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CONTENTS

Teaching Physics through Learning Cycle Model: An Experimental Study

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Abstract

The present experimental study aimed at to measure the effectiveness of learning cycle model based on constructive approach in teaching of physics in term of students' achievement in public school at secondary level. Forty, 10th grade students from three classes of physics course taught by the teacher in Government Qazi Habibullah High School District Shikarpur, session 2008, were enrolled in the study. Twenty students randomly selected were assigned in each experimental and control groups. Students in experimental groups were taught by 5Es learning cycle model whereas students in the control group were by traditional lecture method. It was hypothesized students taught through learning cycle model will have better achievement level than the traditional way of teaching physics. Achievement Test based on Simple machine was administered to both groups as pre-test and post-test in order to assess their achievement. The achievement level of students showed marked differences on the basis of significant difference shown by the t-test result. It is concluded that instruction based on 5Es learning cycle model caused a significantly better achievement, whereas students exposed to instruction based on traditionally teaching lecture method showed poor result. It is therefore recommended that 5Es learning cycle model should be employed in teaching of physics. Professional development programme in 5Es learning cycle model should be organized through Provincial Institute of Teacher Education (PITE), Bureau of Curriculum (BoC) and other professional development agencies.

Keywords: Constructivist Teaching Approach, 5Es Learning Cycle Model, Traditional Teaching Method, 5 phases of learning, Engagement, Exploration, Explanation, Extension, Evaluation

Introduction

Physics is one of the important subjects at secondary level in Pakistan. Teaching of physics requires special skills "What to teach" and "how to teach" are questions which trouble every thoughtful teacher. Strategy is to answers them all question in science education there are no final answers. Each teacher determines working answers for

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himself. But if the issues and problems are clearly understood and substitutes are fully considered by science teachers, it can reasonably be expected that quality of science teaching in Pakistan will gradually improve.

In Pakistan, students are unable to successfully incorporate memorized facts and their applications in real situation out side the science class room. The traditional way of teaching of teacher as information giver to inert students appears archaic. Text book guided class room has failed to bring about the desired learning outcomes. The other disadvantages of the old methods used in teaching of Science/Physics curriculum do not develop student's interest in the subject matter, and also do not empower students to become independent thinkers and capable solving complex problem. An alternative is to change the focus of the class room from teacher-centered to student-centred using a constructivist approach (Akar, 2005).

The philosophy about knowledge, that proposes learners need to build their own understanding of new ideas, has been labelled constructivism (Hanley, 1994). Constructivism is a theory that gives hope to the development of deep understanding of the science in students of all ages. It is not a new concept. It has its lineage in philosophy and has been applied to sociology and anthropology, as well as cognitive psychology and in education. Constructivism is a theory of learning based on the principles that learners construct meaning from what they experience; thus, learning is an active, meaning-making process.

The learning cycle model is the teaching procedure that was invented to satisfy the requirements of the nature of science teaching and the nature of the learner. The learning cycle moves children through a scientific investigation by allowing them first to explore materials, then to construct a concept, and finally to apply this concept to new ideas. The learning cycle model is an advanced model that promotes thinking abilities and meaningful learning among children in miscellaneous classroom settings. The learning cycle is a model for teaching in all subject area; it provides a basis for thematic and integrated instruction and offer many opportunities to measure real learning. The learning cycle model is based on Piagetion theory and involves a constructivist approach to teaching. It is proposed to help students progress from concrete to abstract thinking about context. Learning Cycle is a teaching model based on the knowledge organization process of mind. It helps student to apply concept and make their scientific knowledge constant. A well known model of science teaching and learning is called "the learning cycle" or by an alternative model is called "the 5 Es".

Robert Karplus wrote the first reference to this as a part of the Science Curriculum Improved Study (SCIS) in the 1960s.
The components of the learning cycle model of a science lesson are:

Component 1:   ENGAGE-"Capture the student's attention and interest"
Component 2:   EXPLORE-"Activity"
Component 3:   EXPLAIN-"Link to other concepts"
Component 4:   EXTEND-"Apply learning"
Component 5:   EVALUATE-"Feedback"

Source: *(Learning Cycle Model of Science Lesson – Jim Nelson, University High School, orange country Public School)*

Studies show that 5Es learning cycle approach is also an effective teaching strategy in enhancing students understanding and achievement. The 5 Es learning cycle model is an effective way to help students enjoy science, understand content, and apply scientific situation. 5Es learning cycle is a great strategy for middle and high schools teaching because it work, is flexible, and places realistic demand on teachers and students.

Many research studies have shown that learning cycle model caters better to the individual differences hence resulting in the enhanced learning outcomes and students' achievement as compared to that of traditional lecture method of teaching physics. The main purpose of this study is to compare effectiveness of learning cycle model and traditional teaching methods in teaching of Physics in public sector secondary school level. For this research study experimental research method was to proper choice.

Literature Review
5E Learning Cycle Approach (5Es LCA)
According to the Akar.E, (2005) & with reference to Miami Museum of Science (Constructivism and 5 Es, the PH Factor, 2001) the philosophy about learning that proposes learners need to build their own understanding of new ideas, has been labeled constructivism. Much has been researched and written by many prominent leaders in the fields of learning theory and cognition. Scholars such as, Eleanor Duckworth, George Hein, Jean Piaget and Howard Gardener have explored these ideas in-depth. A team of Biological Science Curriculum Study (BSCS), whose Principal Investigator is Roger Bybee developed an instructional model for constructivism, called the "Five Es". In brief, this learning approach as it relates to science can be summarized as follows: Learning something new, or attempting to understand something familiar in greater depth, is not a linear process. It is useful to make sense of things by using our past experiences and the first-hand knowledge acquired through new exploration.

