual routine as a teacher. However when their actions beget positive results. They had been motivated tremendously to continue the practice. One female teacher who changed her decision to abort the research later expressed her views ‘I think AR is also a practice that teaches us how to solve our problems”

When they were first requested to carry out researches they had a fear that this new practice be a burden, however when they were actually involved, they had experienced a great job satisfaction and seeing the problematic cases improve, becoming closely related to problematic children, they identified that ARs are effective practices for the teachers. All 15 reports were painstakingly typeset by the researchers, eventually blossomed as a 259 pages publication titled “Milder are the rays of Sun”

On my reflection of intervening, I had loads of experiences at the very first only fifteen completed the researches out of 38 teachers the reason for low participation was not their dislike for AR but some genuine external reasons. However all the 15 agreed that AR is the best approach in solving the classroom problems and they were highly motivated to continue research practices? These statements really encouraged me I was determined to continue the practice. I was happy that one of the researches was reported in Tamil and another was reported in English. I realized that even though the teachers not fully aware about ARs after realizing the tremendous effect of ARs they were all self-motivated. The main reason was that hitherto unresolved problems in their practices could be solved by this new approach. In order to empower the teachers in AR practices, it should be positioned as an important compulsory practice in the education system. By doing so, the process of AR would be strengthened in the system the immediate beneficiaries of it should be the student’s community of Sri Lanka. If the teacher population engages at least two ARs annually 320000 problems would be solved in the Education system of Sri Lanka.

With the resources available at the teacher centers the teacher population of the country could be trained to practice ARs. Accordingly the teacher centers should play an active role and a programme should be implemented soon. The involvement of the directors in charge of various subjects in curriculum and the In Service Advisors are necessary they should also be the researchers. At the initial stages it was considered as an ordinary activity performed by a teacher centre, later it gained tremendous recognition in the education circle. From the Zonal level to the National level the programme was sponsored.

- All the researchers were awarded certificates signed by the Zonal Director and sponsored by the Zonal education authority.
- A ceremony chaired by the Director teacher Education at the Ministry of Education and Provincial Director of Education organized by the Zonal education Office.

- Mrs Pushpa de Silva Director teacher Education stressed the importance of conducting this programme by a teacher centre in her speech.
- The Dept. of Research and Development, National Institute of Education (NIE) sponsored to print 15 copies of the books.
- The teacher researchers were invited for the annual dissemination session conducted by N I E to disseminate their researches
- Received the guidance and sponsorship of NIE to Nikaweratiya Teacher centre to conduct future research programmes

It is a great triumph to contribute in solving the problems in the system even at small scale and to initiate teachers in AR culture making all the participants professionally developed and spiritually transformed.

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MATHEMATICS – IT’S TASTY

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Abstract:

The unwillingness for the Mathematics subject and the difficulty of understanding mathematical concepts of 14 students was the problem for the action research. Since students were willingly participating in aesthetic subjects, I reflected on teaching Mathematics using aesthetic subjects to motivate them. Firstly, a test was administered to understand the level of achievement and weak areas. Then dramas, songs, *Virindu* and *Baliyas* were created on the weak areas of Mathematics (Dramas on compound numbers and prime numbers, parallelogram, fractions, loci - songs for classification of angles, L.C.M. , H.C.F , congruency of triangles and solids - *Virindu* for the lessons rhombus and square, angles and percentage). With the help of the class teacher aesthetic items were practised reducing the unwillingness to Mathematics. As a result of the intervention, daily attendance and achievement level of students were increased. Out of the 13 students, 8 could pass the G.C.E. (O.L.) examination.

Key words: Rhythmic mathematics, Aesthetic

Research background:

I was employed as a teacher on 15.10.1979 and was stationed as a Mathematics teacher at Bamunakotuwa Isipathana Madya Maha Vidyalaya of Nikaweratiya Education Zone in Sri Lanka. The aim of the college was gaining best results at G.C.E. (O.L.) and that responsibility was given to me. Implementing my aesthetic skills such as songs, dramas and dancing, I prepared my own method of teaching mathematics to the students. The techniques were appreciated by the students as well as the officials. Further O.L. mathematics results were upgraded by 30%. Therefore I thought to do further research and joined the research team who were guided by the Nikaweratiya Teacher Centre

After joining as an In Service Adviser to the Nikaweratiya education Zonal office in 2009, I went to the school giving priority for students so that I selected one Mahavidyalaya situated 6 m off Nikaweratiya town, Where there were 14 students going to sit for the General Certificate of Education (O.L.) examination, but according to the results of term tests they had received marks below 35%.

Term test marks of 1st term

Student	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Marks	19	15	04	21	22	13	24	22	16	16	18	18	25	18

I led a discussion with the subject teacher and according to him all these students were very lazy for this subject. As my opinion for helping these poor students I led a discussion with the principal too and following ideas were brought out by the subject teacher and the principal.

- Students were not interested in learning specially in mathematics.
- Parents were unaware of the necessity of the education.
- The school attendance of the student was irregular.
- This situation is same for all other subjects.

My second discussion was with the students and their views were as follows

- Mathematics is very difficult
- Difficult to understand what teacher says
- It is better if there is no a subject as mathematics
- I hate mathematics
- I am afraid of mathematics
- Mathematics is difficult to keep in mind
- I hate geometry

First, I called all the parents of the set of students for a meeting and following were the ideas expressed by the parents.

- Students do not engage in studies after school hours.
- They are away from home in most of the evenings.
- They are doing different tasks such as brick making, sand picking, etc. to earn money for their family.

Research Problem:

All the 14 students of grade 11 class were below the required level to reach a pass mark at General Certificate of Education (Ordinary Level) examination.

The Objectives:

- Making the students to understand mathematical concepts through aesthetic and literature approach.
- Empowering the subject teacher
- Making mathematics an interesting subject
- Making the pass rate of mathematics at G.C.E. (Ordinary Level) above 50%

Intervention:

First, I, with the help of the subject teacher a simple pre- test was planned. The answer scripts were further analyzed and found out that the basic mathematical concepts such as adding directed numbers, prime numbers, reading large numbers, least common multiple, highest common factor, and geometrical subject matter, were not understood by the students.

Marks of question paper

Student	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Marks	05	06	02	07	09	01	11	08	02	10	06	10	09	06

With the target of giving the basic concepts, I organized a workshop and "Multi – purpose mathematics board" was used throughout the day as a teaching aid. During the workshop, they gained the knowledge on following areas.

- Mathematics games
- Number representation by number frames
- Expressions building
- Number line
- directed numbers
- Geometrical plane figures
- Congruency and similarity
- Verification of 10 geometrical theorems
- Graphs
- Tessellation

- Mathematics songs.

As the second step, I composed songs, dramas, poems, Virindu, including mathematical subject matters on my own. I tried out many creations to consolidate the mathematical concepts and to create an interest towards mathematics. All these creations were given to the subject teacher to train the students of other parallel classes. I observed their responses and reactions too.

Next, I took all these grade eleven students under a shade of a tree at the school ground. I used a song to teach them the subject matter; Angles, using the examples of the surrounding.

What are the Angles?

Angles are every where

In the trees, in the branches

In the houses and temples

Angles are in different shapes

Some are below 90 degrees

They are called acute angles

Some are in 90 degrees – not low or high

They are called right angles

Angles those are greater than 90 degrees

but are less than 180 degrees are defined as obtuse angles

Angles those are equal to 180 degrees are defined as straight angles.

Angles those are greater than 180 degrees are defined as reflex angles.

A set of dancing items were planned and with the help of the grade 6 and 7 subject teachers another group of pupils were trained to perform the dancing items. Then I made the target group to see the performance and it helped immensely to consolidate the mathematical concepts. Then I organized a session with the help of the subject teacher to explain how to get least common multiple and highest common factor.

Least common multiple cub

Come soon, come and come

Cubs of multiple of two, come to the stage

Come come come come in a row

Cubs of multiple of three

Come here too

Come Come Come Come in a row

Find Find Find – Common multiple

.....
.....

Highest common factor

Doing many jokes – laughing so much

Coming now onto the stage

The facts of 18

1, 2, 3, 6, 9 and 18

The basic knowledge about solids is essential in learning measuring themes. Hence, the third step of my intervention plan was to impart knowledge related to solids. So I made eight solid items with the help of the teacher and students and let the students wear them on their heads by singing rhymes including the facts about their edges, vertices, and faces. A song was composed in order to help the students with identification of polygon, naming polygons according to the number of words, number of sides, and sum of interior angles. And also "treasure hunt" game was planned with the help of the subject teacher to evaluate the knowledge of solids and polygons.

Our family

I, who have 6 faces 8 vertices and 12 edges, am "Ganaka Rathna" known by anyone big or small

I who have two triangular faces and three rectangular faces

And also I have 9 edges and 6 vertices am " Prism wathi" known by everyone.

*I who have two faces one curved
and two edges*

am "Cylinder Menike" known by every one

I'm "Square pyramid" I have 8 edges, 5 vertices, base. But if my base is changed according to it, my faces, vertices and edges change.

The other members of my family

Who have different shapes faces, vertices, and edges.

Polygon song

Plane figures with more than two closed sides

We call them polygons

Polygons Polygons

Plane figure who closed by three sides

We call triangle

Sum of its angles are 180 degrees.

As the fourth step, I made triangle dance to solve the problems under the classification of triangles. There Grade 8 students also joined the grade 11 students. They danced rotationally showing triangle boards.

Triangle dance

Look at that triangle

Three sides are equal

So we call it equilateral triangle.

Look at that other triangle

of which two sides are equal.

So we call it isosceles triangle.

Look at that triangle of which all sides are different

We call it scalene triangle

After that, to teach the congruency triangle wearing couples of triangle to the students dancing event was shown.

Congruency song:

Triangle ABC meets the triangle DEF. The length of sides were measured by joining two see the ABC's three sides making equal to the DEF's three sides well so triangle ABC and DEF are congruency under s.s.s.

Meeting triangle MNO and triangle STU The length of sides value of angles were measure my joining two Theie's two sides and included angle are equal so triangle MNO and triangle STU are congruency under S.A.S.

Meeting triangle PQR to the triangle XYZ They search their sides and angles oh! their hypotenuse and a Side are equal so triangle PQR and triangle XYZ are congruency under....

After the above two dances, card game of selecting the couple of congruency triangles and card game for selecting triangles according to the sides and angles were done by students. *As fifth step* to teach adding the 'directed numbers' I prepaid a drama with comic dance naming 'Cat and Rat hatred'. Before drama practicing the drama the students were given some exercises about addition of directed numbers by the subject teacher. But students' answers were not successful. After that I divided the class into two groups. One group was named 'cat' as positive and the other group was named as 'rat' as negative and asked them to wear the mask of cat / rat.

Summary of the Drama

Three cats come to the stage

After that, other two cats come to the stage

Now all of them get together happily

Three cats (+3) two cats (+2) = five cats (+5)

And Also

Four rats come to the stage and other three rats get together in a friendly way. Four rats(-4) + three rats (-3) = seven rats (-7). They get down.

Next, five rats come to the stage. Next three cats come to the stage and catch three rats. Now only two rats are there on the stage. Five rats (-5) + three cats (+3) = two rats (-2)

After practicing this drama, I gave exercises to students about this subject matter. All the students were succeeded getting full marks.

In the step six, five questions about 'parallelogram' under the geometrical theme were asked from each student. But nobody was able to answer them. Questions asked were

- What is the parallelogram?
- What are the features of parallelogram?
- Are square and rectangle, Parallelograms? Mention the reason for your answer.
- Write two equal and different features of a square.

To teach this lesson the drama ('Why only he is called parallelogram?') produced by me was acted out by grade 10 students and grade 11 students were given the chance to see that. I added the Virindu to this drama to compare the features of square and rhombus.

As the 7th step, a test was administered to assess the ability of reading large numbers and the students failed. In order to teach this easily I composed a rhyme. And also a set of number boards were prepared for the students to wear and dance. The topic of the rhyme is 'It is very easy baby, isn't it?' It is pleasure to say that almost all the students were able to read the large numbers.

127533765302025

Oh! What's this number?

How do I say this?

Not a broblem chooty baby

Those are five little friends.

127	533	765	302	025
Trillion	Billion	Million	Thousand	unit

Unit chum sits at the end of the right side

Thousand chum sits in front of the unit chum

Million chum sits in front of the thousand chum

Billion chum sits in front of million chum

Trillion chum sits in front

Now let me read this number

from trillion chum

The eighth step was a set of 20 counting exercises under geometrical theorems. First the students were directed to answer questions. According to the results the majority was below the expected level. In order to improve them I produced a creation named "theorem baliya" (a type of prayer) All the students were allowed to see this many times. After that I gave them the same exercise to be answered. 100% of the students had gained the required knowledge.

Theorem baliya

May live long

Be success all the best wishes

Ill natures may be gone out

The sacred Euclid you may live long.

After separating two straight line

The vertically opposite angles become equal

The value of three angles of a triangle

Becomes 180^o always.

Under the number theme and sets and probability theme when answering the exercises the correct understanding is necessary about knowledge of prime and compound numbers. So for teaching it happily to the students I used the drama named "Prime or compound". After this exercise almost all of them were succeeded in getting full marks.

Student	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Marks (before)	00	03	01	02	00	04	00	02	04	01	03	02	04	05
Marks (after)	08	16	11	12	12	19	15	16	14	18	14	15	20	20

Results obtained from all the activities:

- The percentage of students over 35% according to the 2nd term test.

$$\frac{2}{14} \times 100 = 14\%$$

- The percentage over 35% of the marks of 3rd term test

$$\frac{8}{14} \times 100 = 57\%$$

Review of results:

The problems faced while doing the research

- I had to do the activities repeatedly due to the irregular school attendance of the students.
- The parents of the group of students were ignorant about the value of education.

- The family background was not favourable for the students to study (mothers were abroad and fathers were drunkard)
- A girl who was intrinsically motivated towards this programme was attended to the marriage life unbelievably
- No any aesthetic teacher was in the school for getting support in aesthetically supported mathematical items.

Experience I obtained from the research:

- I was able to attract the students to this subject that was unpleasant for them earlier.
- The students' rate of daily attendance to school was increased.
- I understood that understanding and minding the subject matter can be improved definitely by using interesting methods.
- I experienced a great pleasure by seeing how the students welcome me and my techniques very happily.
- I was able to change the traditional teaching method of the subject teacher.
- All the students of school were intrinsically motivated to learn through this method

Suggestions:

- Introducing the "multi-purpose mathematics board" through which about 142 mathematic subject matters can be taught at schools.
- As a very interesting teaching method this aesthetic and literature related method should be introduced to the teachers and the teachers should be guided and facilitated to do more innovative creations.

AN EVALUATION OF STUDENT ADMISSION SYSTEMS ON ACADEMIC ACHIEVEMENTS BY THE 5TH – YEAR STUDENTS IN DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS, FACULTY OF EDUCATION AND DEVELOPMENT SCIENCE, KASETSART UNIVERSITY, KAMPHAENG SAEN CAMPUS

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Abstract:

This study aimed to evaluate student admission systems on academic achievements by the 5th year students in Department of Physical Education and Sports, Faculty of Education and Development Science, Kasetsart University, Kamphaeng Saen Campus. The study population was, therefore, 41 5th – year students in Department of Physical Education and Sports, Faculty of Education and Development Science, Kasetsart University, Kamphaeng Saen Campus. The instruments consisted of the students' transcripts of academic records and their admission systems. Data were analyzed in terms of frequency, percentage, arithmetic mean and standard deviation and comparison among students' academic achievements according to admission systems was done through One - way ANOVA. The results revealed as follows: The majority of the students or 56.10 % were male. The majority of the students or 48.78 % entered through the Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus and the majority of the students or 48.78 % had average academic achievement of 2.51 – 2.99. When students' academic achievements as classified by their admission systems were shown from high to low respectively, they were as follows: 26.83 % of students who entered through the National System of Admission had average academic achievement of 3.00 – 3.50. 34.15 % of students who entered through the Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus had average academic achievement of 2.51 – 2.99 and 14.63 % of students in the same group had average academic achievement of 3.00 – 3.51. 14.63 % of students who entered through the Project of Excellent Athlete Admission by Kasetsart University, Kamphaeng Saen Campus had average academic achievement of 2.51 – 2.99 whereas 9.76 % of students who entered through the Project of Excellent Athlete

Admission by Kasetsart University, Bang Khen Campus had average academic achievement of 2.50 or below. Nevertheless, when comparison among students' academic achievements according to admission systems was done, there were no statistically significant differences.

Keywords: student admission systems, academic achievement

Introduction:

Development of student learning potential is the main focus of the Thai national management of education. If students are developed to their full potential as individuals are entitled, valuable human resources will be provided for national development in the future. According to the National Economic Plan No. 10, B.E. 2550-2554 (Office of National Economic and Social Development, 2549: online), it has pointed out the need to modify the focus of human resource development for the Thai society on morality and knowledgeability. Thus, Thai people should be developed to be ready in terms of body, intelligence, emotion and morality. They should also be able to keep up with changes leading to knowledge-based society. The aforementioned development aims at preparing children and young people to have beautiful minds for public affairs including basic skills and knowledge required for living their own lives. This will also contribute to the national sustainable development. Regarding the Thai national management of education in all level, one of the main factors that contribute to effective education is systematically the quality of student input; therefore, all of higher institutions place importance on this and specify student qualifications of admission accordingly to various courses of study. For the Department of Physical Education and Sports, Faculty of Education and Development Science, Kasetsart University, before academic year of 2008, it had admitted its students through the entrance examination by the Commission for Higher Education (CHE). However, since the academic year of 2008, its students were admitted National Student Admission for Higher Education, Project of Excellent Athlete Student Admission, Project of Good Students with Morality Promotion and Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus.

The selection process for admission in the department of physical education and sports has operated continuously for many years and already produced graduates to work in various fields of education and occupation. Therefore in response to educational quality assurance, it is more worthy to study and evaluate the Student Admission Systems as relative to Academic Achievement (Cumulative Grade Point Average--G.P.A.) among 5th – year students in

Department of Physical Education and Sports, Faculty of Education and Development Science, Kasetsart University, Kamphaeng Saen Campus (5th-yr PESs.) in order to find out factors related to the students' Admission Systems and Academic Achievement (Cumulative Grade Point Average--G.P.A.). This will be useful information for further efficiency development of the Student Admission Systems and for further quality development of students and graduates.

Objectives:

1. To study and evaluate the Student Admission Systems as relative to Academic Achievement (Cumulative Grade Point Average--G.P.A.) among 5th – year students in Department of Physical Education and Sports, Faculty of Education and Development Science, Kasetsart University, Kamphaeng Saen Campus (5th-yr PESs.).
2. To determine the students' Academic Achievement (Cumulative Grade Point Average--G.P.A.) from academic year 2008 to 2011 among the 5th-yr PESs.

Methodology:

Population

The study population was 41 5th – year students in Department of Physical Education and Sports, Faculty of Education and Development Science, Kasetsart University, Kamphaeng Saen Campus.

Tools

1. Transcripts of the 41 5th – year PE students
2. Student Admission Systems of the 41 5th – year PE students

Data Analysis

It was done through a computer program respectively as follows:

1. The data obtained from the students' transcripts of academic records and their admission systems were encoded.
2. The encoding was verified
3. The data was analyzed through a statistical computer program.

The Statistics Used to Analyze

Descriptive statistics were used to analyze in terms of percent, mean, standard deviation and test the statistical difference between the academic achievement of the students and their admission systems through One - way ANOVA) and pair difference were tested by Scheffe Method.

Results:

1. Most of the population of 41 PE students were male (**56.10 %**) entered through the Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus, **48.78%** and had Academic Achievement (Cumulative Grade Point Average--G.P.A.) from **2.51-** to **2.99 48.78%** as shown in Table 1

Table 1 Number and Percent of the Students according to Their Academic Achievement (Cumulative Grade Point Average--G.P.A.) and Student Admission Systems

)N=41)

Population Data	Number(person)	Percent
Gender		
1. Male	23	56.10
2. Female	18	43.90
Student Admission System		
1. National Student Admission for Higher Education	11	26.83
2. Project of Excellent Athlete Admission (KU.BKN.)	4	9.76
3. Project of Excellent Athlete Admission (KU.KPS.)	6	14.63
4. Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus (KU.KPS.)	20	48.78
Academic Achievement (Cumulative Grade Point Average--G.P.A.)		
1. G.P.A. 2.50 and below	4	9.76
2. G.P.A. 2.51-2.99	20	48.78
3. G.P.A. 3.00 – 3.50	17	41.46
4. G.P.A. 3.51 and over	0	0.00

2. Students' Academic Achievement (Cumulative Grade Point Average--G.P.A.) as according to Student Admission System

The results of students' Academic Achievement (Cumulative Grade Point Average--G.P.A.) were as follows:

1. Students from National Student Admission System were likely to have Academic Achievement (Cumulative Grade Point Average--G.P.A.) between 3.00 – 3.50 (26.83 %).

2. Students from Project of Excellent Athlete Admission KU.BKN. were likely to have Academic Achievement (Cumulative Grade Point Average--G.P.A.) below 2.50 (9.76 %).

3. Students from Project of Excellent Athlete Admission KU.KPS. were likely to have Academic Achievement (Cumulative Grade Point Average--G.P.A.) between 2.51-2.99 (14.63 %).

4. Students from Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus were likely to have Academic Achievement (Cumulative Grade Point Average--G.P.A.) between 2.51-2.99 (34.15 %) and between 3.00 – 3.50 (14.63 %) respectively as shown in Table 2.

Table 2 Percent and Number (in the bracket) of the Students according to Their Academic Achievement (Cumulative Grade Point Average--G.P.A.) and Student Admission Systems
(N=41)

	Student Admission Systems				
	National Student Admission Higher Education	Project of Excellent Athlete Admission(KU.BKN.)	Project of Excellent Athlete Admission (KU.KPS.)	Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus(KU.KPS.)	of
1. G.P.A. 2.50 and below	0.00 (0)	9.76 (4)	0.00 (0)	0.00 (0)	
2. G.P.A. 2.51-2.99	0.00 (0)	0.00 (0)	14.63 (6)	34.15 (14)	
3. G.P.A. 3.00 – 3.50	26.83 (11)	0.00 (0)	0.00 (0)	14.63 (6)	

4. G.P.A.	3.51	0.00	0.00	0.00	0.00
and above		(0)	(0)	(0)	(0)

3. Comparison between the students’ Academic Achievement (Cumulative Grade Point Average--G.P.A.) and their Student Admission System

The result of comparison between the students’ Academic Achievement (Cumulative Grade Point Average--G.P.A.) and their Student Admission System showed no differences of statistical significance.

Table 3 An analysis and Comparison between Students’ Academic Achievement (Cumulative Grade Point Average--G.P.A.) and Student Admission Systems.

)N=41)

Sources of Variance	df	SS	MS	F	Sig.
Between groups	3	0.128	0.043	0.376	0.771
Within groups	37	4.187	0.113		
Total	40	4.314			

* Significant Level at 0.05

4. Efficiency proportion between admission and graduation

According to the results, the Student Admission System which had the highest proportion (80.00%) was the Project of Excellent Athlete Admission KU.BKN.followed by the Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus (71.43 %), the National Student Admission System (68.75 %) and the Project of Excellent Athlete Admission KU.KPS.(60.00 %) respectively as shown in Table 4.

Table 4 Students’ Number and Percent in Admission and Graduation

Student Admission System	Students’ Number in Admission	Students’ Number in Graduation	Students’ Percent in Graduation
1. National Student Admission for Higher Education	16	11	68.75

Student Admission System	Students' Number in Admission	Students' Number in Graduation	Students' Percent in Graduation
2. Project of Excellent Athlete Admission KU.BKN	5	4	80.00
3. Project of Excellent Athlete Admission KU.KPS	10	6	60.00
4. Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus	28	20	71.43
Total	59	41	69.49

Discussion

1. Population Characteristics

According to the results that most of the population of 41 PE students were male (56.10 %); this may be due to the teaching nature of physical education which focuses on practice and drill. Those entered through the Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus, 48.78%; because this is the admission system which admits the most number of students. Finally those had Academic Achievement (Cumulative Grade Point Average--G.P.A.) from 2.51- to 2.99 (48.78%); this may be because the subjects which students have learned focusing on both theories and practices; so they are difficult to some extent.

2. Students' Academic Achievement (Cumulative Grade Point Average--G.P.A.) as according to the Student Admission Systems

According to the results, The results of students' Academic Achievement (Cumulative Grade Point Average--G.P.A.) were as follows: 1. Students from National Student Admission System were likely to have Academic Achievement (Cumulative Grade Point Average--G.P.A.) between 3.00 – 3.50 (26.83 %). 2. Students from Project of Excellent Athlete Admission KU.BKN. were likely to have Academic Achievement (Cumulative Grade Point Average--G.P.A.) below 2.50 (9.76 %). 3. Students from Project of Excellent Athlete Admission KU.KPS. were likely to have Academic Achievement (Cumulative Grade Point Average--G.P.A.) between 2.51-2.99 (14.63 %). and students from Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus were likely to have Academic Achievement (Cumulative Grade Point Average--G.P.A.) between 2.51-2.99 (34.15 %) and

between 3.00 – 3.50 (14.63 %) respectively. This may be because students' learning backgrounds of diverse subjects and different G.P.A.'s.

3. Comparison between the students' Academic Achievement (Cumulative Grade Point Average--G.P.A.) and their Student Admission System

The result of comparison between the students' Academic Achievement (Cumulative Grade Point Average--G.P.A.) and their Student Admission System showed no differences of statistical significance. This may be because students were completely provided with all skills according to the program objectives.

4. Efficiency proportion between admission and graduation

According to the results, the Student Admission System which had the highest proportion (80.00%) was the Project of Excellent Athlete Admission KU.BKN. followed by the Project of Educational Opportunity Promotion by Kasetsart University, Kamphaeng Saen Campus (71.43 %), the National Student Admission System (68.75 %) and the Project of Excellent Athlete Admission KU.KPS.(60.00 %) respectively. This may be because the admission number of those admission systems are different. The admission system which admits fewer students has more students to graduate. Thus, the efficiency proportion cannot be clearly compared.

Recommendations:

1. The recommendations from the study

1.1 The results of the study should be taken as a basis for determining student admission.

1.2 The background of the students should be take into account of student admission enrolled student. It will be beneficial to encourage the students' development of life, including physical, mental, emotional, social and intellectual and systematically learning.

2. Suggestions for further study

2.1 There should be a study of factors related to the evaluation of those people working in the Student Admission Systems.

2.2 It should be studied a population of more than one generation of students to obtain more information that could affect the systems.

2.3 The skills of teaching physical education students to develop leadership and to be internationally recognized should be further studied.

Acknowledgement:

Grateful and sincere thanks go to The study population was 41 5th – year students in Department of Physical Education and Sports, Faculty of Education and Development Science, Kasetsart University, Kamphaeng Saen Campus for their courtesy data to complete the research.

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SUSTAINING THE BILINGUAL EDUCATION POLICY EFFECTIVELY AT SCHOOL LEVEL

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Abstract

Main objective of bilingual education policy which replaced the English education in 2001 in Sri Lankan schools were social cohesion. English medium education created a gap between English speakers and non-English speakers and an alternative bilingual model was replaced as a remedial measure to inculcate cultural values and tolerant towards cultural diversity. The objective of the action research was to identify the effectiveness of theaforesaid concept and its related activities developed by the researcher at grades 6-8 in a selected school in a rural area. Intervention strategies developed were student centered learning activities, ICT assisted learning sessions, English language and cultural development programs and exposure to foreign cultures through skype etc. The effectiveness of implemented strategies was assessed using focus group discussions with parents, questionnaires for students and interviews with teachers. As a result of the intervention the bilingual stream is continued in the school from 2013 up to date with the increase of the number of the students from 3 to 23.

Key words: Bilingual education, Social cohesion, Educational policy

Introduction:

I was appointed as an English language teacher under the Ministry of Education, Sri Lanka. My first appointment was to a school in a rural area of the country, Kobeigane in Kurunegala District. Bilingual education stream had just been started in the school at the beginning of the year 2012. There were 15 students in the grade 6 bilingual class. Almost all the students had started shifting to the monolingual stream by the end of the same year. Those 15 students started their grade 7 studies in the monolingual stream. In addition to the responsibility of teaching English in the school, I was assigned to take steps to start and to continue a new bilingual class for the students of grade 6 in 2013.

Research Background:

First I had to find out the background of the bilingual education in the school and the reasons for the collapse of the previous year process. Sinhala is the first language and English is the second language of all the students. Science, Mathematics and Health Science were being taught in English while all the other subjects were being taught in the first language; Sinhala. Several reasons had been caused the collapse of the bilingual education stream in the school. Those reasons were related to the school administration, the teachers, students and the parents. Mainly it was because of the lack of awareness they all had about the bilingual education.

Though the parents had just directed their children to the newly formed “English Medium” class of the school, it was not with a clear understanding they had taken the decision. They did not have an understanding about the possible obstacles or the process that would be in the stream. As the proficiency in English has become an aspect that gives a social value in the society, they had just sent their children to follow the “English medium education”.

From the side of school administration also there was a lack of effort in giving a clear understanding about the process. There was no clear understanding about the concept of bilingual education; instead of the idea of “English medium education” was there. There was no idea about the real purposes of the bilingual education. In short the idea almost all the relevant parties were having was not about the bilingual education but about the English medium education which caused a huge gap and many other problems among people.

Through the teacher centre of Nikaweratiya Education Zone, I got the opportunity to participate in several awareness workshops with regard to the bilingual education conducted by the Ministry of Education. As a result of that I myself could get a clear understanding about the bilingual education stream and it guided me to implement the newly started process successfully and continuously in the school. It was through that I could learn that the bilingual education is a very good tool in creating a better society and in its real objective also it was about creating social cohesion.

The objectives of the research:

- To continue the bilingual education in the school from grade 6 to grade 13.
- Inculcating the cultural values in the bilingual students according to the primary objective of the national amity school project.

- Promoting the bilingual education among all the students rather than the limited number of students who currently pursue it.