Trowbridge, Bybee and Powell (1990) envision a five-phase model in which learners begin to investigate phenomenon and eventually complete the learning cycle by creating conceptions, theories and generalizations based on their work. First used as an inquiry lesson-planning model in the Science Curriculum Improved Study (SCIS) program, a K-6

science program in the early 1970s, the early learning cycle model had 3 stages (Exploration, Invention, and Discovery) proposed by Karplus and Thier (1967) using the learning cycle approach, the teacher "invents" the science concept of the lesson in the 2nd stage (rather than defining it at the outset of the lesson as in the traditional approach). The initiated concept consequently enables students to incorporate their exploration in the 3rd stage and apply it to new examples (Barman, 1989; Ramsey, 1993; also see Osborne and Wittrock, 1983).

The 5E Learning Cycle is used in the new Biological Science Curriculum Study (BSCS) science programs as well as in other texts and materials. The five phases, whose titles capture the real meaning of the students' procedures, are listed as follows:

Engage (Engagement)
In most instances the teacher will want to begin with "Engagement". In this stage teacher want to create interest and generate curiosity in the topic of study; raise questions and elicit responses from students that will give teacher an idea of what they already know. This is also a good opportunity for the teacher to identify misconceptions in students' understanding. During this stage students should be asking questions i.e. (How can I find out? Why did this happen?) Examples of engaging activities include the use of children's literature and discrepant events (Lorsbash, W.A, 2006).

Explore (Exploration)
During the "Exploration" stage students should be given opportunities to work together without direct instruction from the teacher. Teacher should do something as a facilitator helping students to frame questions by asking questions and observing. Using Piaget's theory, this is the time for disequilibria. Students should be puzzled. This is the chance for students to test predictions and hypotheses and/or form new ones, try alternatives and discuss them with peers, record observations and ideas and suspend judgment. (Lorsbash, W.A, 2006).

Explain (Explanation)
During explanation, teacher should encourage students to explain concepts in their own words, ask for evidence and clarification of their explanation, and listen critically to one another's explanation and those of the teacher. Students should apply observations and recordings in their explanations. At this stage teacher should provide definitions and explanations using students' previous experiences as a basis for this discussion. (Lorsbash, W.A, 2006).

Extend (Elaboration)
During "Elaboration" students should apply concepts and skills in new (but similar) situations and use formal labels and definitions. Tell again students of alternative

explanations and to consider existing data and evidence as they explore new situations. Elaboration strategies apply here as well because students should be using the previous information to ask questions, propose solutions, and make decisions, experiment, and record observations (Lorsbash, W.A, 2006).

Evaluate (Evaluation)

Evaluation should take place during the learning experience. Teacher should observe students' knowledge and/or skills, application of new concepts and a change in thinking. Students should assess their own learning. Pose open-ended questions and gaze for answers that use observation, evidence, and previously accepted explanations. Ask questions that would encourage future investigations (Lorsbash, W.A, 2006).

Numerous key studies have measure up to the learning cycle approach with traditional approaches. Abraham and Pavelich (1979) concluded that the learning cycle approach more accurately reflects scientific inquiry processes than traditional approaches. Students distinguish the learning cycle approach from traditional approaches (Abraham, 1981), in the following ways:

(a)   The learning cycle approach highlights the explanation and investigation of phenomena, the use of evidence to back up conclusions, and the designing of experiments.

(b)   Traditional approaches emphasize the development of skills and techniques, and receiving of information, and the knowing of the outcome of an experiment before doing it (Abraham, 1982).

Studies show that 5E-LC approach is also an effective teaching strategy in enhancing students understanding and achievement.

Caprio (1994) published a study that compared a class which he taught with traditional (lecture) methodology in 1985 to one in which he taught with 5E Learning Cycle method in 1994. The students in both groups had the same prerequisites, and the same exam was used for comparison. The exam grades were much higher for the class taught with the constructivist methodology. "The control (traditional) group's average grade was 60.8 percent, while the experimental (5E-LC) group averaged 69.7 percent" (Caprio, 1994, p.212). In addition to the test scores, the experimental group had a high energy level and gave positive feedback on the course.

5E Learning cycle is not only effective in enhancing students understanding and achievement; it also enhances teachers' classroom behaviors.

After the related literature, it can be easily seen that students should be given the freedom to understand and construct meaning at their own pace through challenging personal experiences as they develop through individual developmental process and take in interactions and social negotiations should be encouraged in the classroom. The "Simple Machines" topic includes the concepts which seem to be difficult for students, because this topic includes both conceptual and theoretical concept. So, 5E learning Cycle should be applied as an instructional method for better understanding in Physics classes. In this research, we aimed to comparison of learning cycle model and traditional teaching method in teaching of physics on students understanding of concepts of Simple Machines in public sector secondary school in district Shikarpur.

Figure 1. Origins and Development of Instructional Models
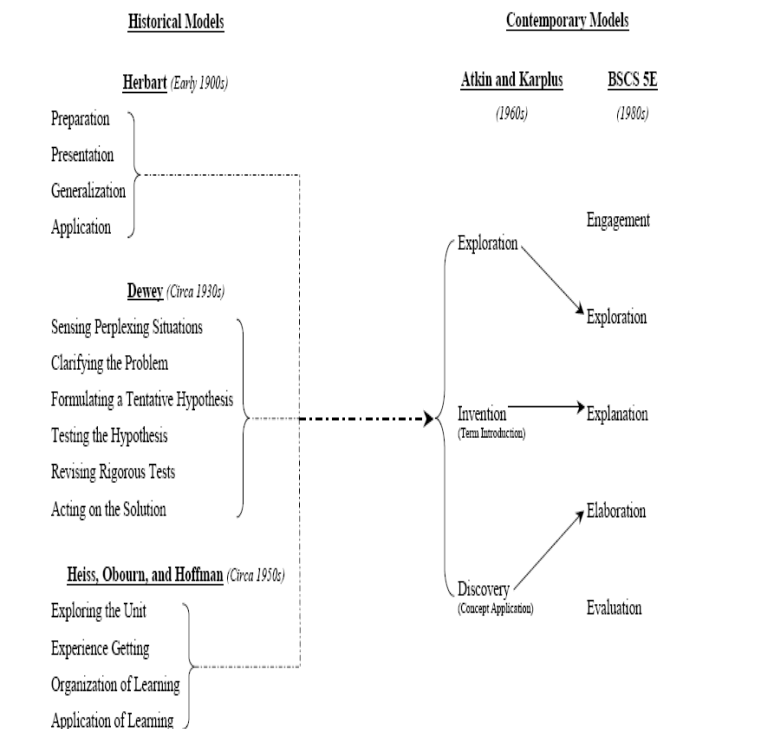
Source: BSCS 5415 Mark Dabbling Boulevard Colorado Springs, CO 80918www.bsce.org (719) 531-5550

Research Design
In this study, the experimental design was used in which measure the effectiveness of 5E learning cycle model instruction will be explored. Dependent variables in this study are

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achievement scores of controlled group and experiment group. Pre-test and post-test equivalent group design was consider most suitable. This can be represented in Figure 2.

Figure-2: Pre-test ---- Treatment---- post-test (Equivalent Group Design)
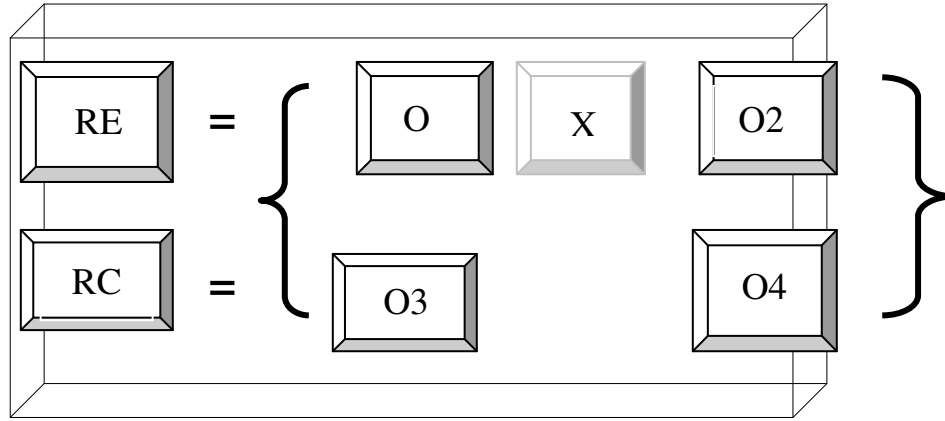
Here the experimental design uses randomization (R) so as to try and ensure a greater chance of equivalence of the group being looked at. The following table 1 gives detail about research methodology.

Table-1: Research Methodology

Groups Randomization (RE and RC)	Pre-Test (O1 and O2)	Treatment (X)	Post-Test (O3 and O4)
Experimental Group	SMAT	IB5EsLCM	SMAT
Control Group	SMAT	IBTTLM	SMAT
Equal Group	Provide equal amount of time, environment, content, home work.	Taught Differently	Different result in achievement scores. To measure the effectiveness of the learning cycle model.

*Here, **SMAT** represent "Simple Machines Achievement Test", **IB5EsLCM** is "Instruction Based on 5Es Learning Cycle Model" and **IBTTLM** is "Instruction Based on Traditionally Teaching Lecture Method".*

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Variables
Independent Variables:
The independent variables were two different type of treatment; taught by Instruction Based on 5Es Learning Cycle Model and Instruction Based on Traditionally Teaching Lecture Method.
Dependent Variables:
The Dependent variables in this study are achievement scores of controlled group and experiment group. Pre-test and post-test equivalent group design was consider most suitable.

Research Question
> Does Learning Cycle Model increase secondary student's achievement level in physics?

Hypothesis
> **H1:** Teaching Physics through Learning Cycle Model has batter achievement level of secondary students than the traditional way of teaching Physics.

Null Hypothesis
> **Ho:** There is no significant difference in achievement level of students taught through Traditional Teaching Method or Learning Cycle Model.

Procedure
The whole research was conducted by the researcher, and the tools also were administered personally by the researcher, in order to ensure reliability and validity and to maximize response rate. The procedure of the study involved the following steps:

i. The researcher visited the mentioned school for discussion the importance of study with the heads of the school and requested for permission to complete the research work in zero period.

ii. With the co-operation of Headmaster a committee was constructed, the committee comprising the following members.
   - Headmaster (chairman)
   - Two Science Teachers (Members)

The purpose of the committee was to conduct the experiment. (The informed consent form was shared with each of the teacher and head teacher)

iii. Pre-test was given. The language of test was Sindhi, because physics course instructed in Sindhi Language. The answerer scripts were collected on the same day and marked with the help of Key. After marking the scores were kept in record file.

iv. The mean and standard deviation of raw scores of the students on pre-test were calculated.

v. The group was further divided into sub-group by applying odd and even method.

vi. The mean of the sub group having odd serial number of scores was calculated. This odd group was named as controlled group.

vii. The mean of the sub group having even serial number of scores was calculated. This even group was named experimental group.

viii. Both groups were taught by the two teachers on the same content of the physics course and chapter was simple machines. Both teachers who were provided necessary training.

ix. The control group was instructed by the Instruction Based Traditional teaching Method.

x. The experimental group was instructed by Instruction Based 5Es Learning Cycle Model.

xi. The researcher observed classes in the control and experimental group during teaching to ensure that they were teaching according to the relevant approach.