Research Methodology:

In finding the roots for the collapse of the previous year process, the teachers, the *1 shifters and their parents were informally interviewed. Often the answer received was related to the students' performance levels at the term tests. What the students said was "it's very difficult to learn the subjects in English and we do not understand".

The parents seeing the mark level of their children compared to the children of monolingual stream started to be afraid that their children are becoming weaker due to the new system. It was because they had no idea of the gradual development of a child's brain through the bilingual education. They just measured the knowledge through the marks comparing to the marks of monolingual students.

What the teachers said was that the students did not have enthusiasm in learning the subjects in English and they always complained about difficulties. (*1 shifters – The students who shifted into monolingual stream)

Intervention

Awareness programs for parents

The parents of new grade 6 were informed about the bilingual education in the very first parents meeting at the school.

The main reason for the collapse of the process previous year was the lack of awareness of the parents. Therefore the parents were informed about the advantages of following the bilingual education stream and the process. They were especially informed about the gradual development of the marks the students would obtain in the first and the second year in the bilingual stream of education.

The parents were given the understanding of the marks through the island results of the ordinary level examination held in the previous years.

“Bilingualism should be promoted by using English as the medium of instruction in selected subjects such as Mathematics, Science, Technology including Computer literacy, Social Science in secondary grades, year by year from Grade 6, depending on the availability of teachers. It is expected that students will reach an acceptable level of proficiency in English at the end of junior secondary education without jettisoning Sinhala and Tamil which will continue to be the medium of instruction in selected subjects.”

(NEC Report on the Proposals, 2003, p.116-117)

Awareness for the students

The students were made aware in the first sectional meeting of grade 6 and 7.

They were motivated to join in the bilingual education stream. The teachers were introduced and invited to join.

As the students who are in the bilingual education are often the students who performed well in the scholarship examination, they always expected their mark levels to be higher in the class. In order to prevent them feeling disappointed by receiving low marks in their first year of the secondary level, they were prepared to accept the marks they will receive at the term tests and motivated to improve little by little.

A separate class

A separate class was formed with the students who expressed their willingness to join in the bilingual stream. Though it was not the policy in the bilingual education stream to form a separate class apart from the monolingual stream that had to be done temporarily with the special permission of the principal. So that special language development and other activities could be done to keep up their motivation to learn English. Such steps were taken mainly to sustain bilingual education process in the school. The expected result could be achieved. Even today by 2015, the students who started bilingual stream of education in grade 6 in 2013 are successfully continuing in the same stream.

Approach to achieve the national goal

To achieve the national goal under the school amity project; social cohesion, the first requirement was to have the process; the bilingual education in the school. With the above mentioned efforts, currently the bilingual education stream is existing in the school. Then the

next step was to make it a successful one which goes with the national goal of forming bilingual education.

“Educators who see their role as adding a second language and cultural affiliation to students’ repertoires are likely to empower students more than those who see their role as replacing or subtracting students’ primary language and cultures in the process of assimilating them to the [culture of the target language second language] (Cummins 1989 p. 60)”

Making students aware

Bilingual students were always guided about the values the students should have as good learners. It was not to be a separate set of students from the others but to be humble and kind in living with others. Though these are the values to be with all the learners, it was a necessity to guide them specially as the system prevailed previously; the English medium education had enough evidences of creating negative effects in the society. This awareness was done both formally and informally.

Once in two weeks, all the students are gathered and have a general discussion about their studies for about 20- 30 minutes. . The time for these discussions is allocated from the special English class they have every Thursday. In these discussions the students are guided to be “good” students among the others and to be exemplary students. This is not just in the school but also at home, in the society too.

The discussions sometimes based on religious facts. It was to guide the students towards religious and cultural values. These discussions are led by a grade 13 exemplary student. The students were also guided for team building activities. As a preparation to live in the society with various persons, they were given the opportunity to mingle with different students in the same classes. Several team building sessions were conducted by getting the physical training instructor of the school as the resource person.

Students centered learning:

To sustain the bilingual education in the school it to was necessary to motivate the students to stay in the process. Therefore it was necessary to make the learning environment a pleasant one for them.

The simple experiments proved me the learning that the students are more encouraged to learn in a student centered classroom than in a teacher centered classroom. Taking students as facilitators was one approach in achieving this. Grade 7 and 8 students were given guidance as facilitators to work in the afternoon special classes with grade 6 students. It became more successful than expected. The newly trained “facilitators” were successful to handle the class nearly for 2 hours.

“Today is a day I feel so blessed. Still I hear the echo of the voices of my students. As I had to attend in the staff meeting after school, I gave the responsibility of the class to grade 7 and 8 students until I go there. But the staff meeting was prolonged for the time than expected. Though I was desperate thinking that the students will even disturb the staff meeting, I could not believe when I started to hear the students practicing the songs very nicely.....”

An extract from my journal

Guiding the students to do small group presentations on their findings on various facts was another step taken to make the students autonomous. It supported them to find information by themselves without depending on the teacher.

Group presentations on reading books

Special holiday sessions for all the bilingual students

A special holiday sessions are conducted for all the bilingual students ones in three months and overall idea of their learning is inculcated in them in these sessions. These sessions are conducted in workshop level. Each group of students is given the responsibility to select one of the all learning aspects of the whole term and to prepare for a presentation; a teaching learning situation. This is on one hand the revision of the entire term while it is expected to motivate the students to be autonomous learners.

For example, one group do the presentation on the values and virtues they learned during the past three months while another group do a presentation on a language aspect they learned.

Parent – teacher relationship

Whether it is bilingual education or monolingual education, having a very positive parent teacher relationship is necessary to sustain the success of the education. Considering the unsuccessful experience the school just had in the previous year about the bilingual education, it was very clear that making the parents well aware about the entire process was a necessity to

sustain this in the school, especially in this rural area. As the parents were not aware on the process, they wanted their children to shift to the monolingual stream. Taking it as a lesson learnt, the parents were more and more encouraged to have a close relationship with the school. In addition to the regular visits of the parents, the parents of the bilingual students were invited for several parents – teachers meetings often.

“New report card”- In addition to the report card provided by the school in the end of each school term, the parents were also sent a letter by the class teacher in the end of the school term together with the report card. The letter contained the progress of the student throughout the school term. They mainly mentioned the good qualities and the positive behaviour of the child. It was written according to the observations done by the teacher on each individual student. This was practiced as an effort to make the parents aware that the objective of the bilingual education that their children pursue is also to make a good person.

Cultural Exchanging programs

The problem the English medium education had was the gap it created among the people. When it replaced the bilingual education, it was expected the bilingual students to reduce that gap and to support the social integrity. For that they should know and understand different cultures in the world and then only they can respect the values of each religions and cultures. As a step towards this, the students were guided to involve in a series of cultural exchanging activities. The outer appearance of the process was a skype conversation with a foreigner once or twice in a month. According to the different time zones of the world, the tie allocated for these sessions change. Sometimes the normal English periods have to be taken with the permission of the school management.

On one hand this was a mean to improve the English language skills of the students as it was in English the students have to communicate with the foreigners. On the other hand, this was an opportunity for the students to learn about different cultures in the world. For example, the students were very curious about the turban the India person was wearing and they started to ask questions about that. Though the students are not going to be fully aware about the cultures through these efforts, the expectation is to give them guidance to a certain extent and it is expected to make them think of different cultures and religions that are grown simultaneously with them.

The next step of the same process of cultural exchanging program is going to be the discussion with the students of a Tanzanian school. The students will get the opportunity to have friends from Tanzania and they will continue their regular meetings through the internet. The language lab and the ICT unit in the school will be used as the resources in this.

Results:

- The effectiveness of implemented strategies was assessed using focus group discussions with parents, questionnaires for students and interviews with teachers. As a result of the intervention, the bilingual education is continued in the school for three years by today. – Since 2013 to up to date.
- The number of the students is also being increased each year. While the grade 8 has three bilingual students, there are 7 students in grade 7. There are 13 bilingual students in the grade 6 class and the increase of the number of the bilingual students is expected next year.
- The awareness of the parents about the bilingual education is comparatively higher than the previous years and they have the confident that their children could achieve the expected level of standards gradually. Their interest in continuing their children in the bilingual stream is an evident for this.
- The highest of the total marks of the term test has been scored by a bilingual student in grade 8 class and the other bilingual students are also among the first 10 students of the entire grade 8 section. The situation with regard to the grade 7 is also the same. There is only a small gap between the mark level of the first place of the class and the bilingual students.

Suggestions through findings

- Making the entire school community; teachers, parents and students aware on the bilingual education is a necessity on sustaining the bilingual education.
- There should be a strong coordination for the success of the bilingual education stream in a rural school, so that the teachers, parents and the students can discuss about the matters arise always.

- Various techniques should be used to keep up the motivation of the students toward the bilingual education, so that they find it not difficult to face the possible challenges of the process.
- All the teachers; even those who teach the subjects in first language should be well aware about the process towards the national goal of the bilingual education. So that they too can contribute in guiding the students towards that. This is a necessity because the teachers also can cause the replacement of the outcomes of the bilingual education with the outcomes of the English medium education.

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DOES HIGH SCHOOL SCIENCE CURRICULUM PROMOTE PEACE & HARMONY?

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Abstract

In the current social and political context of the world there is need and importance to impart peace, harmony, compassion and humility values through school science education. In India the 'National Curriculum Framework (NCF) – 2005' and position paper on 'Education for Peace' addresses the issue of equipping students with the values, attitudes and skills required to live in harmony as responsible citizens with the goal of education for peace. Science education has a crucial role to play in promoting values of peace based on equal respect for self and others. The 'National Curriculum Framework for Teacher Education (NCFTE) – 2010' also focused on the UNESCO's five pillars of education for sustainable development and the teacher to equip to understand these issues and incorporate them in their teaching.

The school science syllabus discussed issues like, global warming, nuclear weapons, nuclear energy, biotechnology, and many environmental issues such as, pollutions, ozone depletion, natural resources, dispute of dam among states and with neighbouring countries, etc. There is need for teachers to be equipped to understand these issues and incorporate in their classroom teaching. A balance has to be struck between the knowledge and skills that science and technology bring and the values and insights associated with ethics and religion. During preparation of teacher's handbook for science of class 9th and 10th under Rashtriya Madhyamik Shiksha Abhiyan (RMSA) the various science concepts related to promote peace, harmony, democratic way of life, constitutional values of equality, justice, liberty, fraternity and secularism, and caring values are highlighted.

The present paper highlights the concerns of peace & harmony in 9th & 10th class science textbooks of India. Also it will look at ways in which school science education for peace and harmony are used in other countries to make the students responsible global citizens.

Keywords: School Science Education, NCF2005, NCFTE 2010, Textbook Analysis, Peace, Harmony

Introduction

‘Education is the most powerful weapon which you can use to change the world’. It’s a famous quote of Nelson Mandela, which explain that, education has an important role to play in fostering peace & harmony in the world community. The term ‘peace’ is a state of harmony characterized by lack of violent conflict and the freedom from the fear of violence and term ‘harmony’ used for a relationship in which various components exist together without destroying one another. Graca Machel’s (1996) study highlighted the importance of education in promoting peace, social justice, respect for human rights and the acceptance of responsibility. At school level, children need to learn skills of negotiation, problem solving, critical thinking and communication that will enable them to resolve conflicts without resorting to violence. Global Harmony Association (GHA) is an international NGO also working for the global change to harmony, to construct schools and academies of harmonious education, the establishment of centers of psychological and economic harmonization, to organize harmony contests and festivals worldwide, tendency of global harmonization, to enhance culture of harmonious peace, to create the world harmony/peace academies & the International peace movement for peace from global harmony (GHA, 2009). This global harmonization will allow mankind to enter the nuclear zero conception of Martin Luther King’s great and inspiring idea: “We must shift the arms race into a peace race.” Since 1901, Norwegian Nobel Committee has been awarded annually ‘Nobel Peace Prize’ (with some exceptions) to those who have ‘done the most or the best work for fraternity between nations, for the abolition or reduction of standing armies and for the holding and promotion of peace congresses’. The Indira Gandhi Memorial Trust awarded every year ‘Indira Gandhi Prize for Peace’ to individuals or organizations in recognition of creative efforts toward promoting international peace, development and a new international economic order; ensuring that scientific discoveries are used for the larger good of humanity, and enlarging the scope of freedom.

In UNICEF (2011), peace education is defined as “the process of promoting the knowledge, skills, attitudes and values needed to bring about behaviour changes that will enable children, youth and adults to prevent conflict and violence both overt and structural; to resolve conflicts peacefully and to create conditions conducive to peace, whether at an intrapersonal, interpersonal, intergroup, national or international”. Same approach was suggested by the Education for All (EFA) Dakar Framework of Action (2000), which calls for the promotion of an education that helps children and young people to acquire skills such as the prevention and

peaceful resolution of conflict as well as social and ethical values. Hicks (1985) argued that, peace education encompasses the presence of social, economic and political justice which is essential to the notion of 'positive peace'. UNESCO (1996) released the Delors report which presented a vision of education based on four pillars of learning: learning to live together, learning to know, learning to do and learning to be. The report highlighted that the survival of humanity is highly dependent on learning how to live together. Education for Sustainable Development supports five fundamental types of learning to provide quality education and foster sustainable human development, namely: Learning to know; Learning to be; Learning to live together; Learning to do; Learning to transform oneself and society. After publication of the 'Learning: The Treasure Within' (Delors report) the world has changed in many ways, but a lot more needs to be done to translate the idealistic vision of education into actions on the ground.

In the 21st century there is increasing demand for education to balance the focus on economic development with social responsibility and citizenship. The education systems in many countries rely on examinations and tests to measure learning outcomes and accomplishments. Through such assessment tools and technologies, governments are able to evaluate and benchmark the quality of their education systems, and to review and reform them accordingly to meet their needs. While grades and degrees received are important indicators, policy makers, educators, parents and the general public do recognize the importance of the non-cognitive aspects of learning, such as values, ethics, social responsibility and civic engagement. Peace provides an integrating principle for the value-orientation of education. The 'Position Paper on *Education for peace*' (2006) are put into practice, values-oriented education will indeed occupy centre stage. Peace is education for life, not merely training for a livelihood but it equips individuals with the values, skills and attitudes, they need to be wholesome persons who live in harmony with themselves and others and are responsible citizens is the goal of education for peace.

The Constitution of India is committed to preserve, promote and defend the secular, pluralistic, socialist and democratic values. But nowadays unfortunately the polity of the country, pursued power politics of hate and misinformation campaign for electoral gains, resulting in divisive politics of setting one community against the others. Communal disharmony and conflicts are fuelled by fear, suspicion and hatred (Udayakumar, 2009). It depends on local conditions whether the division expresses itself along religious, economic, political, caste or color lines.

Actually humanism, love and compassion are the core values of all religions and hatred and violence are travesty of religions. Promotion of Indian identity through the processes of creating multi-cultural, multi-social and multi-sectoral group will smoothen and cover other divisive identities. Thus, in our country, education has to play significant role of infusing social, emotional and civic learning into existing curriculum and co-curricular activities (Zutshi, 2002). The school education should address the prevention and resolving of all forms of conflict and violence, whether overt or structural, from the interpersonal level to the societal and global level.

Science Literacy: Now we realized that educational opportunities depend on literacy because it is essential for eradicating poverty, reducing child mortality, curbing population growth, achieving gender equality and ensuring sustainable development, peace and democracy. Similarly sustainability in developing nations depend on scientific knowledge. Scientific literacy is a tool of personal empowerment, enhancement of scientific temperament and attitude and a means for social and human development. Science literacy at the citizen's level in developing countries is essential for the development of sustainability and for the protection and conservation of irreplaceable global resources. Most of the current crisis among various societies and nations are related with environmental issues, which disturb peace and harmony. So an environmentally aware society can make the right decisions about the environment and support their leader's efforts towards sustainability. Many developing countries are mired in internal political, social and economical struggles, on environmental deterioration.

In many developed countries, there is broad access of scientific information which is the key for people to understand, participate and respond to the challenges that development poses to civilization. In developed countries understanding among the people of issues such as global warming, loss of biodiversity, evolution, implications of genetic research, and many other topics are much better than developing countries. Due to more scientific literacy in developed country their personal involvement in these issues is more. To create more scientific literacy among citizens in developing countries the citizens access reliable and current scientific information in their native language and at their level of understanding. So in developing countries scientists and educators has to publish accurate, relevant and up-to-date information on most issues related of science, environment, health, etc. which create conflicts among society for layman.

Science Education

Science education plays an important role with respect to development of scientific literacy and temperament among learners. This is necessary as scientific and technological breakthroughs should be used for elevating quality of personal and social life. In India, science is a compulsory subject for the first ten years of schooling. The emphasis of science at secondary level is to: i) make learners capable of taking part in activities related to areas of food, agriculture, health, environmental protection, energy, wild life management, social forestry, industry and shelter; and ii) develop a scientific temper and attitude to live more effectively as a responsible citizen. Considering the potential of science education, to develop some special abilities and values among the students, national educational policies tried to strengthen science education in schools. According to the American Association for the Advancement of Science (AAAS, 1989), science education needs to prepare citizens to deal with global, national and local problems such as population growth, loss of resources and the effects of pollution, disease & social strife'. "In a progressive forward-looking society, science can play a truly liberating role, helping people out of the vicious circle of poverty, ignorance and superstition. In a democratic political framework, the possible aberrations and misuse of science can be checked by the people themselves. Science, tempered with wisdom, is the surest and the only way to human welfare. This conviction provides the basic rationale for science education", its quote from Position Paper on Teaching of Science (2010), illuminate significance of science education.

The main purpose of science and technology teaching in general education up to secondary stage is to familiarise the students with various dimensions of scientific and technological literacy. Learning of science in schools augments the spirit of enquiry, creativity and objectivity along with aesthetic sensibility. At the secondary stage the focus of Science and Technology learning is on scientific attitude and skill development apart from understanding of concepts. Science must cut across traditional subject boundaries and open itself to issues such as gender, culture, language, poverty, impairment, future occupation and environment and observance of small family norms (India Science Report, 2005). Science, Technology & Society and environment would coalesce in teaching and learning of science. Practical activities should have relevance for future life through acquisition of skills and values.

NCF-2005 emphasises that, the quality in education includes concern for quality of life in all its dimensions. This is why a concern for peace, protection of the environment and

predisposition towards social change must be viewed as core components of quality, not only as value premises.

The National Steering Committee of NCF 2005 insisted on need of changing the process and aims of science education. The syllabus developed by Central and State Board in India as per guidelines of NCF-2005 for science at secondary stage has emphasized on the understanding of the relationship between nature and matter on scientific basic and appreciate quality of life and to develop a sense of belongingness to the environment (physical and social, natural and man-made, local and global) and appreciate the issues at the interface of science, technology and society. “India has always worked for peace and understanding between nations, treating the whole world as one family. True to this hoary tradition, education has to strengthen this world-view and motivate the younger generations for international cooperation and peaceful co-existence” (NPE, 1986).

Study of science help learners to develop capabilities such as, thinking scientifically, giving priorities to the values, striving for developing technologies for living with dignity and equality, and respect democratic way of life. Apart from the acquisition of knowledge, science learning also fosters the development of scientific attitude, interest and skills and values such as peace & harmony. According to National Focus Group on Teaching of Science (NCERT, 2006), at the school level the students should be engaged in learning science as a composite discipline, in working with hands and in activities and analysis on issues surrounding environment and health. Science education at the school level needs to be linked to “real-world” situations to have relevance to societal issues. Science teacher will have to develop those values and attitudes which are essential for scientific inquiry and underlying all rational thoughts among students. The Biological Science Curriculum Study (1993), specifically described the biological qualities of a person - a biologically literate person - who should be able to demonstrate some specific characteristics: He/she should be capable of scientific inquiry, biological diversity and cultural diversity and other issues with the right attitude, biology and technology on social impact of biology on the important role that individuals have the right attitudes and values. He/she also should be able to put forward different phenomena of nature, question with creative thinking; know how to properly use science and technology; and biology-related issues to make personal or social decision-making; be able to apply knowledge to solve real-world social practical problems.

We are living in an age of unimagined levels of violence with uncountable reasons. In our day to day life we are experiencing that people are forgetting human values. For this reason peace and welfare aspects are facing new challenges. It is believed that war and violence occur due to unresolved conflicts. Learning to live with and in peace is emerging as a premise of peace education. Nowadays peace education programs are gaining popularity across the world and increasingly recognizing the importance of such education.

Teacher Handbook: The teacher handbooks for class 9th and 10th were prepared for various subjects under Rashtriya Madhyamik Shiksha Abhiyan (RMSA). The focus of these science teacher handbooks is on pedagogy, nature of science, scientific method, how to deal various concepts, life skills, foundational values, and social values of science teaching. During preparation of science teacher handbook emphasis was given on the various science concepts related to promote peace, harmony, democratic way of life, constitutional values of equality, justice, liberty, fraternity and secularism, and caring values apart from effective teaching and learning approaches.

Following concepts from class 9 & 10th science textbooks were identified and highlighted where teacher can explain/discuss/impart the social values, peace and harmony among the students:

i) **Concept of Matter, Atom, Molecules and Elements:** Matter is everything around us. Atoms and molecules are all composed of matter. We all are the part of it. Teacher can use the Hitopadesha, 'Vasudhaiva Kutumbakam' which is a philosophy that tries to foster an understanding that the whole of humanity is one family. Vasudha means the earth, Eva means emphasizing and Kutumbakam means a family. Nowadays many disputes and tensions which are related with distribution of natural resources, elements, natural oil, coal, etc. can be resolved peacefully or by national and international levels of agreement. There is need to share all natural resources equally among the people, so it will not disturb peace and harmony in the country.

ii) **Inside the Atom:** The atom is the basic unit of matter. Teacher can explain the contribution of world scientists for understanding and use of atom for humankind. The most common method of power production today is nuclear fission. Atomic energy is harnessed extensively in society for peaceful uses such as electricity production, propulsion, medical diagnosis and

treatment of cancers. Radiation can also be used positively in agriculture where it is utilized in the preservation of foodstuffs to kill dangerous microbes in exported produce.

iii) **The unit of life:** All earth organisms are made Life around you: The study of biodiversity involves elements of natural history, ecology, and unity in diversity principle. Similarly students have to recognize the social value of cultural diversity. The phrase ‘cultural diversity’ can also refer to having different cultures and respecting each other's differences. Benchmarks for Science Literacy (1994) suggest that, at school level, students should explore how various organisms satisfy their needs in the environments in which they are typically found. Cell is structural and functional unit of life. Students can understand that all living organisms are made of cell.

iv) **Health & Hygiene:** This topic includes information about various diseases, prevention method, and community health. Students learn about how to prevent illness, epidemic disease and how to develop positive health attitude. Students also learn correct and thorough knowledge of health and important of various organization such as, World Health Organization, Red Cross Society and UNICEF in the community hygiene role.

v) **Quality of Food:** Students are now recognizing that due to increasing human population, at present topping seven billion people, food scarcity, hunger problem in some part of the world is the reason of tension and agitation among the community. This food problem disturbs the peace and harmony in the country and may create war like situation. More recently, in Sudan, two million people died, mostly of hunger, during the civil war there. In Somalia, tens of thousands of people have starved to death and the World Food Program had to suspend its operations after many of its aid workers were killed. In Ethiopia and Sudan, where, people are often starving, the East Africa food crisis disturbs the peace. From this concept students have to learn that, for now and in the future, food appears to be an even more important force in the conflicts our planet will have to endure. The pressure on the world’s food is resolving by using various agricultural techniques, hybrid seed, and various revolutions such as green revolution, white and blue revolution which plays significant role in bumper crop production and food resources.

vi) **Energy:** **Many aspects of our world today are shaped by the development of energy resources and technologies.** Teacher has to explain that, there has been an enormous increase in the global demand for energy in recent years as a result of industrial development and population growth to students. The demand for energy, especially from liquid fuels, and limits on the rate of fuel production has created such a bottleneck leading to the current energy crisis.

Fossil fuel resources in the Middle East, for instance, were the most important objective and focus for the major countries involved in First World War. Students have to understand many global initiatives that are working towards resolving the energy crisis. They also have to learn about initiatives in solar energy, use of atomic energy, proper use of thermal energy, inventions in wind energy, etc. Nowadays in many countries **obtaining low cost energy resources has become of the utmost importance.**

vii) Genetics & Biotechnology: The biotechnology has received its importance and significance in last two decades. An attention towards biotechnology is due to its unlimited potential to serve and benefit humanity. So far, biotechnology has touched our life in all aspects like our food, health and animals. In simple terms our life starts with biotechnologically developed tooth-paste, to driving our car based on biotechnologically developed fuels and we retire for the day with bed-side medicine either to keep us healthy or control chronic disease like diabetes to make our life better. Biotechnology promises to bring important changes in plants as well as livestock production. Students learn and understand; biotechnology's beneficial and destructive potential as well as gene therapy, human genome project, stem cell, cloning, genetically modified food, etc.

viii) Ecosystem & Ecofriendly Management: Both living and non-living things are considered part of an ecosystem. Student has to understand that our survival depends on the health of the ecosystem. We should not threaten ecosystems by producing waste, damaging habitats and removing too many species without giving the ecosystem time to naturally regenerate. The safe collection, storage and recycling of waste is vital for the protection of natural resources. Materials such as oil and paint are commonly used at construction sites and several measures are in place to prevent environmental pollution. Understanding the eco-friendly practices at school level is vital for maintain ecosystem. Besides the understanding of the management of hazardous waste, students also have to learn the environmentally friendly storage, acts & laws related to pollutions, and regular disposal of construction and domestic waste. The concept of conservation of environment and the concept of eco-friendly management give the ideas to students that we all have to save the nature and planet earth. The form of increased regulation and restriction on carbon emissions, the promotion of greener manufacturing and construction projects, the funding of research into hybrid technologies and more sustainable technologies are important initiatives taken by many nations for the conservation of nature.

Discussion

Science teacher's role is not simply to teach the basic facts and concepts of sciences in classroom but to prepare the future scientific literate citizen for nation. So these students should understand and appreciate the nature and values of science in future. Scientific literacy is different from following beliefs and superstitions which create tension among the society. To create scientifically literate students we need our elementary, middle, and high school teachers to be effective in teaching science as an inquiry-based process. School science should now address the basic questions of humankind. Basically science is trying to solve the mysteries of the universe and science is also playing significant role in development. Development is to bring the state of humankind to a better and humanely acceptable condition from what it is today.

Science has made great progress in recent times and through it, man has been able to conquer nature. Man has acquired control over land, air and water. Some people think that science has placed in the hands of the man extremely destructive weapons and they may ruin the world completely. Many destructive weapons like atom bombs, hydrogen bombs, poisonous gases, biological toxins or infectious agents, etc. are the products of science and all these weapons are deadly weapons. If such weapons are used in the war, then it is certain that the whole civilization will come to an end. An excess use of pesticide and insecticide are also creating problems with ecosystem by spoiling of our crops and daily nutrition. In society some people think that science is responsible for war and it may be true to some extent. But science has also contributed a lot towards world peace. Many scientific inventions have given us valuable instruments, vaccinations (like polio, small pox, tuberculosis, etc.), medicines, machines and tools, which ensured long and healthy life to the people of the world. Scientists, technologists, and engineers of different countries are working for such inventions, research and innovations. Such basic scientific research is a true peacemaker for humankind so developing countries have now begun to enjoy a better standard of living. Indirectly Science removes the causes of war and minimizes the issues such as poverty, disease, hunger, etc. The minor internal disturbances within a country which sometimes lead to big wars are controlled very quickly. Due to vast use of radio, television, cinema, internet, social media, newspapers and other information & communication tools, people can easily know the horrible effects of modern warfare and create opinions against war. Entire human population is today more conscious of necessity of world peace than ever before. All scientifically literate people are trying to use their knowledge of science for peaceful purposes. For the betterment of the humankind, development and peace

among community, science & technology is continuously contributing through new technology, new innovations and new medicines. Peace is about different nations working together toward a common goal, rather than fighting against each other.

During discussion on global warming, pollution, population problem, dam, rain harvesting and many other burning issues which students are studying at school level, gives ideas to the students that such issues should resolve peacefully; otherwise these issues can create tension among community or among neighbor country. All these issues are serious for all human beings to ponder and to resolve. Without obtaining a correct answer to this important questions, all attempts to bring in peace and harmony will only be superficial, transient and in the long run, elusive. During the last century, which happens to be an epoch of unprecedented developments through science and technology with tremendous human ingenuity, we also observed two world wars with their highly destructive consequences. Despite the peace-keeping efforts of the many nations and politico-economic measures to fight poverty and hunger at international level, the nations of the world have been gripped with cold war situations, racial and ethnic conflicts, terrorism and political destabilizations in several countries. During science teaching if teachers ask students to analyze the causes of such a malaise affecting severely the world fraternity, the students will definitely understand the dignity and equality of human beings, the fundamental human rights, national amity and international understanding. They also realize that factors such as intolerance, racial and ethnic hatred, extreme violence for ulterior motives, growing disparities between rich and poor, exploitation of nature and insecurities at various levels are bringing untold misery to human beings as well as the other species on this planet. In fact students are curious to know the answer about rapid degradation of our sustaining natural environment in a rather irreversible manner by various human activities, is posing a serious threat not only to global peace and harmony but to the very survival of mankind on Earth. Peace Nobel laureate Nelson Mandela quotes. 'If you want to make peace with your enemy, you have to work with your enemy. Then he becomes your partner.'

Due to rat race in education at the personal level students also have stress, anxiety, fear, insecurities, frustration and other such negativities, which are becoming rampant, snatching the internal peace and harmony. During discussion of the concept 'health and hygiene' at school level students should learn to ponder over it seriously and strive hard to find the way out. The appropriate education is the most important mechanism to deal with this dissatisfaction at its root. In this context, if we look at our school science education, one can realize that, with the

growth of science and technology in modern times, the science education has become largely 'skill-based' and 'information-centric'. The value dimension has been continuously languishing. We all basically want to live in peace and harmony and have been making continuous efforts in that direction (Pathak, 2012).