Research Instruments
The study was concerned with the achievement of students' taught by lecture method and through 5Es Learning Cycle Model in the teaching of physics in public school at secondary level. Achievement test was developed by the researcher in order to use it as a pre-test and post-test and measure the achievement of students on the topics taught to them during experiment. This test was based on the content of the national curriculum a textbook of physics for class IX and X taught during the experiment. The test contained 10 true and false questions, 5 short answers 15 multiple choice questions, 9 conceptual understanding and 1 practical problem. In multiple choice questions each question contained one correct answer and three distracters. The items used in the test were related to Simple Machines concepts. Both pre-test and post-test have total 75 marks.

Analysis of Data
Data analysis was done online on the [website] at www.graphpaid.com. Four null hypotheses were used to analyze the data. The hypothesis was tested at a significance level of 0.05, and t-test was used to test the hypotheses.

I. Null Hypothesis

Ho: There is no significant difference between the score of pre-test of Experimental Group and Control Group.

Table-2: Sample t-test: Conducted with the Pre-test Results of the EG and CG

		N	$\overline{X}$	SD	SEM	Df	t Cal. Value	p
Pre-test	EG	20	25.40	8.98	2.01			
	CG	20	25.35	7.13	1.59	19	0.0193	0.9848

(N: Number of Students, $\overline{X}$: Mean, SD: Standard Deviation, SEM: Standard error of mean,
DF: degree of freedom, p: Significance value), E.G: Experiment Group, C.G: Control Group.

t (table value) =2.093, df=19

➢ Two-tailed P value equals 0.9848
➢ By conventional criteria, this difference is considered to be not statistically significant. Hence the Ho was upheld.

II. Null Hypothesis

H0: There is no significant difference between the scores of post-test of experimental group and control Group.

Table 3: Samples t-test: Conducted with the Post-test Results of the EG and CG

		N	$\overline{X}$	SD	SEM	Df	t Cal. Value	p
Post-test	EG	20	65.80	6.00	1.34			
	CG	20	45.45	6.29	1.41	19	10.1135	0.0001

(N: Number of Students, $\overline{X}$: Mean, SD: Standard Deviation,   SEM: Standard error of mean,
DF: degree of freedom, p: Significance value), E.G: Experiment Group, C.G: Control Group

t (table value) =2.093,   DF=19

➢ The two-tailed P value is less than 0.0001.

➢ By conventional criteria, this difference is considered to be extremely statistically significant. Hence the Ho was rejected.

III. Null Hypothesis

H0: There is no significant difference between the scores of Pre-test and Post-test of Experimental group.

Table -4: Sample t-test: Comparing the Pre-test and Post-test Results of the EG

		N	$\overline{X}$	SD	SEM	Df	t Cal. Value	p
Experiment Group	Pre-test	20	25.40	8.98	2.01	19	25.1212	0.0001
	Post test	20	65.80	6.00	1.34			

(N: Number of Students, $\overline{X}$: Mean, SD: Standard Deviation, SEM: Standard error of mean,
DF: degree of freedom, p: Significance value), E.G: Experiment Group, C.G: Control Group

t (table value) =2.093, DF=19

➢ The two-tailed P value is less than 0.0001.
➢ By conventional criteria, this difference is considered to be extremely statistically significant. Hence the Ho was rejected.

IV. Null Hypothesis

H0: There is no significant difference between the scores of pre-test and post-test of control group.

Table- 5: Sample t-test: Comparing the Pre-test and Post-test Results of the CG

		N	$\overline{X}$	SD	SEM	Df	t Cal. Value	p
Control Group	Pre-test	20	25.35	7.13	1.59	19	11.0304	0.0001
	Post test	20	45.45	6.29	1.41			

(N: Number of Students, $\overline{X}$: Mean,   SD: Standard Deviation, SEM: Standard error of mean, DF: degree of freedom, p: Significance value)

t (table value) =2.093,   DF=19

➢ The two-tailed P value is less than 0.0001.
➢ By conventional criteria, this difference is considered to be extremely statistically significant. Hence the Ho was rejected.

Findings
Following findings emerged as a result of analysis of data for the study:
- The result of the tests show that there was no significant difference among the score of pre-test of both groups, hence the prior knowledge levels of the both groups were equal at the beginning in the pre-test result.
- In the post tests of both groups there was a statistically significant difference. In post-test scores both group's achievement was increased.
- The mean of the CG (45.45) was significantly lower that of the EG (65.8) on the post-test. It means that teaching through lecture method does not provide opportunity to students to use knowledge meaningfully. Meaningful learning occurs when students construct their own knowledge and apply this new knowledge.
- Mean score of the post-test of CG showed poor result. It indicates that students' level of interest is not increasing through this method. Their achievement level was also low. It means that through this it is difficult to establish a positive learning environment.
- Mean of the EG (65.8) was significantly higher that of the CG (45.45) on the post-test. Therefore 5Es Learning Cycle Model is an example of such design.
- It means that 5Es Learning Cycle Model instruction the existing knowledge of the students gives a strong idea of students' achievement in science. In order to learn meaningfully students should link between new and existing knowledge, so this should be taken into account for an effective teaching.
- The t-value of pre-test and post-test of EG was calculated (25.12) and for the CG was calculated (11.03) showed that the EG was more successful than the CG.
- The based on this finding null hypothesis is rejected therefore the direct hypothesis which is reproduced here "Teaching physics through Learning Cycle Model has better achievement level of secondary students than the Traditional Way of Teaching.

- 5Es Learning Cycle Model is the more effective method of teaching that encourages meaningful activities such as problem solving, decision making, and investigating. It will be helpful in developing new skills in students and make them confident, bold and skillful to face the challenging issues of the world and enable them to find out the solution of the problems of daily life.

Recommendation
1. 5Es Learning Cycle Model should be employed into teaching of Physics.
2. 5Es activities and material should be included in the textbooks of all level.
3. PITE / Training Colleges should make arrangement for professional development.
4. Professional Development Programs in 5Es Learning Cycle Model should be organized through Provisional Institute of Teacher Education and other developmental agencies.
5. The science teachers should be trained to use the instructional materials according to 5Es Learning Cycle Model.
6. The students and teachers should be encouraged to prepare the science kit locally, used 5Es Learning Cycle Model instruction and make science corners in their schools.

Conclusion
It is concluded that today we need to change our teaching strategies to make our teaching and learning process more effective and positive. Teacher must be informed about the usage and importance of 5Es learning cycle based on constructivist approach and they must plan the instructional activities accordingly. There is need to give close attention towards our instructional strategies, because this is the instrument that can bring an innovative change in our students habits, attitudes and perceptions. Curriculum programs should be based on the constructivist perspective. Finding of the study suggested that students in the experiment group who were exposed to Instruction Based 5Es Learning Cycle Model were more successful that the control group students who were exposed to Instruction Based on Traditional Teaching Method instruction. Instruction Based 5Es Learning Cycle Model improve the teaching learning process and provide to be a better teaching method.

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Development and Validation of Intelligence Test for Grade Six Students (Age Group 11-12 years)

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Abstract

The purpose of developing intelligence test is to enhance teachers' capacity to deal with the growing needs of slow learner and gifted children. What distinguishes intelligence test from the teacher made test is its highly valid and reliable. The items were constructed on the base of Thurstone Model. Students' score on intelligence will provide teacher about the learning preferences of the student, which can be utilized for felicitous lesson designing. The sample included 12120 students from 331 schools including boys and girls from four divisions of Pakistan. Finally, 60 items are selected through item analysis, reliability and validity standards. Each of the factors contains 12 items. Strong correlation between each factor and total test confirmed the overall coherence of the test. The reliability of the test was established by using the Kudar and Richardson's formula KR#20 and KR#21.

Keywords: Validation, Intelligence Test, Gifted Children, Teacher Made Test, Slow Learners

Introduction

Education is multidimensional and multifaceted phenomenon; and the main objective of the education is to make individual the best possible product. Education is now recognized as a catalyst of change. It is generally agreed that every individual has specific and varied abilities: these abilities include power to think, speak, hear, and to understand. It is essential to guide individuals in the right direction at the right time in a right way (Hashmi, 2000).Plato who, in his republic, noted that no two people are born alike. Each person is endowed in a unique way and, thus suitable for different occupation or state in life. Aristotle also recognized differences among persons (Maloney and Ward, 1976:p14). Research on the study of individual differences in intelligence has had a much longer sustained intellectual history (Anderson, 1990,p 433).In 1980,an article was written by Cattle in which the term "Mental Test" was used first time in psychological literature. In 1982, Galton established a anthropometric laboratory in London to evaluate certain physical traits. In Chicago, in 1983, Jasrow set up an exhibit at which visitors were invited to take test of sensory motor and sample perceptual processes and to

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compare with the skills with norms. In 1985, an article was published in France. Binet and Henvi criticized most of the available test series as being too largely sensory and concentrating unduly on simple, specified abilities. In 1896, the Italian psychologist Ferrani and his students were interested in the use of test with pathological cases. The test series, they devised, ranged from psychologist measures and motor test to apprentension span and the interpretation of pictures. In 1897,a German psychologist Ebbinghaus, administered tests of arithmetic computation, memory span and sentence completion on school children. The most complex of three tests i.e. sentence completion was the only one that showed a clear correspondence with the children's scholastic achievement.In1902, Binet was commissioned to study the mentally retarded children in Paris school. His aim was to find out the means for differentiating such children from one another at an early age. In 1904, the English psychologist, Spearman, first presented two-factor theory. According to him, every mental operation may have two factors namely, a general factor 'g' and a specific factor's'.

In 1905, the Binet-Simon scale of intelligence, comprising a set of questions, was developed. Now, it was possible to compare a child's intelligence with that of other children of the same age. These questions were not chosen randomly. The first scale, known as 1905 scale, consisted of 30 problems arranged in order of difficulty. The difficulty level was determined by administering the test to 50 normal children and to some retarded children. In 1908, Binet and Simon found out the defects of the first scale. They were of the opinion that an improved scale would more valid norms, based upon a large and more representative sample of children at age. A new scale known as 1908 scale was the result of their efforts. In 1908, Goddard published an English translation of the 1908 Binet-Simon scale. Other revisions in the USA were made by Kuhlman in 1912 and 1939.Yarkes made revision in 1915 and 1923.In 1916, Terman prepared the test known as the Standford Revision of the Binet-Simon scale.In1922, Herring made revisions. But his revisions are remembered today as the historical record only.In1927; Thorndike advanced the theory of intelligence, saying that there is no such thing as general intelligence or general mental ability.

There are only specific stimuli and specific mental responses. Although every mental act is distinct from other one, some have enough elements in common to warrant their being grouped and classified as:

a. Concrete-the ability to deal with things.

b. Social-the ability to deal with people

c. Abstract-the ability to deal with ideas.

In 1937, Terman and Merrill issued the second revised Standford Binet scale in two forms L and M. The type and difficulty of problems on these two forms are practically indential though they differ somewhat in specifies. He was the man to suggest a measure which unlike mental age would permit a uniform interpretation regardless of the age. William Stern, a German psychologist, gave the concept of mental ratio (M.A/C.A).Four years later, Standford University psychologist, Lewis Terman, multiplied Stern's mental ration by 100 to remove decimal and gave the world a new term "Intelligent Quotient" (I.Q).This was first employed in 1916, Standford revision of Binet scale. In 1938, Thurston presented the theory that intelligence is composed of a number of group or families of closely related abilities. The theory holds that certain mental operations have, in common, a primary factor which gives them psychological and functional unity and which differentiates them from other mental operations. These mental operations constitute a group. In this way, Thurston isolated seven group factors which are known as primary mental abilities.