Conclusion: School education plays an important role in order to ensure peace and harmony in practice at various levels of our living viz. at the individual level, societal level and level of nature. Like social science at school level, pure science also plays a significant role in imparting the various ways of peace and harmony among students. Following changes at school level science education will definitely enhance the awareness about peace, harmony and other social values among the school students.

a) For effective peace education needs proper teacher education: Many science teachers simply explain the various science concepts without considering its social context and day to day life its relevance. During science teaching they do not highlight the social values emerged from these concepts. Hence, teacher education is perhaps the most crucial task to initiate the education in peace and harmony. Science teacher needs the clarity about the various science concepts in which various social values are integrated. So during teacher professional development program or teacher training/teacher workshop, they need guidance about how to deal/discuss such concepts in classroom, appropriate curricular model, content and pedagogical process, and suitable environment conducive to value inculcation. There is also necessity to develop a framework for teacher education for peace and harmony, provide clarity about the vision and valuable guidelines for taking the process of teacher education for peace and harmony forward (Mondal & Mete, 2014).

b) Use of different teaching approaches for peace education: The conventional rote learning method used in our schools cannot develop in the learners the values, attitudes and skills required for building the culture of peace (Falade et al., 2011). The participatory approach, infusion approach and other approaches can be used for the teaching of peace education concepts. These approaches will help learners to acquire and demonstrate the values and traits of peace. Similarly more activities have to generate the awareness, enthusiasm and clarity about peace and harmony through various aspects of science.

c) Need of integration of peace education with school subjects: In many countries a peace education concept has integrated into the school curriculum, example is Nigeria. In the NCF-2005,

education for peace is not envisaged as a separate subject that would further augment curriculum load, but a perspective from which all subjects are to be taught. An integrated approach to education for peace is the ideal, especially since peace is an integrative and all-embracing concept. It is important to remember that peace education is not an additional academic subject adding to the existing system (Naik & Behera, 2013). Instead, it is the general orientation that is to be introduced in the existing subjects, textbooks and classroom discourses (Learning the way of peace, 2001). In science syllabus there is a need of inclusion of salient societal concerns conducive for peace and harmony.

d) Peace Education through co-curricular activities: Nowadays schools celebrate science day, where they discuss Nobel Awardees, and biographies of scientists. During such activities, there is need to discuss or to give more information to students about their views or perceptions about their inventions and discoveries in the context of peace and harmony. Most of the famous scientists and Nobel laureates such as, Einstein, Nobel, Nelson Mandela, etc. also emphasized the social values and peace. Group discussion, games, posters, debate, essay, and elocution competition, etc. can be used by teachers in classroom for imparting social values, such as, peace and harmony, while teaching science subject. In group activity students can discuss: why there is need to fight for a ban on nuclear weapons and other weapons of mass destruction; what international agreements in this field is; what are the deadly effects of exposure to radioactivity on human beings etc. Knowledge about current affairs through television, newspapers, and creating exhibitions on many science issues are also useful for imparting social values among students. Quoting Dr. Maria Montessori, “Establishing lasting peace is the work of education” no doubt that school science education also plays a crucial role in promoting peace and harmony among students.

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REMEDIAL MEASURES TO OVERCOME CONFUSION BETWEEN TWO OF THE PAST TENSES IN FRENCH: *IMPARFAIT* AND *PASSÉ COMPOSÉ*

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Introduction:

This is an attempt to examine one of the most significant difficulties in French, which the native Sinhala students in Senior Secondary classes encounter. In French, when using the past tense, one must constantly choose between the *imparfait* and the *passé composé*. Generally speaking, the *imparfait* describes past situations, while the *passé composé* narrates specific events. However, it is an extremely common mistake among the French learners to confuse these two past tenses in French.

Objectives of the Study:

1. Identify the common errors made in choosing between *imparfait* and *passé composé*
2. Discover the reasons for making these errors
3. Examine ways to minimize these errors
4. Explore the effect of English medium education-background in mastering these tenses
5. Suggest remedial measures to overcome confusion between these two tenses.

Practical Importance of the Study:

This study involves the students of senior secondary section who are offering French as main subject in their Advanced Level examination. The correct usage of *passé composé* and *imparfait* is one of the highlights of mastering the French language, allowing the learner to narrate and describe in the past. Therefore, these students of French language can benefit from this study in identifying and minimizing their errors and thereby performing better in their exams. This confusion between the *passé composé* and the *imparfait* is troublesome not only for the students of the French as Foreign Language, but also for the teachers. Teachers of

French oft find that one of the most difficult areas in French grammar to teach is the distinction between the *passé composé* and the *imparfait*.

This study not only analyzes the common problems encountered by the French learners in their choice between the two tenses, but also suggests a plan to avoid these errors. Thus, this study carries a valid practical importance to the French language learners as well as teachers. It provides a better understanding of the syntactic pattern of the French language to its learners in the senior secondary classes and aids them to be skillful in selecting the correct tense.

Methodology :

The data for this survey were collected from randomly selected five government high schools in North-Western Province and Central Province. These schools comprise of three types of government schools in Sri Lanka: Girls' schools, Boys' schools and Mix schools. The students were given questionnaires to be completed individually as well as group-wise. Two cloze-exercises were selected based on the levels expected by their prescribed school textbooks¹². Moreover, the teachers were interviewed regarding the habitual mistakes of the pupils and problems in teaching the difference between the two tenses in question. The students of each school were assessed both under group work and individual performance.

Limitations and Difficulties:

There were difficulties in the selection of schools. Some of the schools in Kandy district possess a sufficient number of students, while schools in out-station hold a single Language class due to the less number of students available. In such cases, pair work was given instead of group work. Sometimes, when I went to a selected school for the research, only a few students were present in grade 13 classes. This is the main difficulty as it reappeared several times. Some schools have unexpectedly organized extra activities such as Shramadana, Dengue control campaign. It was thus not possible to carry out the research on the relevant days as planned. Therefore, I had to revisit.

In the recollected cloze-exercises some columns were kept unfinished or blank. These incomplete cloze-activities had to be given up to maintain the sequence of the survey. Moreover, the pupils in remote areas were less responsive to English as the medium of

¹² *Alter Ego 1* and *Alter Ego 2*- Hachette Edition

instruction. So, the instructions had to be re-explained in Sinhala for them to understand and complete the questionnaires. This was a time - consuming obstacle.

Special Technical Terms and Abbreviations Used in the Study

- L1 - First Language
- L2 – Second Language
- FFL – French as a Foreign Language
- ELT – English Language Teaching

Literature Review:

The confusion between the *passé composé* vs. the *imparfait* is so persisting that many have treated this as a fine topic for their researches. Thus, many linguists strived to fathom the basis for the perpetual muddling up of these two forms.

Among the numerous researches concerning the confusion between these two forms, the majority deals with the difficulties faced by the pupils who are Anglophone. It is hard to define a perfect translation for the two terms in English. Some reviews (Ayoun & Salaberry 2008¹³) consider that this explains the consistent uncertainty in the Anglophones when using them. From the point of view of learners, as some analysts suggest, (Andersen, 2002¹⁴; Bardovi-Harlig, 2000¹⁵) it is preferably easy to use one tense per verb. This preference ultimately leads to a disorder of their acquisition of the syntactic patterns in this second language. Andersen, R.W. (1989), in his works which dealt with these French verb-forms, points out that the *passé composé* tallies with the perfective tense while the *imparfait* corresponds to the imperfective tense in English. Vendler, Z. (1967) conversed about it in his essay Verbs and Times. As for the French-Sinhala published articles by Sri Lankans, Irosha Chandrasekere (2009) has discussed the difficulties encountered by Sinhala native speakers in learning French as a foreign language. There she has treated, however, the aspects of negation in Sinhala and French and not the confusion between these two verb-tense.

¹³ Ayoun, D., and M.R. Salaberry. (2008). Acquisition of English Tense-Aspect Morphology by Advanced French Instructed Learners. *Language Learning*, 58(3), pp 555-595.

¹⁴ Andersen, R. (2002). "The Dimensions of 'Pastness'". In *The L2 Acquisition of Tense–Aspect Morphology*, R. Salaberry and Y. Shirai (eds), pp 79–105. Amsterdam/Philadelphia, John Benjamins.

¹⁵ Bardovi-Harlig, K. & Bergström, A. (1996). Acquisition of tense and aspect in second language and foreign language learning: learner narratives in ESL and FFL. *The Canadian Modern Language Review*, 52(2), pp 309-330.

Methodology:

Sample Used

The sample of the present study was 50 students taking French for their A/L examination. However, the number of participants was brought down to 36 because of the missing data in many of the answer – sheets. The participants are from 05 schools covering three districts of the island: one school from Nuwara Eliya district, two schools from Kurunegala district and two schools from Kandy district were chosen. Among the selected schools, one Girls’ School and a Boys’ School from Kandy district were observed. There was one mixed school in Nuwara Eliya district. From Kurunegala district likewise, one Boys’ School and one Girls’ School were examined. In all these schools, advanced level Languages-stream is successfully functioning.

The Steps Conducted in the survey

Step 1

For the group activity, twelve 12 groups of three formed.

Group	Medium of Instruction in Ordinary Level	Number of groups
E	English	7
S	Sinhala	2
M	Mixed	3

The purpose of grouping the students as such was to analyse the influence of their English background in understanding French grammar. The students with pre-English medium education and those who were less exposed to English – based education reacted differently when the instructions and explanations were given in the English language.

Step 2

All the students were given the same activities and the same time-limit. For activity 1, respective groups were advised to do the exercises under the observation of the teacher.

Step 3

Students were asked to supply the answers in the provided cloze-worksheets. Corrections of these exercises were orally discussed in the class, after the students completed the activities during the allocated time.

The total number of verb occurrences in the two texts was 42. Each correct application of verb was marked with the number one and the incorrect answers were marked with the number zero¹⁶.

Instrument and procedure:

The subjects were given two cloze tasks – two texts in which the verbs were supplied in parentheses in the infinitive form and blanks were left immediately preceding the infinitive. The two cloze¹⁷ were selected from different introductory books of French and are representative of a typical task testing the usage of *passé composé* and *imparfait* by the students.

Analysis:

The objective of this chapter of the study is to analyze the performance of the students learning French in advanced level classes through the results of the findings.

Vendler's Classification

Vendler (1957)¹⁸, points out the disparity between tense and aspect which ultimately led to his four categories: status, activities, accomplishments, achievements¹⁹. The Vendler's classification utilizes three features to account for the four lexical aspects. These features are dynamicity, telicity, and punctuality. Dynamic verbs (activities, accomplishments, and

¹⁶ The table 1 in the appendix illustrates this procedure

¹⁷ The relevant cloze are attached in the Appendix

¹⁸ Vendler, Z. (1967). Verbs and times. In Z. Vendler, *Linguistics and philosophy* (pp. 97-121). Ithaca, NY: Cornell University Press. (Reprinted from *Philosophical Review*, 66 [1957], 143-160).

¹⁹ See footnote 36

achievements) are all distinguished from static verbs (states) by the feature of dynamicity, which the former possess and the latter do not.

Telic verbs (accomplishments and achievements) lead the verb action to a specific endpoint as opposed to atelic verbs (activities and states) which do not have such an endpoint. Finally, punctual verbs – achievements - refer to the beginning or the end of an action and are viewed as reduced to a point, completely deprived of duration, whereas all other verbs have a component of duration. The verbs in both individual and group exercises were analyzed based on this categorization by Vendler.

Analysis : Activity 1

The results indicate that most of the students seemed to be able to distinguish the status from non-status. In the given two cloze tasks, *être* is the most constantly appearing verb. It reoccurs seven (07) times out of the total number of forty (40) verbs. In the first activity, the six sentences containing the verb *être* signify the sentiments of people in the past, specifically qualities and emotions. Therefore, it often occurs as a static verb.

The verbs *ne pas aimer* and *goûter* are the next two verbs, which are correctly conjugated by the majority of the groups. The sentence comprising *ne pas aimer* presents a habit. It is highlighted by the temporal expression *toujours* (always). The two groups who have used *passé composé*, failed to recognize this.

Nine different groups answered with the correct forms of verbs *préférer*, *dire*, *frapper*, *casser* and *rentrer*. The verb *préférer* (to prefer), like *aimer* in these cloze, offers a habit and the correct form of the verb should be *imparfait*. The three groups, who have chosen *passé composé*, did not seem to identify the indication of the non-state-habit in the sentence.

Verbs like, *pousser*, *entrer*, *habiter*, *pouvoir*, and *monter* seem to confuse the students even more. The accurate answers were given by 08 groups in each situation. In this context, the mentioned verb first, *pousser* similarly indicates an instant attainment and there is neither continuation, nor is it a habitual routine. The correct form of the verb is thus, the *passé composé*. In this situation, in addition to the seven E groups, only one M group has managed to reply accurately.

The most difficult verb for the students in choosing between these two forms proved to be the verb *connaître* (to know). If conjugated in *passé composé*, the verb *connaître* contains the sense

of meeting something or someone for the first time. The *imparfait* gives an impression of state of knowing something or someone since quite a long time. The sentence containing the verb *connaitre* in the cloze reveals an encounter of the girl with an unknown house. In order to convey the meaning that it was the first time she came across that house the *passé composé* should be used.

Performance of the participants²⁰ shows that the E groups obtained the highest average mark. The second top marks were scored by the M groups, which contain students from both English and Sinhala media previous education. The third level of average marks is occupied by the S groups with students from Sinhala medium.

Analysis: Activity 2

In this individual task, there are no verbs that were correctly answered by all the 36 students²¹. The verb that was accurately conjugated by the majority was *être*. Thirty (30) participants were able to choose the suitable form of this verb, while six (06) students could not supply the right answer. The verb *être* in this context describes a state in the past: how his brother's face looked like. Therefore it requires the *imparfait* form of the verb, and the majority seemed to realize it.

The next highest number (27) of students were successful in accurately choosing the *imparfait* form of the verb *s'efforcer* (*to strive*). The conjunction *quand* (*when*) indicates that the previous action is already going on by the time the second action takes place. Despite this grammatical rule, necessitating the progressive form of the action, nine students have failed to select the *imparfait* form.

The verb *trembler* (*to tremble*) proved to be the next complicated verb for many students. Like some other verbs in cloze, it also occurs in both stative and non-stative forms equally. In the given text, the verb presents a physical description, a state of a boy who was emotionally moved. The verb should, thus, in the form of *imparfait*. Twenty students have provided the correct answers when sixteen have supplied the incorrect choice.

²⁰ See figure 2 in the Appendix

²¹ See table 2 in the Appendix

The last verb in the text has become even more intricate as it has confused twenty children in the survey. In this text, the verb *pleurer* (to cry) is in the continuous form. It sets the scene for the main action. In this situation, rather than the grammatical knowledge, the understanding of the situation is necessary in order to choose the correct form of the verb. Only sixteen students were able to 'read the meaning' behind the grammar of this sentence. The verb *renverser* (turn upside down) in the text has further confused the students. Out of the thirty-six students, only a half (fifteen) of the students managed to answer accurately, while the other half failed to select the correct answer. This action takes place as one event of a series of brief actions. The verb itself denotes a hasty act for which the *imparfait* form is impossible. Half of the students, who were unable to select the *passé composé*, missed to notice this.

The most confusing verb in the text is *lire* (to read) for only nine (09) students were capable of deciding on the correct form of the verb. In the context, *lire* indicates an ongoing action. In contrast to the previously discussed verb *renverser*, verb *lire* itself signifies a lingering act as it proceeds the adverb tranquilly.

Partially Correct Answers :

In addition to the confusion between *imparfait* and *passé composé*, a variety of errors were observed in the answers produced by the selected group of students for this research.

1. Errors in verb conjugations. Here the subject - verb agreement was disregarded.

Ex: - <i>Nous n'ont pas répondu</i>	(it should be <i>Nous n'avons pas répondu</i>)
- <i>Je s'efforçais</i>	(it should be <i>Je m'efforçais</i>)
2. Omission of auxiliary verb

Ex: <i>Elle entrée</i>	(instead of <i>elle est entrée</i>)
<i>Elle essayé</i>	(instead of <i>elle a essayé</i>)
3. Selection between the verbs *avoir* and *être* as the correct auxiliary verb.

Ex: <i>Elle a montée</i>	(it has to be <i>elle est monté</i>)
<i>Mon petit frère ... est pleuré</i>	(it has to be <i>mon petit frère ... a pleuré</i>)
4. Formation of the past participle of the verb

Ex : <i>demendu</i>	(in the place of <i>demadé</i>)
<i>Pouvu</i>	(in the place of <i>pu</i>)
5. Formation of negation.

Ex: <i>Elle n'a connu pas</i>	instead of <i>elle n'a pas connu</i>
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They have neglected that in the *passé composé*, the auxiliary takes the place of the verb and the past participle stands apart.

6. Double negation. Almost 90 % of the participants have paid no attention to this rule.

Ex: *Personne n'a pas répondu* (this should be *Personne n'a répondu*)

In comparison with the form *imparfait*, the form *passé composé* was remarkably less used. These findings indicate a certain tendency in the students to use *imparfait* form more often.

This inclination could be due to the fact that the *imparfait* form is relatively less complicated than *passé composé* in conjugations. Former researches have also proved a noticeable preference of the Anglophonic learners of French as a foreign language or Second language.²²

Findings and Suggestions:

According to the findings of this research project, the percentage of the correct responses was quite lower in individual activity than in the group activity. In the group activity, the total number of answers supplied by the twelve groups was 492 (four hundred and ninety-two). There were 61% correct answers and 39% were incorrect. In the individual task, there were 396 answers in total. The percentage of the correct answers is 53 %. (See figure 4)

In terms of overall development sequence, and concerning the individual performance, grade 12 students recognized the need to use the *passé composé* similarly to their peers in grade 13, but were less accurate. They demonstrated especial difficulties with the auxiliary verb, and relied heavily on the *imparfait*. Indeed, they indicated, at this point, awareness of the *passé composé* as a past tense form, as it is usually introduced well ahead of *imparfait*. Strange as it seems, they have mastered the *imparfait* conjugations quicker than previously learnt *passé composé* form.

On the whole, the use of *imparfait* was higher among the participants, while the use of *passé composé* was relatively low in both situations. One possible explanation is that the formation of the *passé composé* is more complex than that of *imparfait*. The former requires two types of auxiliary verbs taking different person and number forms, and different past participle forms involving the agreement of number in some cases. The *imparfait* appears to be formally 'learnable', while the *passé composé* is less so, due to its complexity. It may also be the case

²² Harley, B (1992 b) Patterns of Second Language Development in French Immersion, *Journal of French Language Studies*, V 2 ,pp 159-183

that a number of the *imparfait* items, most notably common stative verbs such as *être* and *avoir* were learned as lexical items.

Nevertheless, it was observed that for *passé composé* items, the more complicated form, there was a less consistent order of mastery of specific verb tenses by students in different groups. Essentially, factors such as exposure to other western languages (like English that bears a closer linguistic rapport with French) appear to have an effect when the task requires students to focus on language form. For the *imparfait* items, the less complex of the two, the order was very consistent and regular, however, and was more like an imitation of the already learnt formula.

Though not tested in this research, the learners' age of initial exposure to language and the total amount of such exposure also highly influence the acquisition of the language structure and syntax of a foreign language. This minimizes the errors they commit in grammar and allows them to do better judgments in choosing between the two tenses. Numerous psychological researches on the 'critical period' affirm this. (Krashen, 1978²³; Lenneberg, 1967²⁴; Penfield & Roberts, 1959²⁵).

Suggestions:

1. The exposure to the language at an early age

This research proves that, in general, students with previous exposure to English language perform better than those who have no such experience. As mentioned above, the psychological findings prove this hypothesis. (Lenneberg, 1967²⁶; Penfield & Roberts, 1959²⁷) This suggests that if exposed to the French language itself from earlier age, the possibility of well acquiring the language structure is high. This successfully happens in International Schools, but the

²³ Krashen, S. (1978) Adult second language acquisition and learning: a review of theory and practice. In R.Gingras (Ed.), *Second Language Acquisition and Foreign Language Teaching* (pp 1-26) Washington: Centre for Applied Linguistics.

²⁴ Lenneberg, E. (1967) *Biological Foundation of Language*. New York: Wiley and Sons

²⁵ Penfield, W. & Roberts, L. (1959). *Speech and Brain Mechanisms*. New York: Atheneum Press.

²⁶ See footnote 41

²⁷ See footnote 42

majority of students in government schools learn the French language once they select it as one of their Advanced Level subject. Though the syllabus contains these two tenses, the main target is the examination at the end of two year-course. This hardly leaves any room to linger on clarifying the confusion between these two particular tenses.

2. Constant practice of the language

Regular practice of the language automatically assures their accurate choice of the two tenses. Oral practice is crucial in learning a foreign language. This is rather absent in most cases as the students seem to be more keen on passing the written exam rather than acquiring the language effectively.

3. Recognizing the context through temporal remarks

Though most of the sentences contained time indicators as *always, suddenly, usually, abruptly, etc* which hints the correct tense, the students have often neglected them.

4. analytic teaching strategies in French lessons

Instead of introducing the *imparfait* as the continuous form, and the *passé composé* as the French equivalent of simple past in English, they could be introduced with their functional value with examples from different contexts. Moreover, integration of these tenses with personal experience of the students would allow them to judge the contexts by juxtaposing the two forms.

Thus, it is clear from the results of this study that a combination of analytic and experiential strategies are crucial if the students are to achieve mastery in these two tenses.

Appendix 1

Boucles d'Or [habite] 1. _____ dans une maison avec sa mère, dans une forêt en Floride. Elle [est] 2. _____ très gentille, mais elle [n'aime] 3. _____ pas travailler dans la maison ; elle [préfère] 4. _____ aller à la plage pour se bronzer. Un jour, elle [dit] 5. _____ à sa mère : « Ciao maman, je vais voir une copine. » Et elle [part] 6. _____.

Boucles d'Or [n'aime] 7. _____ pas toujours prendre le même chemin. Aujourd'hui, elle [essaie] 8. _____ un autre. Elle [arrive] 9. _____ devant une petite maison qu'elle ne [connaît] 10. _____

pas. « Tiens, peut-être qu'ils ont un fils de mon âge, » [dit-elle] 11. _____, et elle [frappe] 12. _____ à la porte. Personne ne [répond] 13. _____. Elle [pousse] 14. _____ la porte, et elle [entre] 15. _____.

Boucles d'Or [est] 16. _____ très curieuse, et elle [commence] 17. _____ à regarder toutes les belles choses dans la maison. Sur la table, il y [a] 18. _____ trois bols de céréales. Elle [goût] 19. _____ le premier : « Berk ! Des flocons d'avoine ! Trop biologique ! » Mais le deuxième : « Capitaine Crunch ! Trop sucré ! » Le troisième, [c'est] 20. _____ du muesli suisse, et elle le [mange] 21. _____.

Au sous-sol, il y [a] 22. _____ trois Stairmasters. Elle [essaie] 23. _____ le premier : « Trop difficile ! » Elle ne [peut] 24. _____ pas le faire marcher. Mais le deuxième [est] 25. _____ trop difficile aussi. Le troisième [est] 26. _____ si facile qu'elle [monter] 27. _____ dessus et elle [casser] 28. _____ la machine. « Ô là là ! » [dit] 29. _____ Boucles d'Or. Maintenant elle [est] 30. _____ très fatiguée et elle [se couche] 31. _____ sur un divan. Les trois ours [rentrent] 31. _____ vers quatre heures.

Appendix 2

Nous _____ (jouer) aux échecs depuis un bon moments, et je _____ (s'efforcer) de trouver comment mettre mon adversaire en difficulté, quand mon petit frère _____ (arriver) dans le salon, _____ (renverser) l'échiquier, pris d'une colère subite ! Quelle mouche l'avait piqué ? ma mère qui _____ (lire) tranquillement une recette de cuisine, _____ (faire) irruption dans le salon en entendant le fracas. le visage de mon frère _____ (être) blanc de rage, ses membres _____ (trembler) : il allait nous faire une crise de nerfs ! C'est alors que ma mère _____ (demander) calmement : Qu'est-ce qui se passe ? Nous _____ (ne pas répondre), stupéfiés cette fois de mon petit frère qui maintenant _____ (pleurer).

Appendix 3

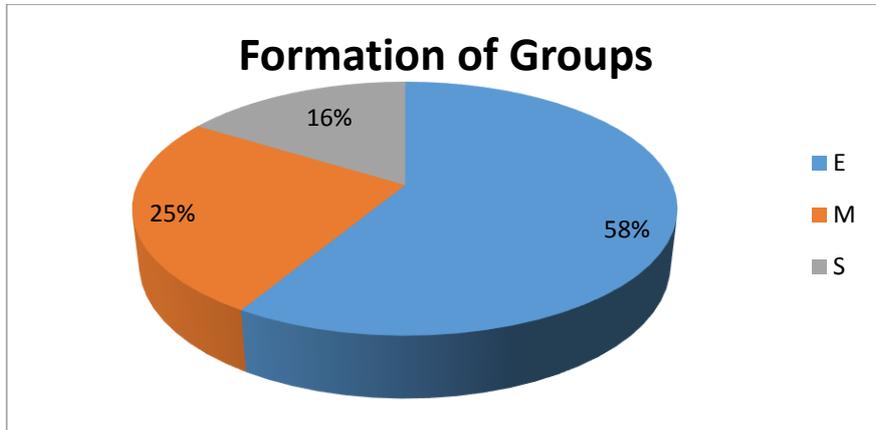


Figure 1

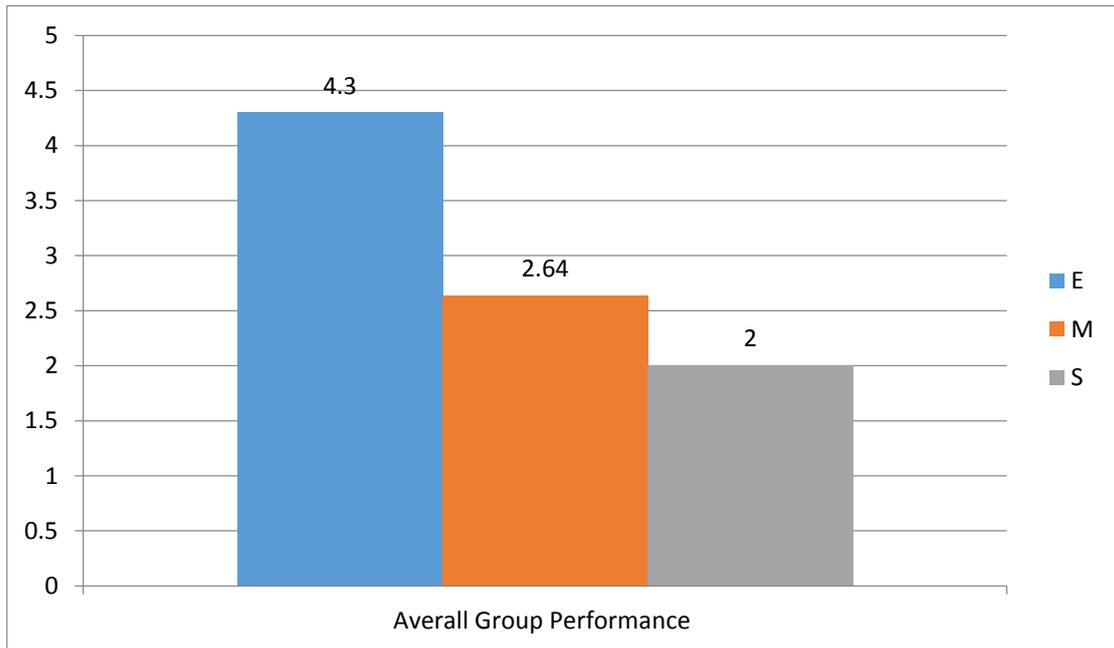


Figure 2

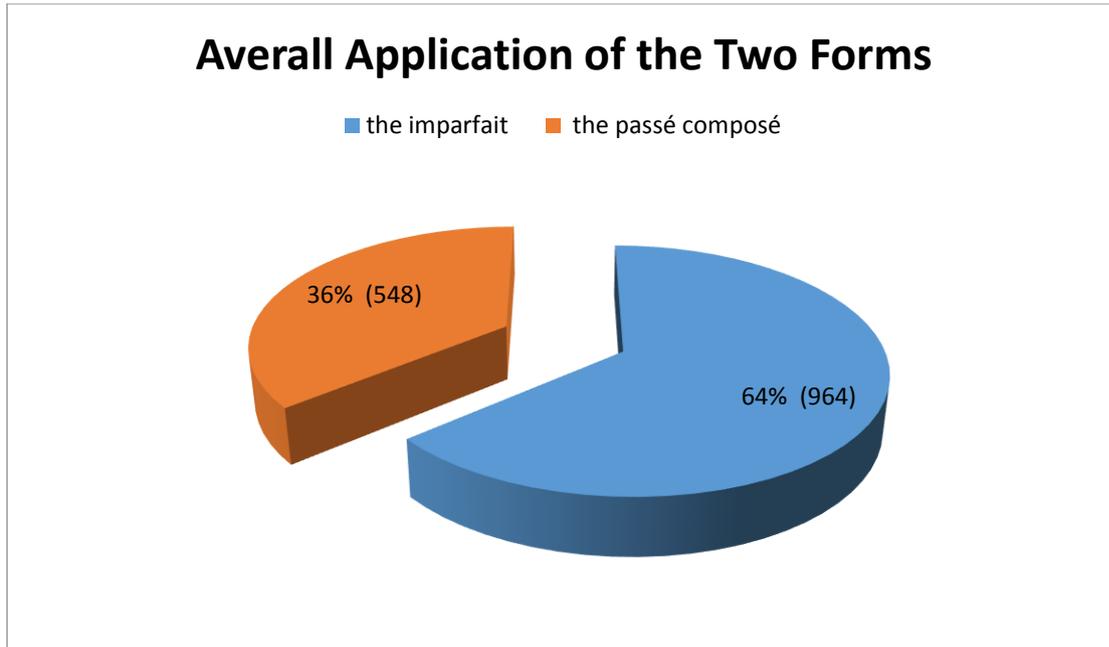


Figure 3

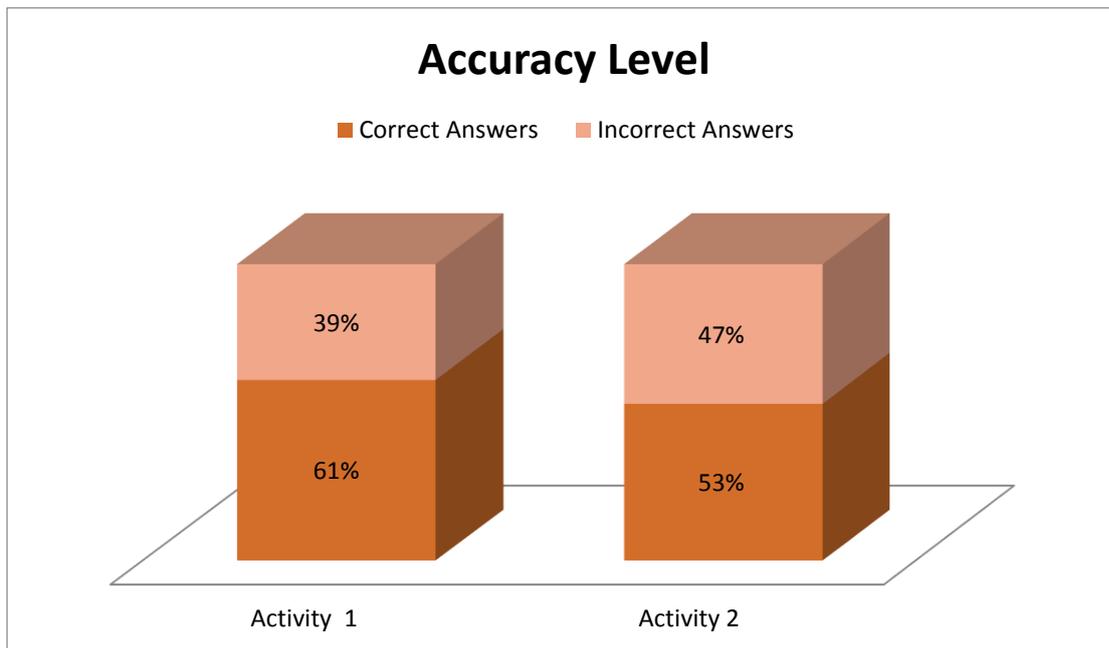


Figure 4

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**FULL PAPERS OF
3rd IOCES CONFERENCE,
2013**

SCIENTIFIC CONCEPTION TITLED “FORCE AND LAW OF MOTION” OF GRADE 10 STUDENTS STUDYING BY PACKAGE BASED ON CONSTRUCTIVIST THEORY

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Abstract

The objectives of this study were: to study Grade 10 Students' Scientific conceptual changes titled “Force and Law of Motion.” The target group using in this study included 40 Grade 10/1 Students studying during the second semester of 2012 academic year, None-sang-wittayakan school, under jurisdiction of The Secondary Educational Service Area Office 19. The research design was One Group Pretest-Posttest Design. The research instruments using in this study were: 1) the Knowledge Construction Packages based on Constructivist Theory, and 2) the Scientific Conception titled “Force and Law of Motion.” Data were analyzed by Percentage, and Mean. The research findings found that: after studying, 34 students or 85.00% of them, changed their concepts as the criterion. In addition, the highest level of concept change was from Misconception to Complete Conception. Furthermore, there were conception changes in all of 3 concepts: 1) the concept of “Mass and Weight,” 2) the concept of “Law of Motion,” and 3) the “Force of Friction” the average value was 81.66%. The concept of “Mass and Weight,” showed the highest level of change for 90.42%.

Keywords : Scientific Concept, The knowledge construction package, Constructivist

Introduction

Science plays an important role in both of present world society, and future since it is related to every person in one's daily life as well as different occupations, technology, equipments, utensils, and products in order to provides convenience for one's life and work. All of these were products of Science Knowledge combining with creativity as well as other Sciences. In addition, Science caused people to develop their thinking style, obtain major skills in searching for knowledge as well as competency in systematic problem solving, and decision making by

using various kinds of information including evidences to be investigated. Science is the culture of modern world as Knowledge- based society which every one had to obtain development to know it which was called Scientific literacy for all. When the learners learned Science by being stimulated to be excited as well as challenged when facing the problems or situations. They had to collaborate in thinking as well as real practicing. So, they comprehended and saw association between Science, and other subjects. As a result, they were able to reasonably explain, predict, and expect different things. Consequently, the learning management had to be relevant to real situation. (Ministry of Education, 2008)

According to National Education Act 1999, and the Revised Issue (the Second Issue) 2002, Section 22, specified that “The Educational Management had to emphasize on the principles,” and the Section 24 as well as National Education Act (the Third Issue) 2010, Section 37, according to the focus of student development. Educational Reform during the second decade (2009-2018) in competency as well as skill, the desirable characteristic (Love one’s country, religion, and king, Being honest and disciplined. Love to learn. Sufficient Living. Persistence in working. Love to be Thais, and public Mind.) Moreover, the core curriculum of Basic Education 2008, specified objective as learning standard for learners to obtain their process skill especially in Mathematics, Science, Thinking Skill, Problem Solving, Communication, Life Skill, and Technology Process Skill. (Ministry of Education, 2008)

But, the Educational Management in the present, reflected that the students had misconceptions leading to perception in Scientific Concepts incorrectly. In addition, the instructional activity management in Physics of regular classroom, traditional Physics Textbooks were given an importance by presenting the information in context of Physicists’ comprehension which was difficult for students to search for as well as understand the things as those Physicists’ approaches. Therefore, in efficient instructional management of Physics, the students’ learning had to be enhanced which would lead to the comprehension in various Scientific concepts. Learning would be occurred when the knowledge was constructed by students themselves. The students would obtain comprehension in Scientific Concepts. (Dykstra et. al., 1992) However, Physics subject was the one with content including complex continuous association. Some topics were abstract. So, the major problem of learning was occurred as Alternative Conception before or during their studying. As a result, the students failed their examination or passed with poor grade. Consequently, they were discouraged to learn as well as had bad attitude towards the studied subject. So, they were bored with their studying. Furthermore, in

Physics subject, the situation relating to “Force and Motion,” was studied in every level of Education and difficult to be understood. So, the students had Alternative Conception very much (Lichi & Thijs, 1990), for instance, the research studies of Misconceptions in Physics titled “Law of Motion,” of Jitrarom’s (1987) study, found that Grade 10 Students’ Physics Concepts in “Law of Motion,” of Grade 10 Students in Bangkok, were in “Low” Level. Jaradsri (2011) when the students studied from multi-media developed from Constructivist Theory titled “Newton’s Force and Law of Motion,” of students’ all of 4 major concepts, found that their average value of Complete Conception in every concept, was 86.25% passing the specified criterion 70% of total number of students. The technique based on Constructivist Theory was the guideline for explaining the students’ learning since the students presented through their own beliefs as well as experience. (Dykstra et. al., 1992) Moreover, they were able to modify their Alternative Conception starting from their prior beliefs. They were encouraged to change their concepts by practicing as well as discussion in classroom. (Thijs, 1992) According to When the Constructivist Theory based on Cognitive Constructivism and Social Constructivism, was used in designing the learning management in learning media which was appropriate as well as congruent with subject and objective, the students would be enhanced to learn truly, and obtain life-long learning. (Sumalee Chaijaroen, 2004).

For situation of problem in learning and teaching of Physics titled “Force and Law of Motion,” of Grade 10 Students, Non-sang-wittayakan School, under jurisdiction of Secondary Educational Service Area Office 19, found that the students had various concepts regarding to “Force and Law of Motion,” they were not able to explain the situations occurred in their daily life, or apply their knowledge. Besides, they were focused on their traditional conceptions they had perceived before, and used those concepts in explaining the incidences or phenomena occurred in daily life. Sometimes, their perceived things were misconceptions. In addition, they couldn’t rank order of thinking in using their calculation skill titled “Force and Law of Motion.” As a result, their O-NET Score in 2010 school year, was 27.43. In 2011, it was 23.69 which was lower down from the previous year. (Academic Division of Non-sang-wittayakan School, 2012).

According to the importance of instructional activity management on basis of Constructivist Theory by using the knowledge package developed from Constructivist Theory, and problem situation of Physics titled “Force and Law of Motion,” of Grade 10 Students, the researcher viewed the importance of usefulness in instructional activity management based on

Constructivist Theory by using the Knowledge Package, would be able to change and improve the students' Scientific Concept since it was a teaching technique focusing on the students to construct their own knowledge by themselves from their foundation of former knowledge and experience which would lead to Physics studying efficiently further.

Research Methodology

The research design of this study was Pre-experimental design as One Group Pretest-Posttest Design.

Research Objectives

1. To design the Knowledge Construction Package based on Constructivist Theory titled "Force and Law of Motion," of Grade 10 Students.
2. To study Grade 10 Students' alternative conception between pretest and posttest titled "Force and Law of Motion," who were studying by the Knowledge Construction Package based on Constructivist Theory.

Research Instruments

There were 2 kinds of research instruments:

1. The Scientific Concept Scale titled "Force and Law of Motion," consisted of 30 items as questions of multiple choices as well as writing for reasons or how to solve the problem covering 3 major concepts including: Force, Mass, and Weight, Newton's Law of Motion, and Force of Friction. This Scientific Concept Scale was investigated its content validity as well as language appropriateness by 3 experts, and tried out with 50 Grade 10 Students in order to investigate the appropriateness of language and questions before collecting data.

2. The Knowledge Construction Package based on Constructivist Theory designed base on following approaches: 1) the Problem –Based Learning(2) Resource, 3(Scaffolding, 4(Collaborative Problem Solving, and 5(Coaching for 5 situations for using in studying the Scientific Concepts as follows:

Situation 1: titled "Season for opening the Sugar Factory," using for studying Scientific Concept titled "Force, Mass, and Law of Motion."

Situation2: titled "Ton's Travelling," using for studying Scientific Concept titled "Newton' s Law of Motion 1."

Situation 3: titled "The Third Year Students' Field Practice," using for studying Scientific Concept titled "Newton' s Law of Motion 2."

Situation 4: titled “Bungfai Merit Tradition,” using for studying Scientific Concept titled “Newton’ s Law of Motion 3.”

Situation 5: titled “Olympic Game 2012,” using for studying Scientific Concept titled “Force of Friction.”

3. The Learning Management Plan based on Constructivist Theory, for 5 Plans, the researcher studied the related documents, literatures, and theoretical approaches in order to establish the Learning Management Plans, and be investigated the correctness as well as appropriateness of content, and congruence with problem situation by the experts before being used with the target group.

4. The Supplementary Interview, was the unstructured interview by selecting the representatives of students in each concept group categorized from the Concept Scale. Interviewing was performed before and after studying with the Complete Conception Group, and the Alternative Conception Group. The question issues were supplementary questions from the Concept Scale in parts which needed the clearer answers. The students had freedom to answer the questions. The interviewers didn’t have to judge whether the answer was right or wrong. They only used the questions to stimulate students to express their opinion as well as comprehension as clear as possible by interviewing friendly in order to search for Scientific Concept titled “Force and Law of Motion,” of students.

Data Collection:

The duration of data collection during the second semester of 2012 school year, was as follows:

1. Before the students studied titled “Force and Law of Motion,” the researcher surveyed the students’ Scientific Concepts before studying, analyzed the answers, and grouping the concepts according to the types of answers.
2. The activities were implemented based on Learning Management Plans in order to develop the students’ Scientific Concepts.
3. The students’ Scientific Concepts were analyzed after studying by Knowledge Construction Package titled “Force and Law of Motion,” in multiple choices and explanation of supplementary reasons.

Data analysis:

1. Forty Students’ answers were analyzed in each item from the Scientific Conception Scale titled “Force and Law of Motion,” 30 items by reading and comprehending the students’ answers, and categorizing the answers into groups based on the types of answers. Then, the

frequencies were counted, and the percentages of student number in each group, were calculated.

2. The researcher considered answers as well as reasons in choosing the answer or problem solving technique written in details by students, and classified the students' answers based on their reasons into 5 groups ranking in order of congruence with Scientific Concepts as follows:

1. CU: Complete Understanding referred to the group with comprehension in complete conception. The students' answers were correct as well as their reasoning was correct and complete covering the major components relevant to Scientific Conception.

2. PU: Partial Understanding referred to one's correct comprehension but incomplete. The students' answers and reasons were correct but they were lacked of some parts of major components relating to Scientific Conception.

3. PS: Partial Understanding with Specific Alternative Conception referred to the group with some parts of Alternative Conception. The students' answers were correct in some parts. But, some parts indicated their misconceptions or explanations were not congruent with Scientific Conception.

4. AC: Alternative Conception referred to the Alternative Conception. The students' answers as well as reason explaining were not congruent with Scientific Conception.

5. NU: No Understanding referred to the group who didn't answer or write their reasons. Some of them wrote like to review their answers or questions specified by the problems.

3. The students' frequency from answers were calculated in percent comparing to total number of students.

Grade 10 students 'Scientific Conception after studying by the Knowledge Construction Package based on Constructivist Theory titled "Force and Law of Motion."

Table 1: Conclusions in percent of Target Group Students' Scientific Conception after studying.

Concepts	Conception)Percent N=40(Percentage of students with Absolute Conception CU+PU
	CU	PU	PS	AC	N U	

Force, Mass, and Weight	46. 6	43. 7	6.2 5	3.33	-	90.42
Newton's Law of Motion	62. 5	22. 1	11. 9	3.53	-	84.56
Force of Friction	51. 4	18. 6	17. 5	12.5	-	70.00
Mean	53. 5	28. 1	11. 9	6.45	-	81.66

According to Table 1, the students' percentage in each concept after studying by Knowledge Construction Package titled "Force and Law of Motion," based on 3 major concepts as: 1) Force, Mass, and Weight, the students had complete conception 90.42%, 2) the Newton's Law of Motion, the students had Complete Conception for 84.56%, 3) the Force of Friction, the students had Complete Conception for 70%.

Discussion:

Scientific Conception

Grade 10 students' Scientific Conception before studying from the Knowledge Construction Package developed from Constructivist Theory titled "Force, and Law of Motion," found that before studying, the students had Alternative Conception, and Complete Conception in "Force, and Law of Motion," from all of 3 major studied concepts. After studying by the Knowledge Construction Package developed from Constructivist Theory, found that the major concepts titled "Force, Mass, and Weight, the average value of Complete Conception for 90.42%. The concept titled "Newton's Law of Motion," the students had Scientific Conception for 84.56%. The concept titled "Force of Friction," the students had Scientific Conception in complete level for 70.00%. It was supported by Ponsaton Tiparak's (2011), Jaradsri Jinarak's (2011), and Niwat Srisawad's (2005) studies that when the students studied from multimedia developed based on Constructivist Theory titled "Force and Law of Motion," found that the students had increased Complete Conception most titled "Force," for 94.44% since both of content, and situation were their at hand most. In addition, according to the analysis of problem situation, they could construct the concepts by themselves. Kietmanee Bamroonrai's (2010) stated that

the Scientific Concept referred to one's knowledge and comprehension in one thing or topic occurred from fact, rationale, and situation combining together as conclusions. Then, they could explain the Scientific Causal Relationship. It was supported by Hewson's (1985 cited by Niwat Srisawad's (2005) statement that the students tried to construct meanings from their own experience leading to relationship development in the form of stable beliefs which would lead to Alternative Conception difficult to be changed or corrected as an effect from general class instruction. Moreover, Fisher (1985) stated that the Misconception could be transferred from the experts' various comprehensions especially in those fields of study into students directly. Furthermore, their transferred experience would be shared in general. The teachers' Coaching technique could help the students to have Complete Conception more since the students' collaboration in learning as well as problem solving, when the intellectual conflict in different conceptions was occurred, the reasons to be accepted in peer group would be happened. The teachers would suggest only. If the conception was believable and acceptable, the students would change their conception into Scientific Complete Conception more. It could be concluded that the study through Knowledge Construction Package developed from Constructivist Theory titled "Force and Law of Motion," could affect the students to have their Scientific Conception more. It was found that from total of 40 students, 34 students or 85.00% of them were able to pass individual item evaluation criterion. Only 6 students or 15.00% of them didn't change their Scientific Conception based on criterion.

Conclusions of findings:

1. The design and development of Knowledge Construction Package based on Constructivist Theory,

The researcher studied and collected the information technology relating to learning content in "Force and Law of Motion," for designing the Knowledge Construction Package developed by Constructivist Theory combining between the Media, and Methods based on theoretical framework of Sumalee Chaijaroen (2004) as a basis in designing the Knowledge Construction consisted of major components as : (1) the Problem-based Learning, (2) the Resource, (3) the Scaffolding, (4) the Collaborative Learning, and (5) the Coaching. The efficiency of the Knowledge Construction based on Constructivist Theory leading to development of students' Scientific Process Skill as well as Knowledge Construction by themselves, were evaluated.

2. The findings of study in students' Scientific Conception.

The findings of analysis in Grade 10 Students' Scientific Conception Changes between pretest and posttest, studying by the Knowledge Construction Package based on Constructivist Theory titled "Force and Law of Motion," in individual item and individual person as follows:

1. There were 34 students or 85.00% of them, had their Conception Change according to criterion (more than 15 items out of 30 items). There were 6 students or 15.00% of them, didn't have their changes according to criterion.

2. The students had the Scientific Conception Change most, 25 items out of 30 items or 83.33%. The students had had the Scientific Conception Change least, 9 items or 30.00%.

3. According to the Scientific Conception Scale, the item with the highest number of students who had Scientific Conception Change, item 8, for 92.50%. The items with the lowest number of students who had Scientific Conception Change, were item 12, and 14, included 17.50%.

4. The number of students with the Scientific Conception Change based on criterion more than 50% up, 17 items, from the whole package of Scientific Conception Scale, included 30 items, or 56.00%.

5. The students had highest level of Scientific Conception Change from the Alternative Conception (AC) to Complete Understanding (CU).

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**LECTURE NOTES IN COMPUTER SCIENCE: AUTHORS' INSTRUCTIONS FOR
THE PREPARATION OF CAMERA-READY CONTRIBUTIONS TO
LNCS/LNAI/LNBI PROCEEDINGS**

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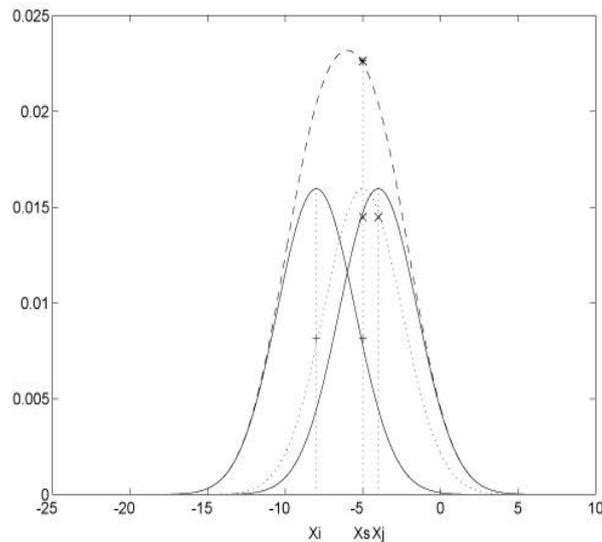


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$$x + y = z . \quad (1)$$

Equations should be punctuated in the same way as ordinary text but with a small space before the end punctuation mark.

2.3 Footnotes

The superscript numeral used to refer to a footnote appears in the text either directly after the word to be discussed or – in relation to a phrase or a sentence – following the punctuation mark (comma, semicolon, or period). Footnotes should appear at the bottom of the normal text area, with a line of about 5cm set immediately above them.

2.4 Program Code

Program listings or program commands in the text are normally set in typewriter font, e.g., CMTT10 or Courier.

Example of a Computer Program from Jensen K., Wirth N. (1991) Pascal user manual and report. Springer, New York

```
program Inflation (Output)
  { Assuming annual inflation rates of 7%, 8%, and
  10%,... years };
const MaxYears = 10;
var   Year: 0..MaxYears;
      Factor1, Factor2, Factor3: Real;
begin
  Year := 0;
  Factor1 := 1.0; Factor2 := 1.0; Factor3 := 1.0;
  WriteLn('Year 7% 8% 10%'); WriteLn;
  repeat
    Year := Year + 1;
    Factor1 := Factor1 * 1.07;
    Factor2 := Factor2 * 1.08;
    Factor3 := Factor3 * 1.10;
    WriteLn(Year:5,Factor1:7:3,Factor2:7:3,
      Factor3:7:3)
  until Year = MaxYears
end.
```

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A STUDY TO FIND OUT REASONS FOR SPELLING MISTAKES CAUSED BY PRONUNCIATION AND TO DEVELOP STRATEGIES TO OVERCOME THEM

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Abstract

The study was carried out with twenty students of ATI (Advanced Technological Institution) Badulla, to identify the spelling mistakes caused by the wrong pronunciation and to develop strategies to overcome them. The objectives of the study were to identify the current situation and categorize the spelling mistakes done by the students, to find out the reasons for the spelling mistakes and to develop strategies to overcome the spelling mistakes. The spelling mistakes were identified with the answers written by the students and a written paragraph. A questionnaire, a pre-test, activities, students' comments, reflective journal, interviews and the post-test was used as the data collection methods. The activities were planned to cover the spelling patterns that the students went wrong and a pre-activity and the post- activity were given to depict the standard before and after learning. The knowledge on pronunciation enhances learning spelling, lack of exposure to the language results weak spellings, being unaware of different spelling patterns for the same sound, being unaware of the spelling patterns, inserting wrong sounds for the sounds, language poor environment and how the correct guidance produces innovative learners were the findings. Studying a problem to overcome the difficulties, teaching pronunciation methodically, the correct guidance, exposing students to language rich environment, effective student centered teaching, using cooperative effort to make the students explore and learn, the immediate feedback were suggestions of the study.

Introduction:

In a survey of finding reasons for the lack of results in the subject Literature in English, it was revealed that the students have a lot of language mistakes and due to this reason the students are unable to express their ideas accurately in writing answers. Among these language problems the problem considered here is the problem of spelling mistakes. The general aim of the research is to reduce these spelling mistakes caused due to wrong pronunciation to overcome the quantity of language mistakes done by the students in writing and in turn, to

develop the accuracy of the written language in order to maximize the results in the above mentioned subject.

Research site:

SLITAE (Sri Lanka Institute of Advanced Technological Education) is one of leading educational institutions in Sri Lanka for higher education and is statutory body coming under the preview of higher education SLIATE has been established by the Parliament Act 29 of 1995 focusing on fostering Advanced Technical Education at a post-secondary level and its head is Director General appointed by the cabinet. It is mandated to establish Advanced Technical Institute (ATI) in every province for both Engineering and Business Studies. At present it manages and supervises 10 separate Advance Technical Institutes and 7 Sections housed in the Technical Colleges under Department of Technical Education. ATI, Badulla is one of them where the study is carried out.

At present there are four higher national diploma courses conducted in ATI Badulla and HNDE (Higher National Diploma in English) is one of them. There is one ATI for Uva province and many students from different corners of Uva province follow the courses as it is only second to university to gain the higher education. The basic Qualification to enter ATI is three simple passes in GCE A/L along with other special subjects in GCE O/L relevant to each course.

The entry qualification for HNDE(Higher National Diploma in English) was A/L three simple passes along with A or B pass for English in GCE O/L before 2010 and it was changed in 2011 as three simple passes in GCE A/L and A,B, or C pass for English in GCE O/L.

After completion of the HNDE course the students are given government English teaching appointments in the provincial level, and there is a generation of English teachers who have got English teaching appointments after the completion of the course. As a result of that there is a greater demand for the HNDE course in ATI, Badulla.

The Problem :

The analyses of the results in the first semester examination 2011, in HNDE-I (Higher National Diploma in English-1st year) in ATI (Advanced Technological Institution) showed a great decrease in the subject, literature in English as well as some other subjects.

In the earlier semesters the percentage of literature results was 95% or 100%. As the students for 2011 were recruited with A, B or C pass for English in O/L literature I had to take much more effort to teach in the first semester 2011. With this much effort, the pass rate literature in 2011 first semester has been gone down to 57% and the failure rate was 43%. There was the same failure rate in many other subjects such as practical and professional writing, advanced reading skills, Practical phonology and listening in English. The analysis of the results clearly showed that the pass rate of Practical & Professional Writing I and English Literature I are same, 57% and they are the lowest results. The lower result of the subject showed the need of a study over it and a questionnaire and some writing activities given to students revealed the reasons for having lower results such as grammar mistakes, lack of vocabulary, lack of organization of the answer, spelling mistakes, giving irrelevant facts in writing answers, students getting absent, lack of attention towards the studies and lack of experience of the students in writing answers for a literature paper directly influence the lower results of the students.

Almost all the other reasons are touched for great extent in teaching the subjects except the problem of spelling mistakes. It is not separately touched by the students or the lecturers which totally depends on the dedication of the learner towards the problem. As it is felt that teaching of the second language should be structured, in school system many materials such as text books and teachers' guides are provided. On the other hand in SLITAE (Sri Lanka Institute of Advanced Technological Education), a systematic syllabus is designed for each subject and it is provided with relevant materials to be taught. Most of the above mentioned language problems of the learners are touched by the subjects taught in the HNDE course but no readymade material is provided to overcome the problem of the spelling mistakes.

Aim and Objectives of the study

Aim is to improve the accuracy of writing by reducing the spelling mistakes caused by pronunciation mistakes, through methodically developed activities.

Objectives are:

- To identify the current situation and categorize the spelling mistakes done by the students.
- To find out the reasons for the spelling mistakes.
- To develop strategies to overcome the spelling mistakes.

Rationale:

- There is one ATI for Uva province.
- The students are given government English teaching appointments in the provincial level.
- The quality of the English teachers produced by ATI.
- On the other and it will directly affect the future students who will learn from these teachers.
- The standard and the good name of ATI Badulla.
- Students' faith over themselves and ATI goes down.
- Uva province has been considered as one of the most backward provinces in Sri Lanka.

The sample:

Twenty students out of seventy students in HNDE-I were selected as the sample. The selection was done by considering the number of mistakes done by the students in an activity to write a small paragraph of half of an exercise page to describe a picture. Almost all the students of twenty students had done more than three mistakes. Out of twenty students three students had done 5 mistakes, four students had done 7 mistakes, five students had done 3 mistakes and six students had done 5 mistakes. Further details are

- Age group of 21-25
- 15 students out of 20 have gained their education in the rural schools of Uva province
- Medium of school education 16- Sinhala 4-Tamil.
- O/L English 6-A 5-B 9-C.
- 2011 First semester English Literature 17- failed 3 C passes.

Methodology:

Action research method was used. Twenty students out of seventy students in HNDE-I were selected as the sample. The selection was done by considering the number of mistakes done by

the students in an activity to write a small paragraph of half of an exercise page to describe a picture. The data were collected with writing activities and a questionnaire given to students. The answers written by students for two questions selected by the Literature in English paper in the first semester examination, a paragraph written by the students and the questionnaire were used to collect the initial data. With the identification of the categories of mistakes caused as a result of wrong pronunciation, a pre-test was given to students to depict the initial standard of spelling mistakes caused by wrong pronunciation and a series of activities were designed to develop the strategies to overcome the spelling mistakes caused by the wrong pronunciation. When the process was going on, time to time students comments were collected regarding the activities in order to evaluate the success of the process. Furthermore a reflective journal was used to report the observations for the future analysis of the data as well as to see the change. In the meantime, the informal interviews of the students contributed very much to plan the future activities. Finally a post-test parallel to pre-test was given to students to evaluate the success of the strategies used by the researcher.

Data Analysis:

The spelling mistakes found in the data collection were deeply analyzed here for the identification of the mistakes. First the spelling mistakes were categorized as the mistakes take place as a result of wrong pronunciation and the spelling mistakes take place due to other reasons. The two answers written by the students, the paragraph written by the students to describe how they learnt English were used for this purpose. The questionnaire and the details given in the paragraph were analyzed in order to identify the background which provided for the students to make spelling mistakes and the identification of reasons for doing the spelling mistakes was effective in developing the strategies to overcome the mistakes. A pre-test was given to identify the students' standard at the beginning of the study. The analysis of the pre-test revealed the weaker areas of the students which paved the way to develop activities as strategies to overcome the difficulties. The activities were given with a pre-activity a practice stage and a post- activity and the marks obtained by the students for the pre activity and the post activity were compared to see the development of the students and the success of the activities as strategies. Finally a post test was given parallel to the pre-test to analyze the development of the students in contrast to the standard they were at the beginning of the study.

Categories of spelling mistakes done by the students

A variety of spelling mistakes were identified and they were categorized into two categories as the spelling mistakes take place due to wrong pronunciation and other spelling mistakes take place due to other reasons.

Spelling mistakes take place as a result of wrong pronunciation

- Students write words as they pronounce them

E.g. - transpomer for transformer, ridam for rhythm, brunch for bunch, situwation for situation

- Students are not aware of different spelling patterns that the same sound can be depicted.

E.g. - burrow for borrow, blum for bloom, moov for move, cloweds for clouds, maind for mind

- Lack of understanding of homophones

E.g. - seen for scene, hear for here, lives for leaves, there for their

- Students are not aware of the words with the silent letters.

E.g. - No for know, Rist for wrist

- Connecting two words to create another word wrongly

E.g. - Therefor for therefore, Allso for also, Misstake for mistake, Becourse for because

Other spelling mistakes take place due to other reasons

- Students are not aware of spelling patterns in writing plural

E.g. - leafs for leaves, cloudes for clouds, peoples for people

- Students have developed their own spelling patterns and they have become errors.

E.g. - enviroment for environment, coloure for colour, flotering for floating, rethem for rhythm

- Lack of understanding of using affixes

E.g. - valueble for valuable, unfortunateli for unfortunately, beautifull for beautiful

- Mistakes in writing past tense and progressive form

E.g. - danceing for dancing, claping for clapping, worshiped for worshipped

- Missing double letters

E.g. - midle for middle, blom for bloom, permission for permission

- Missing last letter specially "e"

E.g. - atmospher for atmosphere, abov for above, moov for move, throug for through

The common sounds that the students do mistakes in spellings

It was clear that the students are not aware of the spelling patterns for these sounds. The common sounds that the students do mistakes are /i/, /e/, /f/, /o/, /u/, / f/, /sh /. So that the activities were developed to overcome these mistakes.