Each of these primary factors is said to be relatively independent of others. The following factors present the primary abilities: Spatial(S), Perceptual (P), Number(N), Verbal(V), Word Fluency(W),Memory (M) and Reasoning (R) (Hashmi,2000).Intelligence test provides what is perhaps the most useful quantitative tool that psychology has developed. The intelligence test, cautiously used, is an important predictive device (Halligard,1962,p:419).Measure IQ does not predict academic success nearly as well as generally assumed.(Lefrancois 1985;p:60).The used of intelligence test is, nevertheless, justified by the fact that it will serve to pick out the bright child whose primary education has been defective (Thouless,1963,p:410).By the use of various forms of test it is possible to obtain a reliable indication of the general intellectual capacity of an individual child(Thouless 1963,p:415).

Intelligence test emphasize knowledge and abilities that are general rather than knowledge and abilities that are specialized to a field of expertise (Anderson,1990,p:431).In order to make predictions from tests, tests must meet certain specification.. Studies of the reliability tell us whether or not the test scores are self-consistent. Studies of validity tells us how well the test measures what they are supposed to measure, how well they predict according to an acceptable criterion(Hillgard 1962,p:419).When the tests meet the specifications, they can be applied in schools, in industry, in civil service or in the armed forces.

Rationale
As mentioned above the uses and importance of intelligence test. Therefore, the present study was at developing a valid and reliable intelligence test for grade 6 students (age group 11-12 years).The primary information will guide a teacher to assess the

intelligence of their pupil, to identify the group of exceptional children for classification and to contribute to group dynamics.

Procedure
The test was conducted under the supervision of class teacher. Teacher read all the instruction one by one and the students were given fix time to encircle the number corresponding to their thinking on a multiple choice answered.

While transforming the theoretical principles into item statement, it was intentionally taken into account to keep the language easily comprehendible for the students of elementary school. The language and diagrams was number of the times in light of written comments and direct consultation with elementary school teachers from various schools. For ensuring the relevance and clarity items were discussed personally and amended in consultation with expert in the area of testing.

Methodology
The theoretical base of the items is from the Thurstone Model of Intelligence. Therefore, it seems in context to have a brief look into the Thurstone Model of Intelligence which provided the framework of intelligence test.

Thurstone found out eight mental abilities, which made intelligence. This intelligence is different from that of spearman. He resolves the performance wholly into primary abilities, the equivalent of group fact, and then takes the general factor as whatever the primary abilities have in common. He gives the following abilities: Perceptual ability(P),Numerical ability(N), Verbal(V), Memory(M), Reasoning ability (R),Spatial ability (S), and fluency in dealing with words (W).(Dahama and Bhatnagar, 1991:p121-125).

Perceptual ability(P),the ability to quickly grasp details, similarities and differences in visual material; Numerical ability(N), the speed and accuracy of arithmetic computation; Verbal Comprehension (V), measured by, for example vocabulary tests, reading comprehension and verbal analogies; Memory (M),including tests for memory of paired associates; Reasoning (R) , for example number series arithmetic reasoning and inductive and deductive reasoning; Spatial ability(S),special relation and visualization; Word fluency(W), measured by anagrams and/or rhyming test (Walsh and Betz,1995;p154). The items appearing the present intelligence test are combination of Perceptual ability(P),Numerical ability(N),Spatial ability(S) and Word Fluency(W).It should be noted that each factor has 12 items except perceptual ability has 24(12 items for similarities and 12 items for differences).

Participants
To make the test more generalizable a wide range of students from different school was included in the sample.

Sample was based on the stratified random sampling procedure. For this purpose, first of all the researcher collected the data about schools and enrollment of the students from District Education officers. The researcher arranged data of the schools and students a lot. So, it was decided to select 10% schools and 5% students from the elementary, secondary and higher secondary schools of Multan, Bahawalpur, D.G.Khan and Sargodha division. Division wise detail of schools and students is given in table 1 and 2.

Pakistan has four provinces named Punjab, Sindh, Sarhad and Baluchistan. Punjab is more populated than other three and it has 8 divisions. Punjab has two parts named East Punjab and West Punjab and each has four divisions. The data was collected from East Punjab.

Table-1: Division and Gender wise Number of Schools

Division	Male		Female		Grand Total
	Urban	Rural	Urban	Rural	
Multan	10	68	7	37	122
D.G.Khan	4	30	5	10	49
Bahawalpur	5	42	4	39	90
Sargodha	6	47	5	16	74
Total	25	187	21	102	335

Table- 2: Division and Gender wise Number of Students

Division	Male		Female		Grand Total
	Urban	Rural	Urban	Rural	
Multan	1109	2520	737	816	5182
D.G.Khan	310	850	266	267	1693
Bahawalpur	397	1244	389	519	2549
Sargodha	425	1412	334	525	2696
Total	2241	6026	1726	2127	12120

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Procedure
The test was conducted under the supervision of class teachers. Teacher read all the instruction one by one to and the students were given a fix time to encircle the number corresponding to their thinking on a multiple choice answer. While transforming the theoretical principles into item statement / diagrams, it was intentionally taken into account to keep the language easily comprehendible for grade six students.

Results and Discussion
Various methods are used to ensure reliability and validity of the test.

Normative Data on Students' Performance
There was a sample of 12120 students of age group 11-12 years in grade VI. Each test has 12 items and each item has five options. To give this test a touch of generalization, an Australian test for age group 11+ years was also administered. Frequency distribution of test scores is shown below.