Analysis of the questionnaire

- The students are aware that they have spelling mistakes, but are not interested in finding remedial measures.
- The students use the traditional ways of improving the spellings.
- The students are aware of good ways to develop their spellings but they don't practice them in real life.
- The suggestions of the students to develop their spellings
- Most of them feel that learning spellings is difficult.
- The difficulties of learning spellings
- Students' suggestions to overcome the spelling difficulties

The reasons for them to make spelling mistakes according to questionnaire

- 1) Their ignorance over spellings. Most of the students are aware that they do spelling mistakes but they have taken no interest in correcting themselves in an effective way.
- 2) Lack of exposure to the language. Students do not read as a habit. They are aware that reading expose them to new spelling but they admit that they don't read a lot.
- 3) Pronunciation mistakes. Spelling mistakes take place as a result of pronunciation misakes.
- 4) Lack of vocabulary. If students are exposed to more words they are exposed to new spelling patterns.
- 5) Less practice of writing. The students try to practice spelling by the way of by hearing.
- 6) Lack of memory power. They can't keep the spelling patterns in their memory.
- 7) Lack of self-studies. They are totally dependent on the teacher.

Analysis of the activities

- **Pre-Test**

The pre- test was designed covering all aspects of mistakes identified in the earlier analysis such as words which are with silent letters, homonyms, different spelling patterns that the same sound depicts, sorting out the words of different sounds.

- **Activity 1- Words with silent letters**

Pre- activity- Dictation

Practice activity- Underline the silent letters

Post- activity- Spell the words which are given in the phonetic script

- **Activity-2 Sound Change**

Pre- activity- Identify the sound change

Practice activity- Expose the students to words.

Post- activity-Students find out more examples and draw word nets

- **Activity-3 Sound /i/**

Pre- activity- Dictation

Practice activity- Give examples and ask them to find more examples

Post-activity-Two groups spelling competition

- **Activity- 4 sound /o/**

Pre- activity- Write the spellings for the words given in the phonetic script

Practice activity- Give examples and ask them to find more examples

Post-activity- Each student make 24 cards with the spelling and the phonetic script. Then these are divided into two groups and a spelling competition is held.

- **Activity- 5 Sound /u/**

Pre- activity- Fill in the blanks

Practice activity- Give examples and ask them to find more examples

Post-activity- In two groups they prepared an activity to be given to the other group. Then they did the activity prepared by the other group

- **Activity-6 /k/ sound**

Pre- activity- Dictation

Practice activity- Students sit in groups and share the words they find

Post-activity- Prepare word nets for the spelling patterns

- **Activity 7 /sh / sound**

Pre- activity- Fill in the blanks with the group of letters

Practice activity- Fill the chart with more examples

Post-activity- Prepare their own chart with examples

- **Activity 8 sound /f/**

Pre- activity- Find the spelling patterns for /f/

Practice activity- Prepare a chart fill it with more examples

Post-activity- group competition but marks were given for individual performance

- **Activity-9 Homonyms**

Pre- activity- Fill in the blanks by writing the correct homonym for the given phonetic script

Practice activity- Practice the homophones and homographs in pairs

Post-activity- Write one sentence using both words with the phonetic script of the homophone.

- **Post- test parallel to pre-test**

How the results increased

Year/Semester	subject	Pass no. of students	Fail no. of students	Pass rate	Fail rate
2011/ 1 st semester	English Literature	40	30	57%	43%
2011/ 2 nd semester	English Literature	52	18	74%	26%
2012/ 1 st semester	English Literature	57	6	90%	10%

How the results developed

Grade	2011/1 st semester	2011 2 nd semester	2012 1 st semester
A+			
A		01	
A-		03	3
B+	02	04	10
B	04	06	16

Results, Discussion, Suggestions, conclusions and Recommendation:

- The knowledge on pronunciation enhances the learning of the spelling.

The selected sample learns phonology as a subject in their course and it contributed very much for the students to identify the spelling patterns. The students have been doing the same

mistakes for a long time as they have not been taught pronunciation separately in their school education. Furthermore students discovered more words in the areas of words with silent letters and homonyms as they can refer the pronunciation in the dictionary with the phonetic script. So that it is clear that the knowledge on pronunciation enhances the learning of spellings.

- Lack of exposure to the language makes students weak in their spellings.

The knowledge on the words with the silent letters and homonyms was considerably low in the students. There are no rules to learn the words belong to the above mentioned two areas. The students should be thorough with the words by exposing themselves to more and more words. As the students had not been exposed to words in the above mentioned areas, they had less knowledge in these areas.

- The students were not aware of different spelling patterns for the same sound and they were aware only of the common spelling patterns.

The students were aware of the spelling patterns such as “ee”, “e”, “i” and “y” for the sound / i / but not aware of the spelling patterns such as “ie”, “ea”, “u”, and “ei”.

The students were aware of the spelling patterns such as “o”, “a”, “oo” for the sound /o/ but not aware of spelling patterns such as “oa”, “ou”, “au”, “ow”

The students were aware of the spelling patterns such as “u” and “oo” for the sound /u/ but not aware of spelling patterns such as “ui”, “ou”, and “ue”.

The students were aware of the spelling patterns such as “c”, “ch” and “k” for the sound /k/ but not aware of spelling patterns such as “qu” and “ck”

The students were aware of the spelling pattern “Sh” for the sound / / but not aware of spelling patterns such as “Cha”, “Che”, “Chu”, “Chi”, “Su”, “Tion”, “Sion”, “Tial”, and ”Cent”.

The students were aware of the spelling patterns “f” for the sound /f/ but not aware of spelling patterns such as “gh” and “Ph”

- Students were not aware of the spelling patterns for the sound /sh / and /f/ mostly.

The reason for this can be the absence of these sounds in the mother tongue. On the other hand there are more spelling patterns depicting these sounds. In another way the students have not exposed to words with such a number of different spelling patterns.

- Students insert wrong sounds for the sounds that are absent in their mother tongue

It was clear that the students use /p/ for the sound /f/ and /s/ for the sound /sh /. As a result of this the students go wrong in the spelling patterns of these sounds.

- The environment does not enhance the spelling development of the students

The students do not have an English speaking background in the school as well as in the home. Mostly in the school only the English teacher speaks in English and sometimes even the English

teacher does not speak in English. As a result of that the students are not exposed to the correct pronunciation of the words. So that the students are not aware of the different spelling patterns for the same sound.

- Students are innovative if they are directed on the correct path.

When some spelling patterns for different sounds were taught to students they created innovative activities for the other group with the new words that they had found. Furthermore they tried to make the activities challenging to the other group by searching more difficult examples for the same spelling pattern.

The identification of different types of mistakes paved the way to find out the reasons for the students to do the mistakes, It was clear that the students write words as they hear them and they are not aware of different spelling patterns depicting the same sound. Furthermore the students do the spelling mistakes as they are not aware of homonyms and the different patterns of writing the plural. Some students have gathered two words wrongly to give one word and some spelling mistakes of the students have become errors as they have been using them for a long time without correction. There were some noticeable spelling mistakes in using the affixes, writing the progressive form and the past form of the verb, writing words with double letters and missing the last letter specially “e”.

Suggestions :

- A deep study over a problem enriches the individual with the relevant knowledge of the particular area
- The students should be taught pronunciation methodically in the process of teaching English from the beginning.
- The correct guidance is very much effective in achieving the accuracy in the pronunciation.
- Students should be exposed to the language
- The teaching material should be arranged from simple to difficult
- The student centered approach gives very good results in teaching a difficult area for the students
- A deep study over a problem suggests a methodical plan to overcome the problem
- Cooperative effort is very much important in teaching spelling
- The student must be directed to explore and learn
- The immediate feedback and the evaluation are motivational factors for the students
- Students should be directed to think logically and creatively

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THE EFFECTS OF SELF-LEARNING PACKAGE ON STUDENT LEARNING IN CHEMISTRY

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Introduction

General introduction

Teachers encounter many problems in teaching chemistry. Most of the teachers follow the conventional teaching methodology (chalk and talk), because they have to cover a large area of the syllabus within a short period.

Learners are active in learning the construction and development of the latest changes that take place towards updating their knowledge and skills. Teachers are benefitted in facilitate and motivate their learning activity. Learner may prefer different learning styles for better understanding. Therefore it is needed to be considered the different ways of teaching for satisfactory learning, such as the move towards students centered teaching learning process, where the teacher serves only as a mediator and producer of learning materials. In recent years many powerful learning materials were developed based on new technologies in particular by using computers.

Intermolecular interactions portion is already there in the A-L syllabus. This is now extended in the new syllabus. It has six periods in the syllabus and it is not sufficient to cover the content. Therefore many teachers fail to cover the full content. Hence students face difficulties in having a comprehensive understanding. Now Education is primarily concerned about learning and not teaching. Learners are active in the construction and development of the latest changes towards updating their knowledge and skills, teachers facilitating and motivating their learning activity. In the learning process, the learner has to make her or his own sense of what has to be learned. Teaching activity gives support to the learners but cannot replace learning. Teachers provide the interesting opportunities for considering ways in which collaborative learning may support learning.

So teachers need different strategies to help students learn meaningfully, most of the student's valuable opportunities to study with multimedia technology. In recent years many powerful learning materials have been developed basing on new technologies in particular by using computers.

Intermolecular interactions

At the very beginning of learning chemistry in A-level classes the students face feel the conflict between the different methodologies applied in the previous and the present classes (The A-level classes and the O-level classes). Tuition culture is the main problem that affects our A-level students. Most of the tuition teachers follow exam oriented procedure and they always try to attract students towards them.

If teachers are to overcome the above mentioned problems and want to obtain better results from their teaching procedure they must experiment new methodologies in introducing subject matter that attract their students. Several attempts were made by the curriculum planners during last two decades to get over these problems and to make the relevant sections easily understandable for example Lewis structures, resonance, orbital hybridization and intermolecular interactions.

Novel additions in chemistry

They were many other changes introduced by curriculum planners to facilitate teaching chemistry in A-level classes, some of them are

- The number of periods was reduced from 600 to 468
- Unit 1 was divided in two units
- The content of Unit 3 was reduced and rearranged
- Unit 3 was renamed as Gaseous State of Matter
- Quantitative analysis of cations and anions was shifted from unit 14 to unit 5
- In addition to the listed mono-dentate ligands OH^- ion was added and a practical on the reaction of salicylic acid with iron(III) ions was introduced.
- Acylation of benzene was introduced to Unit 7.
- Reaction of esters with Grignard reagents and LiAlH_4

These are some of the new items that curriculum planners had introduced under new educational reforms in 2009. Although there were many changes introduced to teachers who

teach in A-level classes they still have many problems in their teaching procedure. The main reason for this is that teaching methodology is not suitable for students and teachers do not possess relevant skills to impart knowledge about these abstract concepts since they have no proper pedagogical knowledge. Students cannot grasp this knowledge properly and both the teachers and the students are discouraged about their teaching and learning procedure. Therefore teachers must change their teaching methodology to attract their students to studies. When teacher communicates his or her ideas properly students can understand it well. Then bond between teacher and students become strong. So both teachers and students tasks will become very easy. We can perform this task and improve the knowledge of chemistry in our students by using the following steps.

1. Teacher must know about students preconceptions and misconceptions about the relevant topics.
2. If they have some misconceptions teachers must try to correct them using suitable methods during those lessons.
3. Use of visual aids and diagrams are important to give a correct idea about certain new concepts to students.
4. It is important to give an opportunity to students to write notes on their own.
5. Connecting new concepts with their prior knowledge is important.

In considering the above factors I thought of using some computer programs for presenting a selected topics in the A-level syllabus with a new teaching approach. Because of the development of science and technology the use of computers has become essential at all levels of the society. Computers have been introduced to schools during last decade. It has become an innovative technology that stimulates the students. Computer program are presented to introduce the following topics in the A-level syllabus.

1. Polarity
2. Dipole moment
3. Polarizability
4. Intermolecular interactions

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2. If they have some misconceptions teachers must try to correct them using suitable methods during the course of the lesson
3. Use of visual aids and diagrams are important to form a correct concept of the new item they study.
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1. Polarity
2. Dipole moment
3. Polarizability
4. Intermolecular interactions
 - i. Hydrogen bonding
 - ii. Dipole- dipole interactions
 - iii. Dipole – induced dipole interactions
 - iv. Ion-dipole interactions
 - v. Ion-induced dipole interactions
 - vi. Dispersal forces or London forces

Polarity

The electron density of the bond pair is concentrated towards more electronegative atom. This is called polarity. The result of this, is the polarization of the bond and such a bond is referred to as a polar covalent bond.

Dipole moment (μ)

A dipole moment would be developed in the presence of a polar covalent bond. Molecules with a dipole moment are known as polar molecules and molecules without a dipole moment are known as non-polar molecules. Dipole moment depends on the geometry (shape) of the molecule. The magnitude of the dipole moment can be calculated as follows and dipole moment is measured in Debye units.

Dipole moment $\mu = q \cdot d$

Polarizability

In ionic compounds, there are situations where the smaller cations can polarize larger anions so that the electron clouds around ions become asymmetrical

Intermolecular interactions and intramolecular interactions

Interactions between two or more molecules are called intermolecular interactions, while the interactions between the atoms within a molecule are called intramolecular interactions. Intermolecular interactions occur between all types of molecules or ions in all states of matter. They range from the strong, long-distance electrical attractions and repulsions between ions to the relatively weak dispersion forces which have not yet been completely explained. The various types of interactions are classified as (in order of decreasing strength of the interactions)

1. Ion – dipole
2. Hydrogen bond
3. Dipole- dipole
4. Ion-induced dipole
5. Dipole-induced dipole
6. Dispersion forces or London forces

Ion-dipole

When an ionic solid such as NaCl is dissolved in H₂O, Na⁺ and Cl⁻ ions can form interactions with H₂O. Na⁺ ions attracts the negative end of the dipole. These interactions between ions and dipoles are known as ion dipole interactions and the process of formation of interaction is called the Hydration.

Hydrogen bond

A hydrogen bond is made between a hydrogen atom and a highly electronegative atom such as fluorine, oxygen or nitrogen. Hydrogen bond is divided into two types. There are

1. Intermolecular hydrogen bond
2. Intramolecular hydrogen bond

Intermolecular hydrogen bonds occur between different molecules.

Example : between water and ammonia molecules

Intramolecular molecular hydrogen bonds occur between groups in the same molecules

Example : in *ortho*-nitrophenol, salicylaldehyde

Significance of Hydrogen bonds

1. The relatively high melting and boiling points of water and hydrogen fluoride
2. Holding the strands of DNA together

Dipole-dipole interactions

Covalent bonds between atoms of different electronegativities are permanent dipoles since a dipole has positive and negative ends, They can align themselves together with their opposite charge ends to form dipole-dipole interactions.

Example : HI ,HBr

Ion induced dipole interactions

Ionic species can form a kind of interaction with an induced dipoles. These interactions are not much stable. They are known as ion-induced dipole interactions.

Example : Dissolution of I₂ in KI

Dipole-induced dipole interactions

Sometimes a dipole can induce a dipole in a non-polar molecule. One particular example is the formation of a hydrate of krypton by very weak interactions between Kr atoms and

water molecules. Here, the water molecule which has a permanent dipole induced a dipole on non-polar Kr atom.

Dispersion forces or London forces

Molecules without a permanent dipoles can form weak attractions between two molecules. We know that even rare gases can exist in liquid or solid state at very low temperature conditions. These attraction forces among non-polar molecules are known as London forces.

Example : He...He, Ne...Ne, Ar...Ar, Xe...Xe

There is no dipole moment in the atom. However the electrons momentarily shift towards one side of the atom. Then we could get the creation of an instantaneous dipole. Such a dipole can induce a similar dipole in the neighboring He atom. These two dipoles can form a weak electrostatic interaction between them.

METHODOLOGY

Preparation of the study package

The chemistry textbooks referred in preparing the intermolecular interactions theory. For developing the learning package the 3D's MX package was selected and studied to developing the package. For this study the 3D' MX help and related 3D's MX self learning tutorials were used.

The Macromedia Dreamweaver was used designing the template and HTML codes, CSS \9 Cascading Style Sheet) codes and Java script codes were used for inserting the video. Adobe Photoshop software was used for designing the photos. Graphics and animations were used to prepare the learning package. Following were considered when creating animations.

- Student's level
- Subject matter to be introduced through the animations
- How simply the facts can be explained.

After the development of each animation some suggestions were made by the supervisor and some senior chemistry teachers.

3.2 Execution of the study package

Hundred and twenty eight A-Level first year students were selected for our research from following four schools Mahajana College, Hartley College, Jaffna Hindu College and

Cavakachcheri Hindu college. The research was conducted before the section “Intermolecular interaction” is taught. Pre test marks are arranged in ascending order and ranks given . Students were divided in to two groups according to the odd and even number of the ranking order.

One group was the experimental group and the other the control group. The teacher conducted the lessons to the controlled group using the conventional method to control group. For the experimental group the theme that had to be taught was introduced briefly. Then the self learning study package was introduced to the students and instructions were given to use the study package. Next computer facilities were supplied to students to learn the study package individually.

After one week a post-test was conducted.

Instruction for users

How can one operate this package?

Insert this package into the computer and then you go to my computer icon and open the compact disk IMF. Click on software folder. First you have to install Adobe flash player, then you have to install Quick time. Double click on Intermolecular interactions of polyatomic systems folder. Then select the index.html file and double click on it. Website automatically display. At the first page you can see title and home page. In this home page you can see five buttons, which are labeled. You can select your heading that you want to study Video option , click on play button, you can see video and you can move the sound button for sound setting. Pause ,stop buttons are there. If you want pause or stop the video you can click it. When you click on the selecting buttons it will enter the certain section that you want. by clicking the other buttons you can go to the next page. To exit from the package, click Esc button on keyboard or press Alt and F4 .

Results and analysis

ere two identical groups were used to test the effectiveness of the self-learning study package. One of the group the controlled group was treated by conventional way of teaching and the experimental group was treated through the computer based self-learning study package.

Table 3.1 : Controlled group post-test marks

Class interval	Control group
0-30	0

31-40	9
41-50	18
51-60	24
61-70	11
71-80	2
81-90	0
91-100	0

According to the table 3.1 Thirty seven students scored over 50 marks.

Table 3.2 : Experimental group post-test marks

Class interval	Experimental group
0-30	0
31-40	0
41-50	0
51-60	0
61-70	9
71-80	17
81-90	26
91-100	12

According to the table 3.2 Sixty four students scored over 50 marks.

Marks range

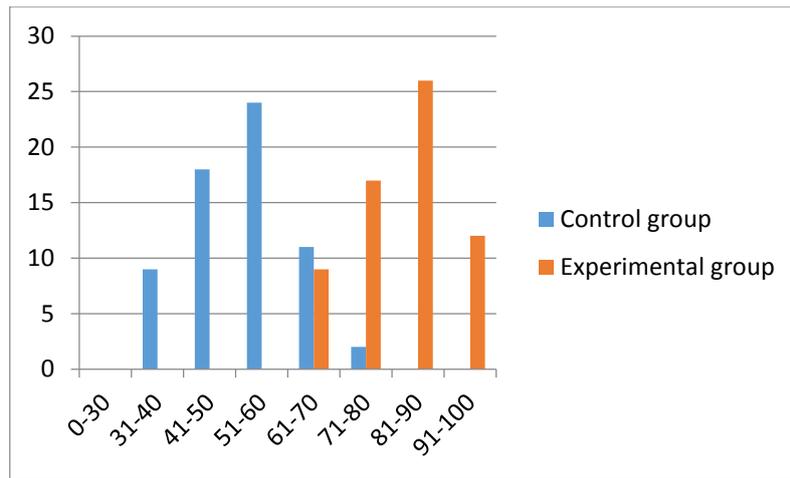


Figure 3.1 : Marks range of controlled group and experimental group.

According to figure 3.1 most of the students are in the range over 50 marks for the experimental group.

Statistical analysis

Table 3.3 Average and standard deviation for both groups

Group Name	Average	Standard deviation
Control group	54.14	9.94
Experimental group	83.98	9.60

According to the post test marks obtained by the two groups

The average value for the control group = 54.14

The average value for the experimental group = 83.98

Increased value for the experimental group = 83.98 – 54.14

= 29.84

Percentage of increased average value = 29.84/54.14 * 100

= 55.12%

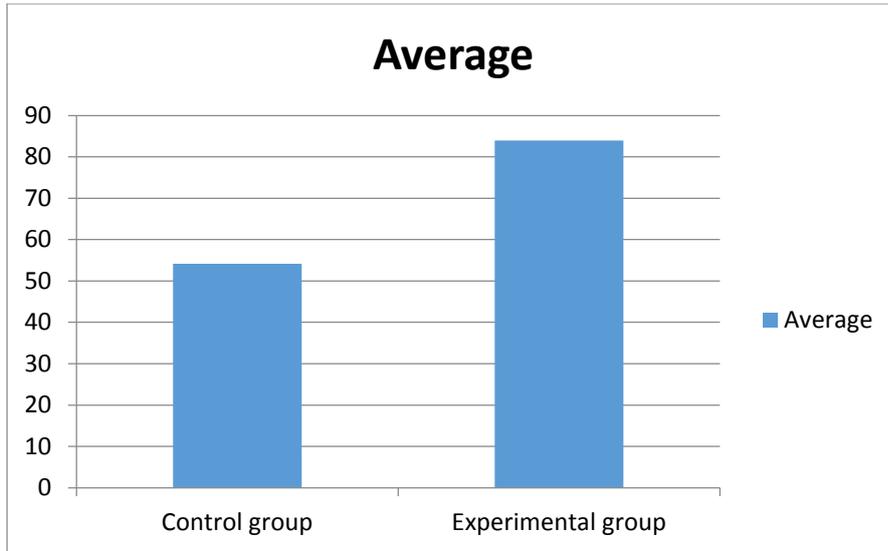


Figure 3. Average value of the groups between controlled and experimental

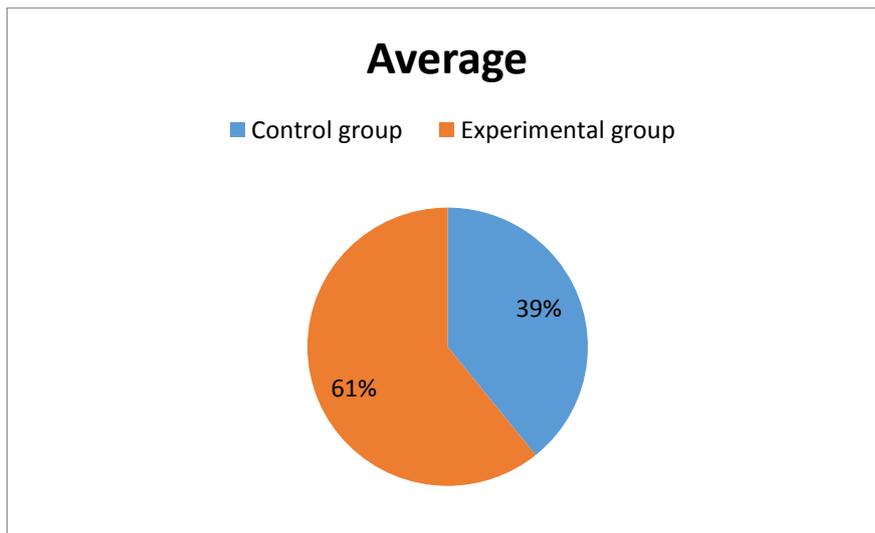


Figure 3.4 pi-chart for average value

The mean value test (t-test)

To analyze the data obtained in the tests 2 sample t- test was used. The two sample t-test can be used to verify the above results. The two sample t-test can be used to compare two methods. This is the general method of hypothesis testing. It assumes that hypothesis is true and then tries to disprove it. This hypothesis is known as null hypothesis (H_0). If null hypothesis (H_0) is rejected an alternative hypothesis is accepted. The null hypothesis is tested at a particular significant level. This level relates to the area in the tail of the distribution being used for the test. This area is called the critical region and if the test statistics falls in

the critical region, the result is unlikely to have occurred by chance, the null hypothesis can be rejected. (Richard, I.Levin(2003)).

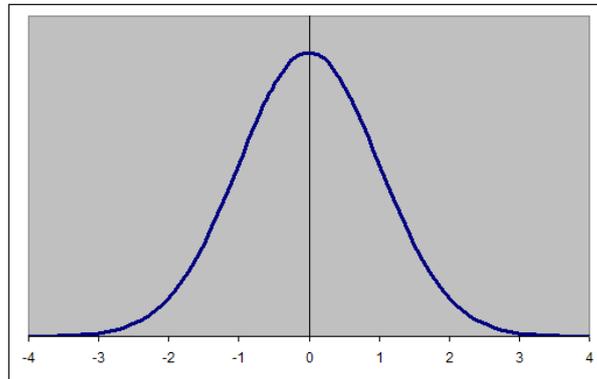


Figure 3.5 norm curve

Establish hypothesis

Hypothesis are following

$H_0 \Rightarrow$ There is no difference between the experimental group and control group

$$\mu_C = \mu_E$$

$H_1 \Rightarrow$ There is difference between the control group and experimental group

$$\mu_C < \mu_E$$

Here μ_C - mean value of the population for control group

μ_E - mean value of the population for experimental group

The next step checking whether null hypothesis is accepted or rejected in general null hypothesis is rejected the alternative hypothesis will accepted.

We can use Minitab package for the analysis of above.

Minitab Output:

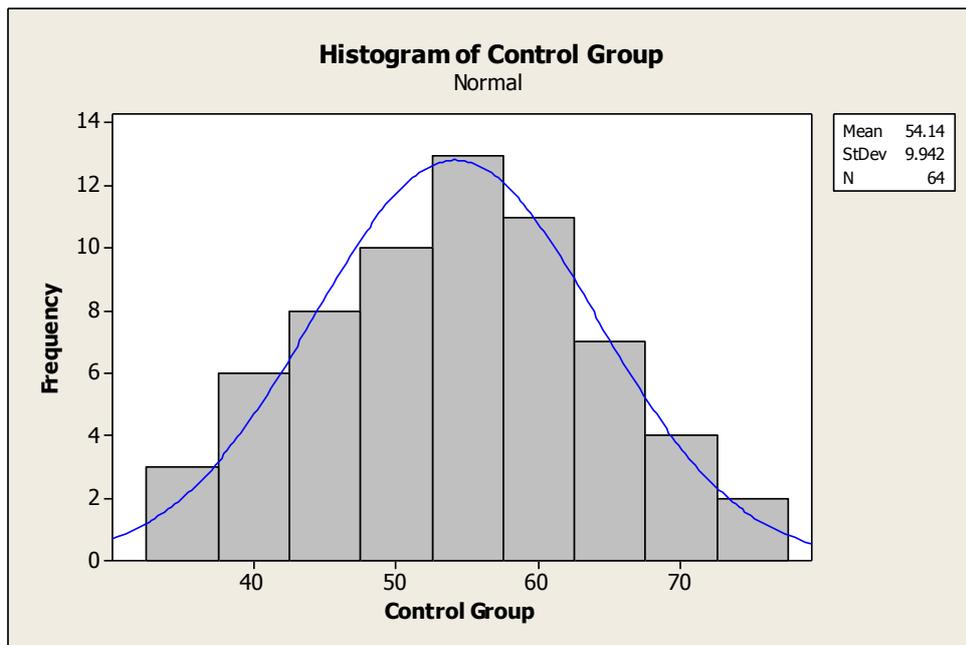
Descriptive Statistics: Control Group

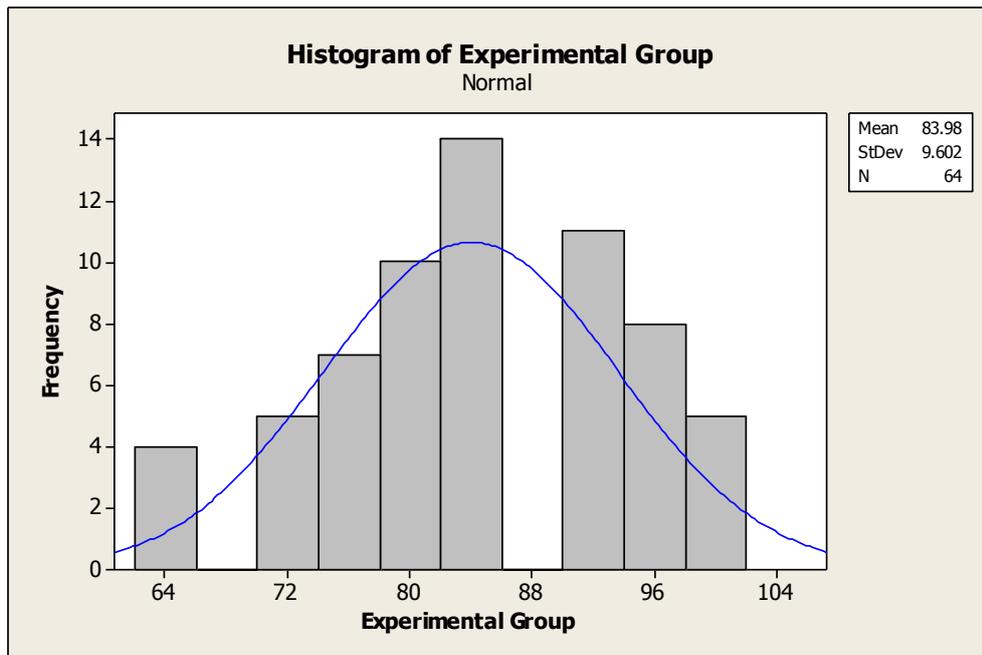
Variable	Mean	SE Mean	StDev	Variance	Minimum	Maximum	Range
Control Group	54.14	1.24	9.94	98.85	35.00	75.00	40.00

Descriptive Statistics: Experimental Group

Variable Mean SE Mean StDev Variance Minimum Maximum Range
 Experimental Group 83.98 1.20 9.60 92.21 65.00 100.00 35.00

Variable	Mean	SE Mean	StDev	Variance
Control group	54.14	1.24	9.94	98.85
Experimental group	83.98	1.20	9.60	92.21





- Population variance is unknown
- Sample size is large. (Since the sample size is large, assume that the variable marks is normally distributed)
- Variance equality?