Table-3: Frequency Table of all Tests

Scores	Test # 1	Test # 2	Test # 3	Test # 4	Test # 5	Test # 6
0	0	0	0	0	5	0
1	38	77	22	113	14	169
2	77	144	161	163	186	253
3	115	308	253	284	192	177
4	625	815	671	503	1048	246
5	1570	1139	1672	1765	1307	983
6	3850	3219	2624	3547	2964	1985
7	3155	3943	3396	3573	2756	2635
8	1620	1403	2328	1625	2127	2075
9	585	701	419	395	1352	3180
10	245	202	467	109	110	262
11	240	169	107	41	59	155
12	0	0	0	02	0	0

Table 3 indicates the frequency of all tests. The above table does not show any positive or negative skew ness in all test scores.

Table 4 shows that test number 1 and 5 are highly correlated with all other tests while test 4 is less correlated with all other tests. Its range is from -0.21 to 0.74.Test number 2 is negatively correlated with test number 3 and 4.Test number 3 is negative correlated with test number 4.Test number 4 is negative correlated with test number 6.

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Table-4: Correlation Coefficient Components

Test #	1	2	3	4	5	6
1	1.00	0.38	0.60	0.22	0.54	0.40
2		1.00	-0.12	-0.005	0.48	0.72
3			1.00	-0.03	0.18	0.02
4				1.00	0.07	-0.21
5					1.00	0.74
6						1.00

Table-5: Reliability of the Test (Split-Half Method)

	Test	Value of 'r'
1	Spatial Ability – S	0.53
2	Perceptual Ability – P – Differences	0.94
3	Perceptual Ability – P – Similarities	0.09
4	Numerical Ability – N	0.48
5	Word Fluency – W	0.79
6	Australian Test	0.97

Table 5 shows that the maximum value of correlation i.e. 0.97 between odd and even scores of the test number 6, while the minimum value of correlation (0.09) is seen in test 3.

Table -6: KR #20 and KR#21 Reliability

Test#	N	6	$\sum pq$	6	R for KR#20	r for KR#21
1	12	1.53	2.98	2.34	-0.30	-0.30
2	12	1.62	2.98	2.62	-0.15	-0.15
3	12	1.63	2.99	2.66	-0.14	-0.14
4	12	1.49	3.00	2.22	0.36	0.36
5	12	1.13	2.97	1.28	-1.44	-1.44
6	12	1.88	2.91	3.53	0.19	0.19

Formula KR#20: $r = \dfrac{(n)\left(SD^2 - \sum pq\right)}{(n-1)\left(SD^2\right)}$

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Where n=number of items in set , p=proportion of the sample that got item correct

q=wrong   SD=Standard deviation of test score

Formula KR#21: $r = 1 - \frac{x(n-x)}{n-SD^2}$

Table 6 shows the KR#20 and KR#21 reliability score. Test number 4 and 6 shows positive values while test number 1,2,3 and 5 show negative values.

Table-7: Item Analysis (Facility Index)

Item #	Test # 1	Test # 2	Test # 3	Test # 4	Test # 5	Test # 6
1	59	58	57	55	61	70
2	58	59	57	54	60	67
3	56	54	54	51	59	73
4	53	55	52	50	55	66
5	53	50	55	50	53	61
6	54	50	53	55	56	57
7	56	54	58	54	50	56
8	51	57	50	57	51	54
9	50	56	56	50	52	57
10	53	55	55	52	55	53
11	57	50	55	51	52	51
12	56	50	57	55	54	53

N=12120

$$F\% = \frac{Number\ of\ the\ students\ who\ attempted\ the\ questions\ correct}{Number\ of\ students\ who\ attempted\ the\ questions} * 100$$

Table 7 indicates the value of F with respect to the students of grade six; it ranges 50% to 73%. It indicates that item number 1 of test 6 should be improved, and item number 3 of test 6 should be discarded. For the investigation of suitability of the multiple choice items in the sixth test, I scrutinized the behavior of each distractor, none of the distractor ought to be re-examined as they were attracting both groups almost equally.

None of the items ought to be replaced as they are more attractive to the members of the higher score group than to the low achievers.

Table-8: Item Analysis (Discrimination Index)

Item #	Test # 1	Test # 2	Test # 3	Test # 4	Test # 5	Test # 6
1	0.42	0.34	0.41	0.46	0.49	0.53
2	0.34	0.38	0.44	0.44	0.46	0.53
3	0.51	0.40	0.39	0.43	0.49	0.55
4	0.45	0.38	0.36	0.36	0.45	0.49
5	0.33	0.34	0.43	0.40	0.41	0.47
6	0.39	0.37	0.32	0.58	0.49	0.44
7	0.43	0.50	0.47	0.46	0.39	0.44
8	0.35	0.32	0.39	0.47	0.43	0.43
9	0.29	0.25	0.43	0.39	0.41	0.41
10	0.33	0.41	0.50	0.47	0.49	0.39
11	0.41	0.38	0.43	0.42	0.39	0.41
12	0.35	0.39	0.44	0.44	0.45	0.45

N=12120

$$D = \frac{N_h - N_l}{n}$$

Where N_h = Number of correct responses in the top 27%

N_l = Number of correct responses in bottom 27%

Table 8 indicates the value of D (Discrimination Index).The value of 'D' falls between 0.25 to 0.58,which represents that item # 9 in test#1 should be improved and item#9 in test #2 is on marginal case and it should be improved.