Perform a two-sample variance test

$$H_0: \sigma_A^2 = \sigma_B^2 \quad vs \quad H_1: \sigma_A^2 \neq \sigma_B^2$$

Test and CI for Two Variances: Control Group, Experimental Group

Method

Null hypothesis $\text{Sigma}(\text{Control Group}) / \text{Sigma}(\text{Experimental Group}) = 1$

Alternative hypothesis $\text{Sigma}(\text{Control Group}) / \text{Sigma}(\text{Experimental Group}) \neq 1$

Significance level $\text{Alpha} = 0.05$

Statistics

Variable	N	StDev	Variance
Control Group	64	9.942	98.853
Experimental Group	64	9.602	92.206

Ratio of standard deviations = 1.035

Ratio of variances = 1.072

95% Confidence Intervals

Distribution of Data	CI for	
	CI for StDev Ratio	Variance Ratio
Normal	(0.807, 1.328)	(0.651, 1.765)
Continuous	(0.792, 1.371)	(0.627, 1.879)

Tests

Method	Test			
	DF1	DF2	Statistic	P-Value
F Test (normal)	63	63	1.07	0.783
Levene's Test (any continuous)	1	126	0.09	0.768

Here $p - value = 0.783 > 0.05$ (significance level) $\Rightarrow H_0: \sigma_A^2 = \sigma_B^2$ is not rejected

Therefore at 5% significance level we can say that two variances are equal.

- Now perform the 2 sample t –test

Minitab Output:

Two-Sample T-Test and CI: Control Group, Experimental Group

Two-sample T for Control Group vs Experimental Group

	N	Mean	StDev	SE Mean
Control Group	64	54.14	9.94	1.2
Experimental Gro	64	83.98	9.60	1.2

Difference = μ (Control Group) - μ (Experimental Group)

Estimate for difference: -29.8438

95% upper bound for difference: -26.9807

T-Test of difference = 0 (vs <): T-Value = -17.27 P-Value = 0.000 DF = 126

Both use Pooled StDev = 9.7739

Here p - value = 0.000 < 0.05 (significance level) Null hypothesis $\Rightarrow H_0: \mu_C = \mu_E$ is rejected, Therefore Alternative hypothesis $\Rightarrow H_1: \mu_C < \mu_E$ is not rejected

Then the null hypothesis H_0 is rejected at 5% significance level. Therefore we can conclude that there exist significant differences between the control group and experimental group at 5% significance level.

Conclusion and suggestions

Conclusion:

There is a growing demand for supplementary education aids for G.C.E Advanced Level students in Sri Lanka. In this project, I was guided to find how to handle a project and assess its outcome. The A-level students, who had some difficulties and misconceptions on the lesson, the intermolecular interactions of the unit General chemistry revealed that their performances were significantly improved by these computer programmes on them.

I was encouraged by this to continue the computer creating an excellent learning environment for the A-level science students. The challenge is how to involve successfully the diverse population of students in our teaching procedure. If the teachers wish to overcome the obstacles and to work in unison with a thoughtful and tactful goal, the students will succeed in fulfilling their need to adapt themselves to the world that demand and great things under globalization

According to students' responses we can conclude that students like computer aided teaching very much. According to my experience difficult abstract concepts in the subject chemistry could be easily engrained in the minds of our students. I was able to observe that the student seems to be attracted towards the self learning packages introduced to them. I have also identified that the novel teaching approaches have a great impact on the learning behavior of

the students as they are motivated and show great interest in learning. The self learning package which I have introduced also paves way for the students to seek the computed assisted learning which helps them to widen their knowledge and experience in the future studies and career. Since all the sections in chemistry could not be introduced through self learning packages, teachers should realize which sections could be will taught through the self learning packages.

This self learning packages cannot be introduced in students where there are not computer facilities.

Suggestions:

Computer assisted self learning should be popularized in the schools. Source of knowledge through internet is easily accessible in the present world. Hence the suggested self learning packages will be a stepping stone for almost all the students.

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UNDERSTANDING THE NO DETENTION SYSTEM IN INDIA

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Abstract

India has been struggling to fulfill the goals of Universalization of Elementary education in the country ever since it became independent. Heavy dropout rate of children from school is a major hurdle for the policy planners to overcome. Promotional Examinations System was found to be one of the causative factors as revealed by several research reports. Measures like mid-day meal, supply of free uniforms, textbooks, stationery, scholarship and No Detention Policy have been taken to deal with the problem. This paper attempts to identify the various dimensions of the No Detention Policy and explores whether or not the existing policy and its resultant activities and services continue to be effective and efficient in helping children and their education. While analyzing No Detention Policy, certain issues were raised regarding the motives of the policy and its adaptability in the existing system of education. On the basis of the content analysis of policy and its various ordinances some major dimensions (viz. Quantity, Quality, Attendance, Achievement, Assessment, planning and implementation) were schematized. These themes were discussed with teachers and students using individual and focused group interviews respectively, to echo their viewpoints on no detention policy in Indian schools, which depict practical implications for the policy makers who have to make strategies and decisions in order to cater this policy in a cogent and systematic manner.

Key Words: No Detention System, Policy Dimensions, Content Analysis and Ungraded School System.

Introduction

In India, British Government started working to endorse most basic and elementary education to the people of India. This proposed education, however, was for their self interest. Afterward, government of India encased Universalisation of Elementary Education (UEE) in the colour of democracy through the constitutional provision of equal opportunities to all. However, it has so happened that despite several efforts the said goals could not be achieved. There is enough data to prove that a large number of children in the age group of 6-14 years have either dropped out or were pushed out at different levels of their schooling. The state and central government conducted surveys to understand the magnitude of the problem of wastage and stagnation, and to find out the factors responsible for the high dropout rate at different places [1], [2], [3], [4]. Amongst a variety of steps taken by the government an important and a recent one is No Detention to strengthen the motivation level of students and also to prevent the frustration that occurs from early failure.

The drive for No Detention System in India had actually begun in mid-80's when a Non Graded School System (NGSS) was suggested in place of Promotional Examination System (PES) by many national and state bodies [5], [6]. As per the system, a child is not detained in a class and is allowed to go to the next higher grade till class 8, year after year irrespective of his/her performance in annual examinations. The one time conditional examination system is discredited for the purpose of promotion or detention. However, examinations are not completely done away for the fear of diluting the quality and standards. An assessment and evaluation on a continuous basis is hence suggested and can be seen in the form of Continuous and Comprehensive Evaluation (CCE). No Detention was implemented in a phasal manner in India; first till class III and then upto class VIII. Recently, in 2009, Right to Free and Compulsory Education Act has permitted complete promotion irrespective of attendance and examination.

Rationale

Presently, the system is in great discussions among the scholars of education. Conflicting opinions in favor or against are expressed regarding this system among the educational community. People are concerned about the fundamental flaws in the system yet, others have optimistic opinions too. Each argument, positive or negative, may be valid in its own sense. But there is a need to study these arguments in a researchable manner. The present study has

tried to do an in-depth analysis of the ordinances and discussions with various stakeholders as a post implementation feedback was thought to be most essential. The study has also tried to raise some more fundamental issues regarding purposes of assessment, importance of promotion v/s detention, programs to enhance the academic standards of children which run parallel to no detention. There are several unanswered questions which directly or indirectly relate to the policy on the one hand, a rationale and the context behind No Detention on the other. Such serious concerns needed investigations and a rigorous research exercise.

Objectives

The study was conducted with the following objectives

1. To analyze the National and Delhi State Level Ordinances related to No Detention Policy at the Elementary Level and its implications
2. To present the teachers' and students' perspective about the no detention policy after its implementation.
3. To understand the context of 'No Detention' and establish a rationale.

Methodology

In order to have the in-depth view of the policy, various ordinances/documents available from MHRD; Department of Education, University of Delhi; Municipal Corporation of Delhi; National and State Council of Educational Research and Training; Directorate of Education, Govt. of NCT, Delhi; were collected and then content analysis method was used to present the insight view of the policy.

Various aspects of the policy were discussed with teachers and students of Government schools of Delhi using individual and focused group interviews respectively, to echo their viewpoints.

1. Analysis

In order to achieve the specified objectives, the analysis has been presented in the following three parts viz. study of the relevant ordinances and policy documents, voices of teachers & students and rationalizing the no detention.

5.1 Study of Ordinances and Policy Documents

Assessment is an integral part of any education system. It presents progress, growth and development of the individual or of the group. One of the well accepted objectives of assessment is that it provides feedback that helps the persons involved in educational process. It was a part of traditional single teacher school and is central in the contemporary western graded education system too [7]. However, its form has changed drastically like the education system itself. In a single teacher school, education was more individualistic. There was no separate class for same age group children. All learners sit under one roof or open space. There was no set entrance date/ age. Curriculum was neither fix nor centrally structured. Learning was assessed informally and is individually designed by the teacher for the individual child [7]. The purpose, however, of the present day examinations is quite different. It not only evaluates the performance of students, quantifies their achievement and certifies them [8]. Thus, there is a shift in conceptualization of examination from assessment to evaluation. Moreover, present day examinations are not individualised. They are common for all the students studying in one common grade. This shift to evaluation has been criticized by many educationists on the very fact that common examinations, conducted to judge all the students studying together in one grade, curb the creativity of the students. It legitimizes idealistic patters and authority of bureaucratic institutions that certify the students [8], [9]. Krishanmurti, 2008). It reinforces inequality by stratifying the people for example allocating hierarchy of grades (A, B, C, D, E) or marks. Another criticism attached with the present day examination system is that it certifies the students to be promoted/ detained; this very act of detention causes fear of failure which has drastic implications on the psyche of the students. This fear of failure accelerates anxiety resulting in dropout, exam- induced suicides and nervous breakdown among individuals [8], [10].

No detention is a step forward to strengthen motivation and prevent them from frustration that occurs due to early failure. Some of the recommendations in this regard are:-

“The Board recognises the importance of no detention policy for strengthening motivation of students and preventing frustration that occurs due to early failure.”[5].

“Comprehensive measures for reducing dropout rates have been suggested to states such as No detention” [6].

“In order to achieve the goals of Universalisation of Elementary Education and to increase the retention in schools of Delhi, it has been decided to introduce ‘No Detention Policy’ upto class VIII” [11].

“No child admitted in a school shall be held back in any class or expelled from school till the completion of elementary education.” [12]

From the above facts, it becomes paradoxical to think that on the one hand students are promoted to prevent them from frustration and on the other these students are tagged with grades (A/ B/ C/ D/ E) and corresponding remarks in their performance/ report cards. Student, who scores E grade, is certified that his/ her performance is poor among their classmates. These students are never seen with a good impression. They do not intermingle with rest of their classmates and often struggle for their acceptance among classmates and teachers and henceforth they form poor sense of worth [13]. One such example was noted in a mathematics classroom of class four. Class was working with the concept of “smart charts” [14]. Teacher took an example which was supposed to be more concrete. He made a table on the blackboard specifying grades (A+, A, B, C, D) in a column and then with the help of students he filled another column denominating number of students in each category. He got (2, 5, 14, 2, 0) number of students respectively, when he asked the students to stand for each grade independently. The noticeable information, hereby, is that the strength of the present students was 33, however only 23 students showed their presence in the activity and nil in grade D, the lowest grade in the hierarchy. Teacher noticed this difference. His further efforts resulted in filling the lowest two grades with more number of students. Thereafter, teacher proceeded with the process of solving the sum. It was another noticeable fact that these students wished to hide their appearance under lowest grade categories and were unhappy of being uncovered among their classmates. This is just one of the examples coated here, which elucidates that despite of no detention, we could not erase the stated ill effects of detention i.e. frustration. This happens to be so as frustration is not limited to failure. It is a direct implication of the type of examination system that the Indian education system is working with. It is pertinent to define here that the concept of pass and fail is not limited to promotion and detention. It has wider connotation in the present education system. Getting good grades ensures greater success in future materialistic/ economic society. This superficial negation of detention from elementary education still confirms success and failure by stratifying the students

using (A, B, C, D, E) grade allotment on the basis of performance in the examinations and the students are well informed of it. With such an examination system, irrespective of No detention, where students know getting poor grades represents failure in future life as compared to the ones who score good grades; Are we really able to help students come out of the fear of failure?

Secondly, it is quite evident that there is yet another goal that the above stated recommendations wished to achieve i.e. reducing dropout through No detention. More than a dozen researches done to map the variables responsible for high dropout at national and state level, reveal failure as a key factor. Therefore, no detention certainly helps in reducing dropout. However, PROBE clearly points out the main reason for the dropout is that ‘children do not learn anything even after studying for many years in schools’ and when they fail, they dropout [4]. As the stated policy has been viewed as a flexible movement in the education, policy planners have tried to ensure the presence of student by certain provisions with an assumption minimum prescribed attendance in the school will help in assuring minimum achievement/ learning. Some of the provisions in this regard are:

“No child shall be detained on the basis of poor performance in pre – primary classes and classes I, II, and III against the wishes of his/ her parents or guardian. Promotion from these classes to the next higher class shall be automatic subject to the parent or the guardian agreeing to it and fulfillment of eligible conditions in respect of attendance [15].”

“No child would be detained in class IV, V, VI and VII on the basis of their performance in the various examinations taken for evaluation and promotion to the next class, provided the child attends the school more than 75% school days and also undertakes all Unit Tests and Terminal Examinations.” [11]. However, RTE changed the above provision with a stroke of its provision (Pt 4 and 16), which ensures direct admission to age appropriate grade and automatic promotion till elementary education.

The arguments placed above drive us to reflect on a much deeper issue: quality v/s quantity. Do we really intend to provide quality education or more worried about quantity of educated people or both? The above said provisions seem to be hitting the targets of quantity alone. It has ensured more and more retention and successful completion of

elementary education. It has also helped in reducing number of dropouts occurring due to failure but the major concern articulated by the PROBE team in its PROBE Report is still far behind i.e. poor learning. Above stated provisions have also been cautious of it and hence, accepting the policy to be a supple move, attendance was made mandatory. Nevertheless, RTE ACT 2009 made it a snug provision. Attendance is no longer an urge of the system and hence, the irony is that the system left behind its major companion (quality). Quantity of education along with quality makes the nation and its individuals grow in a healthy manner. In order to ensure quality with quantity, along with the no detention, we need to locate no detention within the concept of Non Graded System (NGS). The similar system got popularity in 1960s in many western countries and was recommended by Central Advisory Body of Education for the first time in its 39th session, 1983 in India. It recognized the importance of 'No detention' policy for strengthening motivation of students and preventing frustration that occurs from early failure. In order, however, to ensure that systematic teaching and learning take place, the implementation of a liberal policy of promotion will require simultaneous adoption of a non graded system as well as a system of continuous assessment of attainments [5]. The proposed system is structurally (academic and administrative) different from the present form of Indian education system. This system was favoured and practiced over graded system by many academicians in western and eastern states at school and national level. This system deals with the problem of dropout, fear of failure, frustration due to early failure, achievement, absenteeism, and self concept in a more comprehensive and effective manner as compared to graded system [16], [17], [18], [19], [20].

This proposed concept, however, got filtered down from National to State bodies and no detention was implemented without its riders (NGS and continuous assessment of attainments), which require various structural (academic and administrative) reforms as experimented by various European countries [21], [17], [22]. Thus, there was an immense need to probe its feasibility in Indian context.

Voices of the Teachers and Students

Some of the teachers argued in favor of the policy. They visualized its long term positive ramifications on the psyche of the students. They have a hope that it will provide the sense of joy, from success and promotion to next grade, to its students. However, they feel a strong urge for amendments in the system.

Conversely, there is another group of teachers who showed their concern towards the ill effects of provision of direct admission to age appropriate class vis- a- vis no detention. They are more willing to know that; what will the students gain after certified completion of elementary education, irrespective of poor achievement due to various reasons including truancy or absenteeism or direct admission to age appropriate grade? How will this elementary education equip these students to live a dignified life that our constitution ensures through Article 21 (a)? A few teachers argued that the present elementary education system is simply distributing the certificates to show hundred percent literacy in the country. The certificated education that they will have has no inherent value. It does not carry any weightage in the highly stratified social system of the country.

Another group of the teachers pointed towards the academic implications of the above said provisions on the achievement levels of the students. According to them there are three types of students- internally motivated, externally motivated and those who are neither internally nor externally motivated. No policy can influence the ones, who are internally motivated and those who are a part of the third category, who just don't want to study for anything and at any cost. However, no detention directly implicates the students, who need external push to study. According to them, these students used to study due to that fear of failure but no detention has made them careless.

Nevertheless, a different and positive perspective came out of the discussion with the students. According to them policy has neither positively influenced them nor negatively. Those who wished to study even before and are studying even after the implementation of no detention; the ones, who are not responsible towards their studies, were neither studying before nor are they doing so now!

1.2 Rationalizing the No Detention

Study of the ordinances reveals that policy has immense strength to bring many healthy qualitative and quantitative changes but the problem has arisen due to the adoption of filtered approach, and hurry in implementation. The current form of No Detention Policy as has been adopted in the state of Delhi has implemented a part of the entire concept and

left many of its riders, such as ungraded system and comprehensive assessment of attainments, back. Because of these lacunas, the current situation of the policy is in danger. It could have asserted the hearts of the teachers and would have brought fruitful results if it had been adopted in its holistic form and would have been implemented with proper planning. In its present form, it is in fact back firing according to the teachers. Moreover, students' responses showed that the policy had not helped them and none of its assertions like "to strengthen motivation and to reduce stress" gets fulfilled through the present form of No Detention Policy because according to them the students still go through the trauma of examinations and still are concerned about achieving high scores.

Findings

1. The analysis of ordinances reflected that there is a gap between the vision behind the concept of No Detention as perceived by the planners when it was originally suggested and how it has been mandated. There is a conflict between quality and quantity parameters and how to achieve both simultaneously.
2. Attendance and achievement both are imperative in recommendations of the central government's advisory body; however at the implementation level annual promotion of the students, irrespective of attendance or achievement, to next grade is much more central than anything.
3. Affects on achievements due to the liberal policy of No Detention System were in the minds of member of advisory board; hence Central Advisory Board of Education recommends a keen eye on continuous and comprehensive evaluation system and non graded system, which is must, to be implemented with No Detention System.
4. Teachers favor No Detention Policy as they visualize it with a hope and optimism. They feel that the policy will bring positive insinuations for students and for the education system. Students will get chance and feeling of success till they get mature enough to take the responsibility of their education. However, they suggest modification, to adjust it to the present education system of India, is fundamental. A lot of other teachers do not favor the change. They resist the change because their experience reflects that carelessness and the tendency of truancy have accelerated among the student community after the implementation of No Detention.

5. From the open discussions with children, the study has come up with a positive acceptance of the policy among the children and not influenced the students' attitude towards learning negatively. It neither affected the students negatively or positively as those who were not studying previously are not studying even now; and those who were conscious are conscious even now.

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EDUCATION FOR INTERNATIONAL UNDERSTANDING AND ITS ROLES FOR LIVING TOGETHER IN A CHANGING WORLD

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Abstract

With recognition to the increasingly importance of the field of “Education for International Understanding (EIU)” and “Learning to live together, one of the “Four Pillar of Education” released by UNESCO, this paper examined the concepts and development of EIU and EIU-related themes which have been revisited in the context of changing world. It followed by the investigation on practices of the concepts in Thai universities and the surveying results of state and problems in instructing EIU-related courses in higher education institutions, using Chulalongkorn University as a case study.

Keywords: Education for International Understanding (EIU), Peace Education, Development Education

Introduction

After UNESCO’s report “Learning the Treasure Within” submitted by Jacques Delors was released in 1996, the “Four Pillar of Education”; namely, “Learning to know”, “Learning to do”, “Learning to be”, and “Learning to live together”, was widely practiced. “Learning to live together”, the last pillar was very much welcomed with the revised concept of Education for International Understanding (EIU). This paper will examine the concept and development of EIU and its practices in higher education institutions with emphasis on Thai universities.

Concept and development of EIU

EIU has long been developed as we can trace back to the “Peace Movements” after World Wars. Disarmament, demilitarization and peace education were emphasized in its initial stage followed by “Human Rights Education” after the announcement of the Universal Declaration of Human Rights 1948. UNESCO has played an important role in promoting the ideas and launched Associated Schools Project (ASP) in 1953. The project aimed to involve world’s

youth in World Concerns and the United Nations system, Human Rights and Democracy, Intercultural Learning, and Environmental Issues. At present, about 9,000 schools in 180 countries have become its members. Thailand applied for membership in 1958 and has about 152 member schools at present. Moreover, after the announcement of International Development Decades in 1960's, another related field, Development Education, has gained more recognition. The field emphasizes study and analysis of problems of the so-called "third world countries" such as social, economic, political, and cultural inequalities and its impacts arose from westernization and the country's development plans which followed the Modernization Theory.

Since International Development Decades, there was a revision of EIU. The field shifted its interest from "country" or "society" level to the internal and local problems which might affect international relationships, analysis the question of inequality more critically, and seek ways to promote "peaceful international relations", as well as aiming to construct theory and practices for global issues. We saw since the announcement of 1968 International Year for Human Rights, 1970 International Education Year, 1976-1985 United Nations Decade for Women: Equality, Development and Peace, and 1986 International Year of Peace, for instance.

Toh Swee-Hin and Colin Powers, prominent leaders in EIU, summarized the development of the field.²⁸ It was noted that from 1974 to 1994, a culture of peace was promoted. The most important movement occurred when UNESCO announced its "Recommendation concerning education for international understanding, co-operation and peace and education relating to human rights and fundamental freedoms", which was adopted by the General Conference at its eighteenth session, Paris, 19 November 1974. In this recommendations, it was stated that the terms international understanding, co-operation and peace are to be considered as an indivisible whole based on the principle of friendly relations between peoples and States having different social and political systems and on the respect for human rights and fundamental freedoms. In the text of this recommendation, the different connotations of these terms are sometimes

²⁸ See more details in Toh Swee-Hin, "Education for International Understanding: A River Flowing from the Mountains", in *SangSaeng* Vol 5. Autumn 2002. Retrieved from <http://www.unescoapceiu.org/>, Toh Swee-Hin, *Integrating Education for Sustainable Development & Education for International Understanding: Conceptual issues and pedagogical principles for Teacher Education to address sustainability*. APEID, UNESCO Bangkok Occasional Paper Series Paper No. 6, December 2006. Retrieved from <http://unesdoc.unesco.org/images/0015/001529/152967e.pdf>, and Colin Power, *Education for International Understanding and its contribution to higher education*. Address for World Universities Forum, Hong Kong, 13-16 January, 2011. Retrieved from <http://www.eidos.org.au/v2/documents/ColinPower2.pdf>

gathered together in a concise expression, “international education”. Also, the following objectives were suggested to be regarded as major guiding principles of educational policy:

- a) an international dimension and a global perspective in education at all levels and in all its forms;
- b) understanding and respect for all peoples, their cultures, civilizations, values and ways of life, including domestic ethnic cultures and cultures of other nations;
- c) awareness of the increasing global interdependence between peoples and nations;
- d) abilities to communicate with others;
- e) awareness not only of the rights but also of the duties incumbent upon individuals, social groups and nations towards each other;
- f) understanding of the necessity for international solidarity and co-operation;
- g) readiness on the part of the individual to participate in solving the problems of his community, his country and the world at large.

By the late 80s, thinkers and practitioners of peace education agreed that the earlier tendency to focus on peace as the absence of war needed to be replaced by a holistic framework of peace. All forms of violence (physical, social, cultural, economic, political, psychological, structural) had to be fully considered, while peace was also to be promoted in its inner as well as outer dimensions. During this time, EIU’s main points of interest also included such themes as Multicultural Education, Anti-racist education (Discrimination), Gender Equity, Citizenship and Human rights, and Environment issues (especially since the start of the Decade of Education for Sustainable Development or ESD in 2005).

EIU thus becomes more multi-dimensional, holistic, and inter-related field which scope of study included the work of UNESCO such as peace education, human rights education, development education, inter-cultural education, anti-racist education, non-sexist education, education for tolerance, environmental education, disarmament education, global education, values education, media literacy, citizenship education, education for democracy, international education.

The latest movement came in 1995 when UNESCO decided to follow up its 1974 recommendations and announced Declaration and Integrated Framework of Action on Education for Peace, Human Rights and Democracy. EIU thus was transformed to be a more

trans-disciplinary program with the aim to educate and exchange knowledge as well as building attitudes that will promote a peaceful, sustainable, and equitable world. Importantly, Asia-Pacific Centre of Education for International Understanding (APCEIU) was organized under UNESCO in 2000 with its headquarter in Seoul, Korea

Today, a broad view of EIU includes such themes as education for disarmament; education for nonviolence and conflict resolution; education for a culture of peace or peace education; development education; education for social justice; human rights education; gender-equity or non-sexist education; multicultural or intercultural education; education for sustainable development or sustainability; indigenous education and education for inner peace or spiritual development.

Figure 1 Six themes of a holistic EIU for a culture of peace



Source: Toh Swee Hin & Virginia F. Cawagas, Presentation at the Experts Consultation on EIU toward a Culture of Peace, Suva, Fiji, July 2002

Thai Higher Education Practices in relation to EIU-related themes

EIU-related themes are either offered as program of study, courses or topics in the curriculum. Also, research and development centers relating to EIU were founded. It is interesting to see that EIU-related curriculum and activities have gained rapid recognition in recent years due to some national and international factors such as Agenda 21 which realized the role of education as a significant system to build up a sustainable future and the adoption of United Nations Decade of Education for Sustainable Development (DESD) (2005 to 2014). Examples of practice are as follows.

- 1.1 Education and Sufficiency Economy Philosophy.** The National Institute of Development Administration (NIDA) established Centre for Sufficiency Economy Studies as a focal point for the staff to exchange views and share thoughts on subjects

related to the Philosophy. Other activities include a Masters level course “Sufficiency Economy and Development”; training programs, research, seminars and public lecture; and public relations and networking with other institutions. Huachiew Chalermprakiet University (HCU) has integrated the 2-credit subject “Life and Sufficiency Economy” as core course in the General Education of every faculties’ curriculums since 1998. Chulalongkorn University has launched the “*Promote Sufficiency Economy*” campaign. Accordingly, Graduate School offers grant to dissertation relating to the topic, and a new Bachelor of Arts Program in Agricultural Resources Administration is offered in 2009. Interestingly, Thammasat University’s faculty members and students have voluntarily participated in “*Thammasat Rice Field Project*” which was initiated in 2006 at their Rangsit campus.

2.2 Education for Sustainable Development (ESD). Naresuan University opened Master Degree Program in Sustainable Development since 2005. At Chiang Mai University, the Faculty of Social Sciences set up the Regional Center for Social Science and Sustainable Development (RCSD) as a center for the development in the Mekong subregion and the Sustainable Land Use and Natural Resource Management Academic Center (SLUSE) as operating unit of Thailand universities cooperation comprising Kasetsart, Chiang Mai, and Maejo Universities and Royal Forest Department. In 2008, the Faculty of Education, Chulalongkorn University, set up R&D Centers, notably, R&D Center on Education for Sustainable Development and R&D Center in Educational Policy, Law, Administration, and Higher Education Management. The latter center undertakes academic activities and research projects including EIU. There are also student clubs such as Environmental Education Club and Business Education Club for Sufficient Economy (BASE), which was founded on June 3, 2010.

2.3 Environmental Education. Faculty of Education and Development Sciences, Kasetsart University, Kamphaeng Saen Campus, Nakhonpathom, offers four-year Bachelor of Science Program in Agricultural and Environmental Education and five-year Bachelor of Education Program in Agricultural and Environmental Education. Master of Science (Environmental Education) is opened in Suratthani Rajabhat University. An academic network of Environmental Education for Sustainable Development or “EESD Network Thailand” was organized by Department of Environmental Quality and Promotion, Ministry of Natural Resource and Environment. Faculty members from Chulalongkorn University, Chiang Mai

University, Prince of Songkla University, and Udon Thani Rajabhat University were asked to join the network and act as consultant to eco-schools.

2.4 Development Education. Faculty of Education, Chulalongkorn University offers Master and Doctoral degree in Development Education which include Comparative and International Education. Related programs are offered in other universities such as Kasetsart.

2.5 Education for Peace and Conflict Resolution. The Office of Peace and Governance, King Prajadhipok's Institute was set up to undertake academic activities relating to public participation and peaceful conflicts resolution and build national and international network to promote democracy. The office supports other universities such as the establishment of Center for Peace, Dhurakij Pundit University (DPU) in January, 2010. At Mahidol University, Research Center for Peace Building was founded in November 2004 with the impetus to be part of the peaceful solution to conflicts in Thailand especially the conflict in three southernmost provinces; Narathiwat, Pattani and Yala. The Center's philosophy is grounded in nonviolent approaches building long-term social change where cultural differences are honored and respected so that people can peacefully and harmoniously co-exist. The Center plans to offer peace study courses and is examining the possibility of merging Mahidol University's Master Degree Program in Human Rights in order to strengthen peace, conflict, justice and human rights studies.

In 2004, Prince of Songkla University set up the Institute for Peace Studies comprises of Conflict Management Center, Contemplative Education Center, Human Rights Studies Center, and Islamic Perspective for Peace and Development Center. The institute has been involved in undergraduate education by offering several elective subjects, and has offered a Master of Arts program in Conflict and Peace Studies since 2008. The institute support and promote peaceful culture by putting emphasis on creating peaceful environment through student potential development activities, such as multi-culture society learning project, talk through the cinema project, student and peace in Southern Thailand project (Dream Keeper II), short training course in contemplative education, and several other projects of peace studies club. Institute for Dispute Resolution, Khon Kaen University was established to study, provide academic activities, and conduct research aim at solving conflict especially conflict from using resource and public policy as well as to be resource for problem solving both of Thailand and Foreign Countries. The Institute of Religion, Culture and Peace, Payap University in Chiang Mai was set up since 1996 initially to promote better understanding among various religions in Thailand and Southeast Asia. After 2005, activities of the institute expand to include building peace and

harmony in Thai society and the world. It also offers Doctor of Philosophy Program in Peacebuilding.

2.6 Human Rights Education. The National Human Rights Commission of Thailand (NHRC) was constituted in July 2001 as a mechanism to guarantee the respect for human rights, human dignity, and fundamental freedoms for people as stipulated in the Constitution. Mahidol University plays leading role in providing program of study in this field. The Center for Human Rights Studies and Social Development (CHRSD), established in 1996 at Salaya campus, Nakornpathom, has run many graduate programs, research projects, and thematic training in the area of human rights and its relationship to peace and development, with a focus on Asia. The CHRSD offers Master of Arts in Human Rights (International Program), the longest running accredited graduate degree program in human rights in Southeast Asia, since 1999. In 2006, the Center offers Ph.D. program in Human Rights and Peace Studies (International Program) which is one of the few interdisciplinary PhDs in Human Rights and Peace in the world. Two years later, in 2008, Thai Masters in Human Rights, applying interdisciplinary and participatory approach, was opened. A new Master of Human Rights and Democratisation (Asia Pacific Regional Program) or the MHRD, the region's premier degree in human rights and democratization, was introduced in 2010 with cooperation from the University of Sydney, Gadjah Mada University (Indonesia), Kathmandu School of Law (Nepal), and University of Colombo (Sri Lanka). The CHRSD has also developed South East Asia Advanced Program in Human Rights (SEAHR) which is a two-week training program and an annual one-week Asian Thematic Program to examine a specific and critical issue in human rights (and peace) within the wider Asia region. At Mahasarakram University, Human Rights and Peace Studies Center was established in College of Politics and Governance to provide academic services in the area of human rights in Northeastern Thailand.

2.7 Values Education. The Center for the Promotion of National Strengthen on Moral, Ethics, and Values was established in 2004 as one of the specialized institutes of the Office of Knowledge Management and Development (OKMD), a state agency under the Office of the Prime Minister. The Contemplative Education Centre, Mahidol University offers Master of Arts Program in Contemplative Education and Transformative Learning while Contemplative Education of the Institute for Peace Studies, Prince of Songkla University, Surat Thani Campus offers a one-year pilot study. The activities include a new approach for first-year- student orientation, short training on various programs such as 'knowing nature, knowing life',

‘knowing love, knowing self’, self-conflict management, leadership development and a pre-graduation orientation. Also, a new course titled ‘Life and Happiness’ is offered.

2.8 Education for Social Justice and Gender Equity. Women's Studies Center, Faculty of Social Sciences, Chiang Mai University is pioneer in this field. The Center offers its Master Degree Program in Women’s Studies in 2000, and is the first of its kind in Thailand. Critical interdisciplinary approach was employed as instructional method in this educational program which consists of feminist theory, research methodology, and the study of the social, economic, and cultural issues both within Thailand, regionally, and worldwide that affect the lives of women. Another program is that of Thammasat University. The Master of Arts Program in Women’s Studies, had previously operated as 2 separate programs, one under the Office of Graduate Volunteers and the other, the Women and Youth Studies Project. After structural change in 2006, the program is now operated as the Master of Arts Degree ‘Program in Women’s Studies’ by the College of Interdisciplinary Study. Example of other social justice issues will be the activities of the Social Research Institute, Chulalongkorn University which identifies women, children, and labor as the main target groups.

2.9 Civic Education and Education to strengthen Democracy. The Faculty of Political Science, Chulalongkorn University initiated an interactive research program, Thailand Democracy Watch (TDW) in 2007. In 2003, Sanya Dharmasakti Institute for Democracy was also set up in Thammasat University to do academic and research activities that will lead to the development of Thai politics and democracy.

3. State and Problems in instructing EIU-related courses: survey research findings

Research studies on the EIU situations in 2007, 2010, and 2012. The first study collected data from 47 samples comprised of 16 ASP school teachers, 18 faculty members in universities, and 13 educators/scholars in EIU-related fields. The university faculty members in 2007 study considered that promoting sustainable development was the most important goal/objective in implementing EIU, followed by building peace in society/world, promoting social justice and equity, strengthening democracy, fostering intercultural harmony, cultivating inner peace, resolving conflict non-violently, and upholding human rights. EIU values that were most implemented in universities were responsibility, kindness, and love.

The last two projects collected data in the Faculty of Education, Chulalongkorn University as a case study. Data was collected from 157 undergraduate and graduate students (43

undergraduates, 94 Master degree students, 20 Ph.D. candidates) in the 2010 project, while the 2012 project received responses from 214 undergraduate and graduate students (159 undergraduates, 15 Master degree students, 40 Ph.D. candidates). It is interesting to pinpoint that the 2010 research findings showed that most students (62.42%) were aware of national policies relating to EIU. However, more than half of the respondents (54.67%) could not identify national policies relating to EIU. As for objectives in implementing EIU, resolve conflicts non-violently, build peace in society/world, uphold human rights were the three most important followed by promote sustainable development, foster intercultural harmony, promote social justice & equity, cultivate inner peace, and strengthen political democracy were also important. In 2012 result, the opinions were still the same but it is noteworthy that build peace in society/world has been recognized at highly important level.

In terms of EIU values, in 2010, it was suggested that harmony, equity, justice, solidarity, reconciliation, non-violence, responsibility, sharing, forgiveness, trustworthiness, honesty, kindness, love, tolerance, and humility were the most important values that should be inculcated. The latest research study in 2012 showed that there were not much differences between bachelor, master, and doctoral students and it was also interesting to see that students gave more important to all EIU's themes (see Table 1). When asked about interested courses, the 2010 report showed that Education for Sustainable Development was indicated as the most interested courses ($\bar{x} = 2.48$), followed by Environmental Education ($\bar{x} = 2.44$), Citizenship Education ($\bar{x} = 2.06$), Education for Dialogue of Civilizations ($\bar{x} = 1.90$), Education for Inter-faith Dialogue ($\bar{x} = 1.81$), and Values Education ($\bar{x} = 1.71$). The 2012 study showed that the top five interested courses were Education for Sustainable Development ($\bar{x} = 2.55$), Environmental Education ($\bar{x} = 2.13$), Citizenship Education ($\bar{x} = 2.06$), Global Education ($\bar{x} = 1.80$), and Human Rights Education ($\bar{x} = 1.72$). Moreover, in 2010, the students pinpointed that lack of opportunity to participate in related network was the main problems in studying/ participating EIU while in 2012, all problems were seen at moderate level.

Summary

It is widely accepted that EIU can play an important role in enhancing the "Learning to live together" pillar of education. However, practices vary among countries. In Thailand, although universities do not offer program of study using the name "EIU" in academic faculties and research centers, many EIU-related themes are integrated in their general education curriculum, undergraduate and graduate programs, and academic activities. This paper reviews university

practices in Education for Sufficiency Economy, ESD, EE, Development Education, Education for Peace and Conflict Resolution, Human Rights Education, Values Education, Education for Social Justice and Gender Equity, and Civic Education and Education to strengthen Democracy. Practices in Chulalongkorn University with emphasis on the Faculty of Education were used as a case study. It was showed that formerly many activities are relating to ESD and EE but Civic Education and Education for Peace and Conflict Resolution have received much more attention partly due to some factors such as

- the framework of national development plans, i.e. a “Green and Happiness Society” in the 8th (1997-2001) to 10th (2007-2011) plans and “Happiness and Harmonious Society” aspiration in the present 11th National Plan (2012-2016).
- The "National Reconciliation Plan" recently announced to undermine the process of reconciliation and restoration of peace and harmony in the Thai society.
- the Second Decade Educational Reform (2009-2018) aimed to provide Thai people with quality life-long education including the promotion of civic education.

Nevertheless, there remain some obstacles and problems to be solved before Education for International Understanding (EIU) can be used as a successful means for living together in a changing world.

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Appendix

Table 1 Comparing important EIU values which should be inculcated as perceived by students

EIU values	2010 (N=157)		2012 (N=214)	
	\bar{x}	S.D.	\bar{x}	S.D.
Responsible	2.81	0.44	2.85	0.54
Compassion	2.63	0.48	2.89	0.48
Reconciliation	2.83	0.40	2.88	0.50
Non-violence	2.82	0.44	2.94	0.54
Forgiveness	2.76	0.43	2.76	0.53
Harmony	2.89	0.31	2.89	0.41
Freedom	2.62	0.50	2.50	0.46
Honesty	2.73	0.50	2.83	0.51
Trustworthiness	2.74	0.47	2.77	0.47
Tolerance	2.65	0.52	2.69	0.52
Justice	2.87	0.35	2.73	0.51
Caring	2.55	0.52	2.24	0.50
Humility	2.64	0.52	2.75	0.53
Sharing	2.81	0.39	2.73	0.44
Love	2.72	0.48	2.70	0.43
Equity	2.87	0.34	2.87	0.51
Solidarity	2.85	0.37	2.89	0.55
Hope	2.46	0.63	2.46	0.63
Kindness	2.73	0.47	2.81	0.47

(Note: 1.00 - 1.40 least important, 1.41 - 1.81 less important, 1.82 - 2.22 moderately important, 2.23 - 2.63 highly important, 2.64 – 3.00 most important)

**CAPACITY BUILDING OF SCHOOL PRINCIPALS ON EDUCATION FOR
SUSTAINABLE DEVELOPMENT FOR CREATING SAFE SCHOOL
ENVIRONMENT**

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Abstract

School safety related issues confront most communities at some time and in some way. School communities realize there is a need to provide a safe environment to enable young people to achieve their full potential and to address parents' concerns about the impact of unsafe environment on their families. All governments, parents, schools and the wider community have a role to play in reducing the harm that can arise from unsafe environment. The role of the school in the prevention and intervention of safe school environment related issues is enhanced when a whole school approach is used. Dealing with issues related to safety is complex and requires a comprehensive and complementary approach. School communities need to take action to promote school safety, and to be able to respond appropriately to the harm that may arise. Schools can assist students to build resilience which will strengthen their capacity to cope with change and with circumstances they confront in their lives. The whole school approach should incorporate links to the curriculum, school policy, school ethos and values, interpersonal relationships, effective partnerships with parents and services in the wider community. Fundamental to improving the capacity of school communities to respond to school safety is the development of a policy, or a range of policies, that address safety in schools. Such an approach will allow all members of the school community to identify and implement both appropriate safety education programs, and agreed and understood procedures for handling safety in the school.

Key Words: Education for Sustainable Development, Safe School Environment

Introduction

The goal of environmental education is to develop a world population that is aware of and concerned about the environment and its associated problems and who has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively towards solution of current environmental problems and prevention of new ones. School system provides the largest organized base for environmental education and action. School Administrators and Teachers are the important factors, which is bound to affect this programme. Teachers can provide a vital link in the delivery of environmental knowledge, its associated problems and their solutions. Emotional and psychological safety comes from the trusting relationship nurtured by a teacher. The experiencing of a 'trusting relationship' with their teacher is psychologically significant for pupils and can help overcome any emotional issues or problems confronting the pupils. The teachers need to step up their role as the guardian of the students. The development of trust and respect are a fundamental pedagogic responsibility of the teacher, as they help to establish 'conditions of learning' in the classroom.

The pupils should be made partners in addressing safety issues. Preparedness should be initiated from the early years of school education as it is an age where children are most adaptable. It is necessary to argue their awareness and understanding of threat from different quarters and the means to prevent them. Counseling sessions and street plays can be effectively used to enlighten the students and ease their fears. Workshops and mock drills should be conducted. According to Rogerian theory, one person becomes more creative than the next because he or she has learned to play, to be open to experience and receptive to ideas, and to rely more on self-evaluation than the evaluations of others. Contemporary psychologists sometimes use the term ego strength for psychological freedom. In the absence of ego strength, "individuals are likely to conform to others' interpretations and fear or mistrust their own insights" (Runco, 2004, p. 22). The concept of ego strength as it relates to creativity is particularly important for teachers because educators can build children's ego strength in ways that will allow them "to stand up to peer pressure and to express themselves as individuals, even if it means being different" (Runco, 2004, p. 22).

'Safe and supportive schools' refers to the provision of an environment that protects the emotional, psychological and physical well-being of students. In 'safe school environments' children are to be protected from verbal, physical, emotional and sexual abuse, including indirect forms of abuse, such as discrimination, exclusion and isolation by their peers. Squelch (2001:138) defines a safe school as one that is free from danger and possible harm, where non-

educators, educators and learners can work, teach and learn without fear or ridicule, intimidation, harassment, humiliation or violence. A safe school is therefore a healthy school, in that it is physically and psycho-socially safe. Psychological safety is external; it depends on a low-risk environment. Children feel psychologically safe when significant others accept them as having unconditional worth, avoid external evaluation, and identify and empathize with the child. Whereas Psychological freedom is internal. It emanates from within the child. When children feel free to play with ideas, they have developed an inner state of psychological freedom.

A safe, clean, and well-maintained school with a positive psychosocial climate and culture can foster school connectedness, which in turn boost student and staff health as well as students' educational achievement. Creating a healthy school environment requires the involvement of virtually everyone in the school—students, administrators, teachers, parents and school counselors, school nurses and kitchen staff. Creating and sustaining a healthy school environment requires commitment from everyone. As with any systemic reorganization, change takes time—sometimes years. Over time, schools will identify problems, then analyze them and make necessary changes. Even as schools find successful solutions to one set of problems, new challenges arise. Thus, a school's attention to the safety of its environment will evolve and adapt to changing circumstances, while never losing sight of educating their students.

Why Focus Efforts through School?

It is important to the health of these children that they have clean water to drink, clean air to breathe, safe and nourishing food, and a safe place to learn and play. A contaminated environment can cause or exacerbate health problems. A healthy school environment can directly improve children's health and effective learning and thereby contribute to the development of healthy adults as skilled and productive members of society. In addition, schools act as an example for the community.

Need for Capacity Building in School Principals:

Leadership is to this decade what standards based reform was to the 1990's if you want large-scale sustainable reform (Fullan 2003a, b). The main mark of a successful leader is not his or her impact on the bottom line of student learning at the end of their tenure, but rather how many good leaders they leave behind who can go even further. Capacity building is essential for

everyone: school level, area level, and system level including the most senior executives. An explicit process for building capacity of leaders is fostered at all levels. Capacity building requires that the organization be very clear about where they want the capacity to reside: what capacity they were trying to build for the short term as well as the long term; and how to coordinate capacity building across organizational boundaries. If a system wants to ensure alignment and coherence, it has to build structures and cultures where coordinated learning occurs and where messages and actions become consistent within and across roles and organizational levels — not a sealed off consistency but one in which problems are confronted and new learning's are incorporated as you go.

Whole School Approach

“It's time for educators and all other interested in the cause of education, to deliberate over how safe our schools are, and the extent to which they offer a safe school environment to the children to fulfill the cherished promise of ‘educating’ them, and most importantly – the kind of future nation being created in our schools”. Safety is a multidimensional concept and safe schools need to come up with a ‘Safe School Plan’. Thus, this project deals with creating a whole school approach on safe school environment in schools of Baroda, by working with the local school Principals. Whole school approach for managing safe school environment requires all members of the school community to work together. It focuses on: **Prevention** through school safety education and safe and supportive environments; and **Intervention** to provide appropriate support for student's safety. Safety issues should be approached within the context of a school's student welfare policy with clear links to other related school policies such as the discipline policy. The whole school approach provides a systematic and practical framework which schools can use to manage safety issues and to ensure that the well-being and individual needs of all students is supported.

Schools should be secure and welcome places where students and teachers are able to engage in the teaching learning process in an environment of security, free of fear or threats of any sort. As safety is freedom from danger or harm and prevention is an important element of safety; everyone needs to know how to act safely in dangerous situations. Acting sensibly in emergency situations can sometimes save a life. For example, every school should have a plan for escaping from the school building in case of natural disaster. Schools must lay down precise policy regarding behavior expectations from students and teachers. School should formulate a gentle discipline policy and a safety core group to monitor and oversee activities related with school safety. There are schools that have teachers and students representatives in schools

discipline committee. This committee work on framing the discipline rules for the school and deal with day to day disciplinary actions, excellent part of such committees is that they involve students in decision making and framing of rules. Such committees come up with innovative ideas of how to minimize indiscipline acts in the school.

Policy perspectives

Directive of the Supreme Court.

The Supreme Court (18 Dec 2003) directed all states and the educational institutions of the country to introduce environment as a compulsory subject in all classes of the school up to the higher secondary level from the academic year 2004-Similarly at the tertiary level also EE is to be included.

The National Curriculum Framework for School Education in India

The National Curriculum frame work is an educational policy document within which teachers and schools plan envisaged in the document. The curriculum has to be conceptualized as a structure that articulates required experiences and should address some basic questions like (a) what educational purposes should the schools seek to achieve? (b) What educational experiences in environmental education can be provided that help to achieve these goals? (c) How these educational experiences can be meaningfully organized to achieve the objectives (d) how do we ensure that these educational purposes are indeed being accomplished? The education system in India had incorporated certain aspects of environment in school curricula as far back as 1930.

The Kothari commission (1964-66)

Kothari Comission also suggested that basic education had to offer environmental education and relates it to the life needs and aspirations of the people and the nation. At the primary stage, the report recommended that “the aims of teaching science in the Primary schools should be to develop proper understanding of the main facts, concepts, principles and processes in physical biological environment” Environmental education at primary, secondary, Higher secondary levels was treated in different way.

Education for sustainable development is a vision of education that seeks to balance human and economic well-being with cultural traditions and respect for the earth’s natural resources. Education at all levels can shape the world of tomorrow, equipping individuals and societies with the skills, perspectives, knowledge and values to live and work in a sustainable manner. Societies need to re-orient schooling towards a stronger emphasis on education for sustainability.

Environmental education is an essential part of every pupils learning. It helps to encourage awareness of the environment, leading to informed concern for and active participation in resolving environmental problems. It was introduced without any delay from class -1 Environmental science, as a subject so that right from their childhood, the right attitudes towards environment will be nurtured in the young minds. The following are the important national documents

- National Policy on Education 1986 and Program of Action 1990
- National Curriculum Framework for School Education 2005
- National Curriculum Framework for teacher Education 2009

A curricular frame work of environmental education; envisages the place of EE in the school curriculum and other subjects of study, mode and strategy of inclusion of chapters at different levels, EE in terms of time and allocation of marks and development of syllabi and instructional material for dissemination at different levels of school education.

Purpose of the study

School safety related issues confront most communities at some time and in some way. School communities realize there is a need to provide a safe environment to enable young people to achieve their full potential and to address parents' concerns about the impact of unsafe environment on their families. All governments, parents, schools and the wider community have a role to play in reducing the harm that can arise from unsafe environment. The role of the school in the prevention and intervention of safe school environment related issues is enhanced when a **whole school approach** is used. Dealing with issues related to safety is complex and requires a comprehensive and complementary approach. School communities need to take action to promote school safety, and to be able to respond appropriately to the harm that may arise. Schools can assist students to build resilience which will strengthen their capacity to cope with change and with circumstances they confront in their lives. The whole school approach should incorporate links to the curriculum, school policy, school ethos and values, interpersonal relationships, effective partnerships with parents and services in the wider community. Fundamental to improving the capacity of school communities to respond to school safety is the development of a policy, or a range of policies, that address safety in schools. Such an approach will allow all members of the school community to identify and implement both appropriate safety education programs, and agreed and understood procedures for handling safety in the school.

Project details

Goals

To prevent unsafe incidents by enabling schools to address safety through whole school approach with coordinated school safety programs.

Objectives

1. To develop a program for enhancing the conceptual understanding of ESD among School principals.
2. To enhance the capacity of the school principals for developing and institutionalizing ESD School based plans.
3. To evaluate the effectiveness of the program
- 4.

Achievements

- Action Research Reports on ESD (Education for Sustainable Development) for SSE (Safe School Environment) by students.
- Training Module on Capacity Building for School Principals in ESD.
- Development of an Optional Course for Master's Degree Students (M.Ed.M) on ESD.
- Action Research Projects by the students in the Schools on ESD.
- School Based Plans on ESD
- Community Awareness on ESD

Processes Adopted, Why?

- a) Observation
- b) Interviews
- c) Workshops

The present study deals with Capacity building of School Principals for creating Safe School Environment. For this, the training needs were identified for Development of ESD Program for capacity building of School Principals in terms of conceptual knowledge and abilities for developing school based ESD Plans for creating safe school environment. Two workshops were conducted in the Department of Educational Administration for two days each; Workshops were attended by Principals of the Schools in Baroda. The objective of the workshop was to increase awareness of the Principals on the concept of ESD and to build the capacity of integrating the safe school environment in the schools. With observation thereafter, the effectiveness of the ESD program in the schools was studied. The target group (sample)

chosen for this study were; Students of the Professional Diploma in Educational Management of the academic year 2011-2012. (N=20), Students of the Master's Degree in Educational Management of the academic year 2011-2012. (N=11), Principals of the Secondary Schools in Baroda city. (N=10). Local English medium schools.

**PLAN OF ACTION
TIME SCHEDULE**

Sr.No.	Components	Time
1	Action Research by students <ul style="list-style-type: none"> • Orientations to students on Action Research in ESD • Identification of Action Research problem • Development of Action Research proposals 	September 2011 to March 2012
2	Principals Training <ul style="list-style-type: none"> • Orientation on ESD • SWOT Analysis • Development of school based ESD plans 	January-March 2012
3	Impact Evaluation <ul style="list-style-type: none"> • Observation through school visits • Interviews with Principals and Teachers 	April 2012
4	Reporting and dissemination <ul style="list-style-type: none"> • Developing final draft report • Presentation in the National workshop • Publication in a reputed journal of ESD. 	July 2012

Workshop:

The final workshop was organized for the school Principals who were also the students of Masters Program in Educational Management in the Department of Educational Administration. The objective was to encourage principals to reflect on the current scenario in schools and to sensitize the need and importance of safe school environment. It was observed

that the principals had gained knowledge about institutional audit and SSE, the relationships between the safe school environment and the learning outcome.

The procedures of this study were designed to go well beyond obtaining data from Participants. The goal was Capacity building of school administrators and raising their awareness on Sustainable Development through a process of reexamining their assumptions about the role played by the school in creating a safe environment.

The major tasks recommended in the workshop

- a) To conduct a site assessment of the schools physical and social environment to determine the school's needs
- b) Establish a Safe School Committee, prepare a Safe School Policy Guide and enforce all school regulations.
- c) Provide leadership and administrative support for creating and sustaining school environment
- d) Help teachers develop activities for students that emphasize the importance of an overall healthy school environment
- e) Involve the parents and community about any school construction or renovation plans and/or policies regarding school safety
- f) Empower students by involving them in planning, creating, and sustaining a students to report cases related to safety. (Students representation in the school safe committee)
- g) Evaluate healthy school activities periodically to assess progress toward achieving your goals and objectives and use results to revise, improve and strengthen your program
- h) Prepare an action plan to overcome problems related to school safety.

Key learnings – achievements and challenges

From the study, a host of outcomes emerged and they are as follows:

1. It was opined by the participants that the workshop enabled them to reflect on the existing practices in schools and sensitized them on environmental issues and concerns for creating safe school environment.
2. Institutional Analysis was found interesting for the school principals as they could analyze the key components of school and their standards. Thus it helped them to prepare institutional plans for creating safe school environments.

3. The study revealed that safe school environment is a concern for all the stakeholders however it has been shadowed by the concerns on academic achievement of the students.
4. The study found that contextual based institutional action research projects help schools to understand their strengths and weaknesses and thereby design school based developmental plans.
5. Study highlights the importance of whole school approach where in the involvement of students, teachers, parents, administration, community and local administration have various roles to play for nurturing the safe school environment.

The Education Board has made it mandatory for the Schools to be run according to the rules of the Board. It requires the schools to get certificates for hygiene, water, and completion of the building from the municipality, and to ensure that;

- No child shall be subjected to physical punishment or mental harassment
- The following details are to provided to the department of Education ;
 - Area of school campus,
 - Total built up area,
 - Area of play ground,
 - No. of class rooms,
 - Room for Headmaster-cum-Office-cum-Storeroom,
 - Separate toilet for boys and girls
 - Drinking Water Facility
 - Kitchen for cooking Mid Day Meal
 - Barrier free Access

Thus this change project has important implications for practice in the context of school policy. Principals and teachers should discuss the link between school safety and student academic achievement with students, parents, and colleagues, and integrate representations of school safety into existing curricula. Thus 'Safe and supportive schools' refers to the provision of an environment that protects the emotional, psychological and physical well-being of students. In 'safe school environments' children are to be protected from verbal, physical, emotional and sexual abuse, including indirect forms of abuse, such as favoritism, segregation and isolation by their peers.

What Could Not Be Achieved And Why

Institutional plans and their implementation in the selected schools are in progress

Learnings From What Was Not Achieved

Development of Institutional plan requires concerted efforts and the involvement of all the members of the institution is the utmost priority. Plans will not yield anything unless until they are accepted and implemented in its real spirit.

ESD Based Learnings

- Institutional policy, regulations and operational frameworks that support SSE.
- Promotion of ESD through formal, non-formal and informal learning.
- Sensitization of educators with the competence to include ESD in their teaching
- Promotion of action research on the issues and concerns of ESD
 - a) An Action Plan to Improve The Health Status of Students of Meera The Happy School
 - b) An Action Plan to Enable The Students of Senior Secondary to Manage Stress And Enhance their interest in Studies of Bright Day School , Harni, Vadodara
 - c) An Action Plan to Solve The Problems Related To Health Hygiene of the Students of Class-IV, Shree Ambe Vidyalaya.

What perspectives and considerations of esd used, why?

This change project has used social, economical, personal considerations of esd as education is a means for the development of holistic personality.

Strong documentation – photographs, feedback forms, interviews, opinions, etc.

Photographs, informal interviews, brain storming sessions.

Conclusion

It was observed from the study that majority of the educational institutions are having inadequate and low standards in terms of infrastructure and thereby it causes danger to the lives of children. This change project has brought complete awareness among the school principals of the participating schools and therefore a great deal of concern is seen in terms of focusing on safe school environment.

Researchers would like to extend this project to the entire India through creating awareness among the students, parents and teachers and community on the importance of safe school

environment. ITP and SIDA may extend their support in carrying out this ESD mission all over the country.

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PROFESSIONAL DEVELOPMENT OF SECONDARY SCHOOL TEACHERS IN INDIA: AN EVALUATIVE STUDY

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1. BACKGROUND OF THE STUDY

Secondary education prepares students for the universities and is the mediating link between the elementary education and higher education; it is a fact that, the type of education given at secondary level plays a significant role in the field of education. The secondary schools are the posts for the higher education in which intelligence, adaptability to environment and grooming of the students for a bright future takes place. Secondary education holds a great responsibility since it deals with the development of personality of adolescents, who a few years later would form the back bone of the nation. It deals with the most impressive and formative period of the lives of the students. So the teachers need to be developed for this. Hence effective professional development of teachers is necessary.

1.2 PROFESSIONAL DEVELOPMENT OF TEACHERS:

No investment, in school, is complete without investing in the capability of teachers to embrace change –the change in the delivery techniques, skills, curriculum, societal expectation and the availability of tools and technology. And, the most important investment in a school system is to ensure that teachers continue to learn. Continuous, high-quality professional development is essential to the high standards of learning for every child.

Educational reform is creating new challenges, and accordingly, teachers are expected to play new roles as part of the systemic reform effort:

1. Inside the classroom, *teacher roles* are changing; teachers are learning to act as *coaches* and facilitators of their students' learning.

2. Outside the classroom, teachers are assuming collaborative team-building and decision-making roles. As the student population in schools becomes increasingly diverse, teachers need to upgrade themselves in terms of the content and pedagogy.
3. It is the power that the teachers possess and the need of the hour is that they should be empowered to realize and accept their potential and power. The professional development of teachers is absolutely necessary to enrich their contribution in education and nation building.

Professional development has been identified as an integrated part of educational reforms (Gusky, 2000; Hawley and Valli, 1999; Lewis, Parsad, Carey, Barfai, Farris and Smerdon, 1999). Professional development is the key to keeping teachers abreast of current issues in education, helping them to implement innovations, refine their practices and broaden themselves both as educators and individuals (Darling-Hammond 1990). New type of expertise are required of teachers in order for them to keep abreast of the emerging knowledge base and be prepared to use it to continually refine their conceptual and craft skill.

A major challenge before educational planners, educational administrators, educational researchers, teachers, thus to device and organise a system of secondary education which would both widen access to it and simultaneously ensure relevant and quality education. For this the teachers of secondary and higher secondary schools should be equipped. So an effective Professional Development programs for the secondary and higher secondary school teachers' is needed. The training programs are organized by the Ministry of Human Resource Development in collaboration with National Council of Teacher Education which organises training programs through various institutions like State Institute of Education, Extension Service Centers, Centre for Continuing Education, the State Boards, School Based Programs etc. Although a number of programs are organized, they are not consistent, and assessments of the programs are not carried out. Many of the extension services (76%) have not conducted any field survey of the needs of secondary and higher secondary teachers (Mani.R.S. 1988).

Most of the teachers in the secondary and higher secondary stages are not aware of the policies prevailing the professional development. The teaching profession has not been treated like Medical, Engineering professions. Keeping these, the researcher attempted to study the perception of teachers on the policies and programs for teacher development.

2. IMPLICATIONS OF THE REVIEW OF LITERATURE FOR THE PRESENT STUDY

The researcher studied many literatures for this present study. From the review of literature it was found that professional development programs are important for teachers to enhance their teaching competencies. Studies also revealed that the effectiveness of the programs is largely depending on the expertise of the resource persons and the relevant design based on the needs of the teachers (Desimone, Porter, Garet, Yoon, and Birman, 2002; Nonyelum, 2010; Srivatsava, 1966). The state policies focused exclusively on the time required and the types of opportunities that can be used for renewal of licensure but the quality and the relevance of the professional development was not regulated by states (Grossman, Tabitha, Hirsch and Eric, 2009). The study revealed how the policies are meeting the needs of beginning teachers and found that a gap between the policies for certification and the implementation exists (Allison Ashley, and Christa, 2007).

It was also found from the review of literature that the right efforts to improve teacher effectiveness can lead to higher and more equitable student achievement (Hammond and Rothman, 2011; Wenglinksy, 2000; Pradere, 2007; Rosemary,2010). Teacher developed professional development programs which included independent exploration, collaborative time with peers and on-site coaching enables teachers to utilize technology for lessons and classroom management were very successful and also facilitated the students in using technology tools (Miller,2009; Cynthia, 2010; Hoque, Alam and Abdullah, 2011). The studies also revealed that effective evaluation and feed-back systems are essential for professional development programs to be effective (Murphy, 2008; Furman, 2005).

Looking at the review of the studies, a number of studies have been carried out concerning the impact of the in-service programs, opinion of the teachers regarding the programs, need for the program. All the above studies states that the professional development programs are needed for the teachers in their multifaceted roles and tasks. But the factors which contribute to the effectiveness and how far the programs are effective have not been studied. Types of training as perceived by the teachers were not studied. The researcher found that no study in the implementation of the professional development program and the effectiveness was mentioned. The review of related literature motivated the research for a need to study the implementation strategies and the effectiveness. The researcher have not come across any study pertaining to the specific polices related to professional development of teachers in India. Further, most of the

studies conducted in this area in India are data based and interpreted quantitatively rather than qualitatively.

3. RATIONALE OF THE STUDY

“Teacher’s training is not just a bureaucratic ritual, but an opportunity to recharge and rethink the classroom.” – From “Schools that Learn” by Peter Senge.()

Teachers occupy an important place in the educational scenario. The success of the institutions ultimately depends upon the teachers in that institution. They are the ‘critical link’ between the nation and the nation builders of tomorrow – students. Teachers need to be empowered to recognize that there is a need for shift, behaviorist to constructive domain. Educational managers also need to be empowered for evolving and sustaining ‘enabling environment’ in schools for teachers and learners.

The unprecedented growth of knowledge, new development in pedagogy, new curricula and development in educational technology, new changes in school structure, acceptance of the need for providing for individual differences make it imperative to reorient, and evaluate the effectiveness in the teaching learning process of the teacher already trained. Professional development promotes change and both individuals as well as institutions normally resist change. Therefore, attention to changing system with focus on PD activity can really make a difference for quality teacher education. Teacher education as such must faithfully reflect the ways though which teachers too can undertake their PD and the effectiveness can be evaluated. The level of professionalisation of teacher education program in any institution would depend upon the shared and collective efforts of the faculty for their PD and their success at making TEPs quality oriented. The in-service model surely has a supplementary role to play in PD. In-service program is an integral part of the secondary and higher secondary teacher education program which tries to ensure continuous professional growth. These programs may be of different types and may be organized periodically or arranged as per requirement.

The basics of the in-service staff development are need assessment, objectives, themes, methods of transaction of content, attitude, faculty specification, time allocation and participant’s evaluation in a systematic framework. The beginning point of training is the specifications of goals and objectives developed on the assessed needs of the prospective trainees. The second point is the evaluation of the effectiveness of the training given. The worthwhileness of the goals depends upon the accuracy of the assessment. Unfortunately, training needs assessment and assessment of the trainings are rarely done. This makes a training program a rendezvous.

In-service education is planned for the improvement of staff members. These training programs are organised by various institutions like State Institute of Education, Extension Service Centers, Centre for Continuing Education, etc. although a number of programs are organised, they are not consistent, and assessment of the programs are not carried out. Many of the extension services (76%) have not conducted any field survey of the needs of secondary and higher secondary teachers (Mani.R.S. (1988)). There are no surveys conducted to see the effectiveness of the programs. This strengthens the argument for examining the effectiveness of the PD programs of the secondary and higher secondary teachers. From these the following research questions emerged.

4. RESEARCH QUESTIONS:

During the development of this present research study, several research questions have emerged in the area of teacher development programs.

1. What are the policies prevailing for the professional development of teachers; whether the teachers are aware of the policies?
2. What are the perceptions of the teachers on the policies and programs for teacher development?
3. What are the different Professional Development programs conducted for the secondary and higher secondary teachers?
4. What are the problems and issues faced by the teachers while implementing the programs?
5. To what extent the programs were effective?

4.1 STATEMENT OF THE PROBLEM:

Realising this, the investigator undertook the study entitled “PROFESSIONAL DEVELOPMENT OF SECONDARY SCHOOL TEACHERS IN INDIA: AN EVALUATIVE STUDY” to find out the effectiveness of the Professional development programs of the secondary and higher secondary teachers in order to answer the following objectives.

4.2 OPERATIONAL DEFINITIONS OF THE TERMS USED:

Professional development: the programmes conducted by the Government and the schools for teachers, for the development in personality, content knowledge and the methodology.

Implementation: the methodology carried out to enhance the teaching learning process

Effectiveness:	the change seen in the teachers and the teaching learning process. The competencies the teachers acquire.
Constraints	the problem faced by them in the implementation in the following areas <ul style="list-style-type: none">• Time Management• Financial constraints• Structural management• Programs Needed: the different programs which will empower the teacher in her content knowledge.

4.3 OBJECTIVES OF THE STUDY:

- 1.To study the policies for the professional development of secondary school teachers
- 2.To study the professional development programs in the following areas.
 - a.Context - address the organization or culture in which the new learning will be implemented.
 - b.Content – skills and knowledge, both pedagogical and disciplinary that effective educators need to possess or acquire through participation in professional development activities.
 - c.Process – means of acquisition of the knowledge,
- 3.To study the issues and challengers regarding professional development program

5. METHODOLOGY

This is a survey type of study. The study is to look into the policies for professional development and the various professional development programs for the teachers and their effectiveness in the schools. Therefore, the researcher designed the study as presented below.

5.1. Population

India has 28 states and 7 Union territories. The education system is varied. It has many schools which comprises of Private Schools and Public Schools with the State Education Boards and Central Board of Secondary Education. The study was in the context of all the schools at the secondary school level and higher secondary level.

5.2. Sampling Procedure

For the present study the researcher selected the schools from different states of India randomly. Schools in the states have been selected on the basis of their achievement and reputation. After

identifying schools for the research, the researcher selected the sample group consisting of Secondary and Higher Secondary Teachers and Principals.

Table 1 : Sample for the Study

Sr. No	Name Of The State	City	No.Of Principal	No. Of Sec.& Hig.Sec. Teachers
1.	Gujarat	Baroda	10	100
2.	Haryana	Panchakula	4	50
3.	Chandigarh(UT)	--	6	45
4.	Tamil Nadu	Chennai	10	60
Total			30	255

The data was collected from various sources and also through the personal visits of the researcher to the school as a researcher. These experiences have helped the researcher in identifying the sample schools for the present study.

5.3. Research Tools

In order to collect relevant and authentic data researcher used the following research tools.

Interview of principals and teachers, Questionnaire for teachers, and Questionnaire for Principals containing both open and closed ended questions were prepared by the researcher to study teachers' perception of teachers and principals on the on-going programs, the need of the programs, impact of the programs, teachers' professional growth and the issues and challenges faced in the implementation of the programs. The questionnaire for teachers consisted of 25 questions that reflect the professional development programs. The questionnaire for the principals consisted of 25 questions.

5.4. DATA COLLECTION

The following table describes the procedure used for data collection- in terms of objectives, source of information and the research tools used. Researcher personally visited the sample institutions and collected the data and presented the findings.

Table 2 Procedure Used for Data Collection

OBJECTIVES	SOURCE OF INFORMATION	RESEARCH TOOLS
1.	Principal Teacher	Interview interview
2.	Principals Teachers	Questionnaire for Principal Questionnaire for teachers
3.	Principal Teacher	Questionnaire for Principal Questionnaire for teachers

5.5. PROCEDURE FOR DATA ANALYSIS

Researcher acquired both qualitative and quantitative data with respect to the teacher development programs. Qualitative data was analysed by adopting the techniques of qualitative analysis. Quantitative data was analysed with simple descriptive statistics.

6. FINDING AND DISCUSSION

The data was analysed state wise and all the components focused in the study were described from the perspectives of principal and teachers regarding the professional development programs in the respective schools. From the detailed analysis, it was consolidated and the researcher arrived at the following findings.

6.1 Findings of the study

1. All the selected schools have been conducting Professional Development Programs in their schools. It was found that all these programs are conducted basically to enrich the teachers.
2. It was found that the key inspiration behind these programs in the schools is the Principal. In all the schools the Principal was found to encourage such programs. The teachers had the full support of the principals for attending such programs.
3. It was found that some (30%) of the teachers showed keen interest in the implementation of what they have learned in these programs and some required motivation from the principal in implementing these programs.
4. 40% of the teachers who have implemented have shown that the programs were very effective.
5. 90% of the principals expressed that the programs were successful but complete implementation was a problem due to time constraints.
6. One of the significant development was, most of the teachers' attitude towards class room management and understanding of the students have changed.
7. It was found that all schools had different types of programs. The common programs in the CBSE schools were the nodal teachers training, training for social studies teachers and adolescent education programs. The common programs in the state board schools were the programs conducted by the District Education Office.
8. Most of the schools are following group oriented teaching methods. The content teaching by this method makes the educational process more interesting and meaningful for the students.
9. It was found by the researcher that the programs were not need based. Nor content based was expressed by 65% of the teachers. They were not consulted for the type of programs they need in the state board schools.
10. The 96% of the experienced teachers felt that their subject knowledge improvement programs were not there and they expressed their desire to attend such programs.
11. Most of the programs were either psychological basis or pedagogy based. The psychological programs changed their attitude towards the students understanding and helped them in counseling.
12. The 40% of the school principals (State board) and the teachers felt that the programs conducted by the District Education Office were not effective. The reasons are as follows:
 - a. The resource persons were not competent.
 - b. The programs were too long.
 - c. The basic facilities were not provided.
 - d. Subject up gradation was not there.

- e. The teachers were not informed earlier about the programs.
 - f. It was a ritual to attend these programs.
13. The researcher observed that there were no self-motivated programs by the teachers.
 14. 30% of the teachers never attended any programs after their graduation or post-graduation to improve their content knowledge.
 15. The researcher observed that there was no feedback system either by the organizers of the programs or by the principals of the schools.
 16. The effectiveness of the implementation of the programs were neither evaluated nor monitored.

5.3. DISCUSSION

School is a formal system through which the cultural heritage accumulated knowledge, values and skills are transmitted from one generation to the other. In the new millennium, 'education' and 'training' seem to be unprecedented state of flux. Education has to play a vital role by training people to face challenges. For the success of educational process, the vital role of the teacher is given a priority. In the last few years, there have been extensive and profound changes in teacher's task and roles.

Quality education is the buzzword in the 21st century and to impart quality education, teachers of highest quality are required who are highly skilled and professional. A school's most valuable resource is the teaching staff. Teachers are the key facilitators in the learning process, these teachers need to be motivated and empowered so that they sustain interest in their profession and remain committed and most importantly they gain satisfaction from the success of their activities.

Kothari commission (1944-66) highlighted the importance of teachers and mentioned that the destiny of any nation is being decided in its classrooms. Program of action (1992) has described the role of teachers in character building of the pupils, promote research extension and social service. Hence when we talk of professional development of teachers, it is important to reflect on what is needed of the teachers to provide quality education, teachers need to work for their content knowledge and methodology for this, the teachers need to be updated, motivated on a continuous basis through various in-service and staff development programs of quality. They need to enhance their skills, knowledge and attitude for which proper teacher training programs are required.

According to Goodlad (1990) the four conditions necessary for teaching to be a viable profession are (a). reasonably coherent body of knowledge and skills (b) considerable measure of professional

control over admissions to teacher education and autonomy in determining knowledge, norms skills (c) degree of homogeneity in group programme with respect to curricula and expectations (d) clear borders demarcating candidates (e) set of ethics or standards of professional practices.

Training is the pivot and key point in process of reconstruction. Training of teachers is inevitable to keep teachers abreast of new knowledge, new methodology, to make them more responsible to the needs of the society in order to fulfill their role in a better way. Assessment of training needs is essential if an accurate picture of the gaps in the knowledge and skills of the work force is to be built up. A training need is the gap between the skills, knowledge and attitude that the job demands and those already possessed by the trained.

In service teacher education is one of the essential inputs for the professional development of teachers. In service education is a program of activities aiming at the continuous growth of teachers and educational personal in service. In service education is the professional education given to the teachers on the job. It is a process of working towards change identified as gain in knowledge, increase in understanding, acquisition of favourable attitude and development of new interest in terms of media, material and knowledge.

Professional development has become the panacea of reform efforts. Professional education for teachers has become a necessity. The NPE (1986) has recognized the need for improving the status of the teachers and proposed to provide opportunities for professional development so that teacher can fulfill their roles and responsibilities within the education system.

The professional development should have two fold aims of improving their knowledge awareness and motivating them to perform their functions more effectively. The professional development should become the integral part of teacher's work and culture. Both pre service and in service help the teachers to grow professionally.

Professional growth of a teacher is a carrier long process of development. Teacher's exhibit different needs at different times in their professional lives, and a practitioner must pursue learning continuously beyond initial certification. In order to keep alive fresh, a teacher should become a learner from time to time.

5.5 CONCLUSION

The major findings of the present study revealed that majority of the schools have training programs. But the programs were not need based. The teachers in these schools felt the need for professional growth in content and knowledge. They also felt the need to evaluate these programs.

The present study indicated the in service needs of teachers of secondary and higher secondary in the area of –enriching subject matter, framing instructional objectives, designing classroom activities , use of educational technology, developing teaching skills and self-initiated professional developmental activities. The researcher from the present study could conclude that teacher training is an important activity in then the schools. This activity should be given due attention by the policy makers and principals. Teachers themselves also need to generate awareness about concept and professional needs.

The present study has highlighted the responsibility of the policy makers, principals and teachers to understand the importance of professional development programs and the evaluation of its effectiveness. This is an important area for conducting further studies as very few researches are done in this area.

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**CONTENT OF THE GRADE SIX MATHEMATICS TEACHERS' GUIDE IN
RELATION TO DO COYLE'S 4C MODEL FACILITATING BILINGUAL
EDUCATION IN SRI LANKA**

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Abstract

Bilingual Education (BE) based principles of Content Language Integrated Learning (CLIL) was introduced to Sri Lankan education system in 2001. CLIL refers to education programme where the content of non language subjects and target language are integrated. Do Coyle's 4C model, (2010) (Content, Communication, Cognition and Culture) provides the theoretical framework for this research. An instrument was developed to analyze the content of the Grade 6 mathematics teachers' guide. The major findings are 1) All five content strands (i.e., Number and operations, Algebra, Geometry, Measurement and Data representation & Probability) in the Grade Six have varying degrees of adherence with the content requirement for CLIL type learning; 2) Number and operations has the lowest while the data representation and probability has the highest overall mean score of adherence to CLIL. It is recommended that the teachers guide should be revised incorporating rich content especially in the content strand of Number & operations.

Keywords; Bilingual Education, Mathematics Curriculum, CLIL

Introduction

Bilingual Education (BE) refers to an educational programme in which both native language and a second language are taught as subject matter and used as media of instruction while teaching non language subjects (NIE,2007). BE was started in Sri Lankan school system in 2001, in limited number of schools, the programme has made significant achievement in terms of number of schools practicing BE. At the beginning of this programme, there were about 100 schools and at present the number of schools has risen to 1,000 including national schools,

provincial schools and government assisted private schools. According to the school census, there are 57,340 students studying in the BE stream (MoE, 2014 ,p51).

Bilingual Education is a new paradigm in the learning teaching process. It is dual focused; in one hand it is targeted at the achievement of non language subjects and on the other hand, the target language (i.e., in Sri Lankan situation English language). Dual focused nature of BE calls for appropriate learning materials and proper guidance to teachers. In Sri Lankan context, Teachers guides and mathematics text book are considered to be the most important curricular materials.

However, there has been no study conducted in Sri Lanka to assess the quality of mathematics curricular materials used in the BE context. The present study is designed to analyze the Grade Six mathematics teachers' guide in relation to the content component of Do Coyle's 4C model.

Literature Review

There is no universally accepted definition for BE and different scholars have made different definitions. Some of these definitions are closely related with the needs of particular country. Recent report of the Ministry of Education, stressed the nature of BE Programme relevant to Sri Lankan context as follows.

BE can be defined as an educational programme using English as the medium of instruction in a few selected subjects in the secondary level through a content and language integrated learning framework (CLILF) approach without jeopardising the position of the first language as some subjects in the curriculum will continue to be taught in Sinhala and Tamil accepting the principle of balanced bilingualism (MoE, 2014, p51).

According to this definition, it is clear that theoretical framework of BE is the Content and Language Integrated Learning Framework (CLILF). Content and Language Integrated Learning (CLIL) is an approach to foreign language learning that requires the use of a foreign language to practice Content (Zarobe, 2007).

According to Met (1998) there are many different types of CLIL programmes operating in the world. The author further says that these programmes can be viewed as a continuum where in one end there is total immersion programmes which are content driven. In the other end is the

formal language classes which are language driven and in between these two extremes there are number of other programmes including Partial immersion programmes, Sheltered courses and Adjunct programmes with different degrees of content and language focus. In any of these approaches, curricular materials is utmost important to achieve the added advantages of CLIL.

Do Coyle's 4C Model

The Do Coyle's model has been named as 4C model and the 4Cs stands for ***Content, Cognition, Communication and Culture***. According to Coyle,

“Any satisfactory CLIL model should be based on these four parameters. The 4Cs framework for CLIL starts with content (such as subject matter, themes, cross curricular approaches) and focuses on the interrelationship between content (subject matter), communication (language), cognition (thinking) and culture (awareness of self and ‘otherness’) to build on the synergies of integrating learning (content and cognition) and language learning (communication and cultures)”(Coyle,2009.p41).

According to the author, it unites learning theories, language learning theories and intercultural understanding in which the content is the most important. Healthy relationships with other parameters (Cognition, Communication and Culture) may determine the success or otherwise of the CLIL programme” (Coyle, 2009).

Learning materials

There has been a growing body of research evidence in the literature on developing learning materials appropriate for CLIL contexts. According to Meyer (2010, p13) three main criteria can be used to select appropriate learning materials for any successful CLIL programme: Materials should be *Meaningful, challenging and Authentic*. The author further points out that classroom “content should be meaningful in a sense that it focus on global problems mankind faces while connecting with the daily lives of our students and their areas of interest” (p13).

Mehisto, (2012) states that “Quality learning materials foster the creation of relational links between intended learning, students' lives, the community, and various school subjects. They help students understand how learning is and can be applied in and outside of school. They seek to build intrinsic motivation to problem-solve and learn. Quality learning materials guide

students in seeking out and using other resources (sources) for learning.”(p16). They help students understand how learning is and can be applied in and outside of school.

According to these authors, learning tasks should be meaningful in a sense that students are made to understand the connection of what they learn in and outside the school. For example, in their family life, purchasing can be a day to day activity. Mathematical content such as percentages can be made meaningful by providing examples / word problems / assignments / projects etc involving family purchasing in the text book. According to Meyer, it should also focus on global problems mankind face. If these, two aspects are fulfilled with arousing students' interest, that mathematical content can be considered as meaningful.

Bilingual Education in Sri Lanka

National institute of education, (2007) conducted a need analysis on BE in Sri Lanka. In this survey, 48 schools roughly 10 percent of the schools in the total of 501 schools where BE was in practice, at that time, were selected. The results shows that the vast majority of schools was not from urban areas, but from rural and sub urban areas (rural 40.9 % & suburban 30.5%) where there are fewer resources for English language acquisition.

In the same survey, information regarding number of children learning in the BE stream in a family had been collected. According to the results, in most families only one child was learning in the BE stream where the family members are not proficient in the target language. Therefore, it can be argued that most bilingual students are from an environment with limited family support for their education. This situation leads the child to depend on the school for his/her educational needs. (NIE, 2007)

Although, mathematics teachers' guide becomes an utmost, according to the education policy in Sri Lanka, it is not possible to publish two separate teachers' guides for monolingual and bilingual students. All the students have to study the same mathematics content prescribed in the curriculum regardless of the medium of instruction. Then, the problem arise is “how to cater the unique needs BE students while adhering to the education policy in Sri Lanka assuring equity in Education for all students?”

Research Problem

The overarching research problem is “To what extent the Grade Six Teachers’ Guide adheres with the requirements of CLIL type learning teaching situation”

This problem has two main parts: what are the criteria suggested in the literature and to what extent these criteria are fulfilled in the Teachers’ Guides. Therefore, the specific research questions can be stated as follows

- 1) What criteria can be used to assess the quality of mathematics teachers’ guide to be used in BE context, in general?
- 2) To what extent these criteria are present in the Grade 6 mathematics teachers’ guide?

Methodology

The two research questions were addressed in two stages. First stage was to develop and validate an instrument. The second stage was accomplished through the content analysis of Grade six Mathematics teachers’ guide. The following sections describe two stages in detail.

Stage 1- Identifying the Criteria

Adopting the Do Coyle’s 4C model as the theoretical lens, thirty two (32) criteria were gathered through reviewing relevant literature as potential criteria that can be employed to assess the quality of Mathematics curricular materials. For example, meaningful mathematics content should be linked to students daily life, students past learning, regional /national problems(Mehisto. 2010; Meyer, 2012). The following table shows the criteria of meaningful content as suggested in the literature.

Table No 1: Indicators suggested in the Literature

No	Criteria- Connecting mathematics content to:
1	Student's Daily Family life/Students Experience (SDFL)
2	Students' Past Learning(SPL)
3	Regional and National Level Problems / issues(RNLP)
4	Global Problems mankind face(GP)
5	Other Mathematical Concepts /Other Subjects (OMC).

Criteria for other three dimensions (i.e. Communication, Cognition and Culture) of the model were also developed. Fuzzy Delphi technique was employed to validate and screen the criteria. In this research only the criteria related to the Content component of the Do Coyle's 4C model was taken in to consideration.

Stage 2- Content Analysis of the Teachers' Guide (TG)

I. Criteria related to Content dimension

The following table No: 2 shows the criteria used in evaluating the Grade Six mathematics teachers guide

Table No 2: Indicators employed to analyze the Teachers' Guide

No	Criteria- Connecting mathematics content to:
1	Student's Daily Family life/Students Experience (SDFL)
2	Students' Past Learning(SPL)
3	Regional and National Level Problems / issues(RNLP)
4	Global Problems mankind face(GP)
5	Other Mathematical Concepts /Other Subjects (OMC).
6	Other Subjects

II. Coding the Grade 6 Mathematics Text book

Data analysis was concentrated on the degree to which the criteria are present in the Grade Six Mathematics Teachers' Guide (Department of Educational Publications, 2007). In the teachers Guide there are 5 main content strands covered, namely;

- I. Number and operations,
- II. Measurements,
- III. Algebra,
- IV. Geometry
- V. Data Representation and Probability.

Each content strand is divided in to several Competency levels. For an example, Number and operations include Place value, Number line, Types of numbers, Number patterns, Fractions, and Decimals etc. These competency levels were arranged separately in the TG. The TG has two parts where part 1 has 12 lessons and the part 2 has 22 lessons. Each lesson has following sections.

- I. Topic
- II. Competency
- III. Competency level
- IV. Quality inputs that can be used
- V. Learning -teaching process in steps
- VI. Criteria for Assessment and Evaluation
- VII. Appendixes

All these sections were carefully read paying attention to the criteria mentioned above. The unit of analysis was considered a phrase. For this purpose, it is essential to operationally define the criteria. Table 3 below shows the definitions of the criteria and the coding scheme. However, the definitions are not comprehensive and the conclusions drawn may be tentative.

Table No: 03 - Indicators, Definitions and the codes

Indicators	Definition	Code
links the mathematical content to the students' family/ community within and outside the classroom	Any reference to physical object/ living being/ /Activity/ Process the students frequently encounter/engage in the family or community level	SDFL
links the mathematical content to regional / National level problems or events mankind face	Occasions referring to National / regional level problems / events with special reference to Sri Lanka	RNLP
links the mathematical content to global problems mankind face	Occasions referring to global problems mankind face such as, drought, food shortage / diseases / environmental pollution / natural disasters/ urbanization / poverty etc	GP
Links mathematical content to Students' Prior knowledge (SPL)	Reference to students past learning directly or indirectly	SPL
Links mathematical content to Other Mathematical Concepts /Other Subjects (OMC).	Reference of mathematical concepts to other subjects such as Science, History, geography etc.or other mathematical topics	OMS

In coding the text, first the text was read several times contemplating about the criteria and then coded the occurrences of each criterion in the text. Frequencies of criteria occurrences in each lesson were obtained. To represent the meaningfulness of the lesson content, an index was calculated based on the overall mean value for that content strand. For example, the Content strand "Algebra" has two competency levels (two lessons). In other words there were two separate lessons for this content strand and therefore, two mean values were resulted. To represent the index for Algebra, overall mean value was obtained by taking sum of two mean values and dividing it by two. This overall mean value was considered an index representing the meaningfulness of the Algebra content in relation to the CLIL. Similar method was used in other content strands.

Findings

The data coded were obtained in frequencies and later they were analyzed making use of data analysis soft ware. Main data analysis was concentrated on the degree to which the criteria are observed in the Grade Six Mathematics Teachers' Guide (Department of Educational Publications, 2007).

This content area covers 18 competency levels and allocated time is roughly 3320 minutes (83 periods). The average time spent to achieve each competency level varies with the mean value of 184.4 minutes and standard deviation of 33.99 minutes. The criteria developed to assess the adherence of TG to CLIL teaching learning environment was coded as described in the previous section. The summary statistics are presented in the table No: 4 below.

Table 4: Summary statistics of the indicators of meaningful content

Content strand	Time (%)	SDFL Mean(SD)	RNLP Mean(SD)	GP Mean(SD)	OMC Mean(SD)	SPL Mean(SD)	Overall mean
Number & Operations	47.16	2.94 (2.15)	0.33 (0.97)	0.39 (0.85)	0.00 (0.00)	0.11 (0.47)	0.75
Measurements	15.91	4.29 (1.41)	0.14 (0.71)	1.14 (1.41)	0.14 (0.00)	0.00 (0.00)	1.14
Algebra	05.68	4.5 (0.71)	0.5 (0.71)	1 (1.41)	0 (0.00)	0 (0.00)	1.20
Geometry	14.20	5.29 (0.71)	0.6 (i.41)	0.69 (0.71)	0 (0.00)	0 (0.00)	1.31
Data Representation & Probability	17.20	8 (7.07)	0.5 (0.00)	1.5 (2.12)	0 (0.00)	0 (0.00)	2.00

Key -SDFL- Students' Daily Family Life; **RNLP-** Regional National Level problems; **GP -** Global Problems mankind face; **OMC-** Concepts connects with other subjects/ other mathematical concepts; **SPL-** Students' Prior learning

The table No: 4 above shows that the criterion “*Connecting mathematics to students' daily family life(SDFL)*” is having the highest mean value among all five content areas. The criteria that “*connects mathematical concepts to other subjects (OMS)*” and “*Prior learning (SPL)*” has the lowest mean values. The table also shows that a highest percentage of time (47.16) is spent on the content area of “Number and operations”. The final column shows the overall mean value which was calculated by taking the sum of means across five criteria and dividing it by five. It shows that the highest time consumed content strand(i.e., Number and Operations) has scored the lowest overall mean score which is considered to be an indicator of meaningful mathematics content. The highest overall mean value is found in the content area of “*Data Representation and Probability*” which has consumed only 17.2 percent of the allocated time.

Implications of the study

According to the principles of CLIL, language is integrated with content and which is considered an innovative educational approach to teach foreign or second languages. There are various theoretical models operating in the world and these models reflect the needs of particular country. In Sri Lanka, the main concern is to improve the English language and content subjects while not jeopardizing the National languages (MOE,2010, p51). The same report says that the CLIL approach is suitable method to strengthen the social harmony between ethnic groups by promoting English as a linking language.

However, educational innovations may not be effective as the theoretical models explain due to many reasons. .However, the teacher is the critical factor which has the direct link with the student. It is therefore, strengthening teachers with such knowledge that is required to effective implementation of the new innovations are essential. Teachers' Guides serves very important role in conveying the message to the teacher about the innovation.

TGs state the content areas, and suggests the mode of delivery and assessment practices. However, in Sri Lanka, a centralized curriculum is implemented throughout the country and according to the educational policy there can't be two separate curricular for Monolingual and Bilingual students. If the authorities are going to implement two curricula for both groups it will create unnecessary social pressure. Therefore, what is practical is not to produce two

separate curricula for two educational streams but to make very best use of existing curriculum to teach in CLIL contexts. In this context, Do Coyle's 4C model is very important because that model is very flexible and because of that flexibility it can be adopted to Sri Lankan situation. So the main purpose of this research was to assess whether the Grade Six mathematics teachers' Guide has the minimum Content requirements for CLIL.

According to Do Coyle's 4C model, Content is the most important pillar in any CLIL programme because it gives the context for integrating content and language. All other three "Cs" (*Cognition, Communication and Culture*) should be present. According to CLIL literature the content should be meaningful (Mehisto.2010; Meyer,2012; Coyle, 2005,2006,2010). In the present research meaningfulness of mathematics content was operationally defined and quantified as the overall mean value of the occurrence of five criteria in the TG. Data analysis suggests that in each content area, there are varying degrees of adherence to the principles of CLIL. Therefore, it is the teacher educators' and Bilingual experts' duty to arrange professional development programmes for teachers. Those programmes should be aimed at making them aware of the possibility of using present curriculum effectively in CLIL lessons. In addition, it is important that the teachers should be motivated to find additional material through other sources such as internet where the curriculum does not support much. Finally, the research in this area should be expanded so as to generate concrete knowledge base which can be made use of in promoting BE in the country,

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