Table-9: Item Analysis (Power of Discrimination)

Item #	Test # 1	Test # 2	Test # 3	Test # 4	Test # 5	Test # 6
1	0.42	0.35	0.42	0.46	0.50	0.57
2	0.34	0.42	0.45	0.44	0.47	0.55
3	0.54	0.40	0.40	0.43	0.49	0.60
4	0.45	0.38	0.36	0.36	0.45	0.52
5	0.33	0.35	0.44	0.40	0.41	0.48
6	0.39	0.38	0.32	0.57	0.49	0.44
7	0.43	0.51	0.39	0.46	0.39	0.44
8	0.35	0.32	0.39	0.47	0.43	0.43
9	0.29	0.26	0.44	0.39	0.41	0.41
10	0.33	0.41	0.51	0.47	0.49	0.39
11	0.41	0.38	0.44	0.42	0.39	0.41
12	0.35	0.40	0.45	0.44	0.45	0.45

$$N=12120$$

$$\Phi = \frac{ad - bc}{\sqrt{(a+b)(a+c)(b+d)(c+d)}}$$

Where a=number of correct responses in top 27%

b=number of incorrect responses in top 27%

c= number of correct responses in bottom 27%

d= number of correct responses in bottom 27%

Table 9 indicates the value of ф (Power of Discrimination).ф falls between 0.26 to 0.60 which represents that item#9 in test#1 should be improved and item#9 in test #2 is on marginal case and it should be improved.

An intelligence test was developed to find out the intelligent quotient of grade six students having age group 11-12 years. There were six sub tests and one of them was Australian Matrix Test. Correlation, reliability (Split-Half Method and KR#20, 21 formulas) and item analysis (Facility Index, Discrimination Index and Power of Discrimination) for the data on all six tests confirmed the acceptability of the test.

Overall frequency of all tests does not show any positive or negative skew ness in all test score. The graphs are much closed to normal curve which shows the quality of the test and representative sample.

There is negative correlation between the test of perceptual ability (Difference) and Perceptual Ability (Similarities).It indicates that the students confused after completing the test of difference and unable to perform the test of similarities properly. The diagrams in both tests also had the resemblance. There is also negative correlation between the tests of perceptual ability and numerical ability. f someone is performing good in numerical ability, he is not proper performing well in perceptual ability It indicates the thinking style of the students. The students think logically in Mathematics are not performing good in diagrams. The same pattern is developed in the performance of numerical ability and Australian matrix diagram test.

For the investigation of the suitability of multiple choice items in the test, the researcher scrutinized the behavior of each distractor. None of the distractor ought to be re-examined as they were attracting both groups (High achiever and low achiever) equally. None of the items ought to be replaced as they are more attractive to the members of higher score group than to low achiever.

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Critical Review of British Education System in India

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Abstract

India is land of Indus civilization, one of the great in the world, where civic life was at its best. This land has always been very attractive and enchanted for the foreigners especially the western nations. India holds its traditions and pieces of work in literature and humanities at its peak. Muslims made it better and dressed it in moral values. British came to India for commerce and trade but they subjugated it politically. They were in need of such a slave Indian nation which could not resist British and its policies. They abolished the native education system and introduced their own which suited imperialistic needs. They aimed at giving such education to local people as could produce only clerks. Local languages were abolished and English was adopted as medium of instruction in educational institutions. Western science and philosophy were included in the syllabus. Keeping into the consideration the importance of the topic, British educational system, its effects, reaction of local people and its challenges were discussed in this article. Primary and secondary sources are used for this article

Keywords: Indus Civilization, Muslim Arrival, Education, East India Company, Crown, English

Introduction

Before the arrival of Islam, in India there was no systematic education. Hindu temples were the place for worship and education and all this was free of the influence of government. In sub-continent there was no central government. Raja's states and system was run by a monarch but excelled in education (Percival, 1958). The main feature of that period was its individuality with no central political system. In the writings of pre-colonial Europeans quoted by Swami Vivekananda, "All history points to India as the mother of science and art," wrote William Macintosh. "This country was anciently so renowned for knowledge and wisdom that the philosophers of Greece did not disdain to travel there for their improvement." Pierre Sonnerat, a French naturalist, concurred: "We find among the Indians the vestiges of the most remote antiquity.... We know that all peoples came there to draw the elements of their knowledge.... India, in her splendour, gave religions and laws to all the other peoples; Egypt and Greece owed to her both their fables and their wisdom (India-resource, 2010).

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With the arrival of Islam in India traditional method of education came under Islamic influence. Sultante of Delhi introduced institution which imparted religious education. But even in this era private institution at local level were also established. Nizamuddin Auliya and Moinuddin Chishti were prominent saints and educators who established Islamic institutions at local level. But those were also attracted by the students from Bukhara and Afghanistan. Syllabus of those Islamic institutions was consisted of grammar, Philosophy, mathematics and law influenced by the Greek traditions. It was the blend of science and humanities. During Mughal Eras system remained consistent Madrissah Rahimiya under the supervision of Shah Waliuallh was an example of this trend during 18th century (wikipedia, 2010). The course of Madrasa prescribed two books on grammar, one on philosophy, two on logic, two on astronomy and mathematics and five on mysticism. In Lucknow Mullah Nizamuddin Sahalwi introduced a course called Darr-e-Nazami which combined traditional studies with modern and laid emphasis on logic (wikipedia, 2010)

The education system under the rule of Akbar adopted an inclusive approach with the monarch favoring additional courses comprising of medicine, agriculture, geography, and even from texts from other languages and religions, such as Patanjali's work in Sansakrat. The traditional science in this period was influenced by the ideas of Aristotle, Bhaskara, Chakara, and Ibne Sina. This inclusive approach was not uncommon in Mughal India The more conservative monarch Aurangzeb also favored teaching of subjects which could be applied to administration. The Mughals, in fact, adopted a liberal approach to sciences and as contact with Persia increased the more intolerant Ottoman school of manqul education came to be gradually substituted by the more relaxed maqul school (Wikipedia, 2010). The Middle Ages also saw the rise of private tuition in India. A tutor, or Riyazi, was an educated professional who could earn a suitable living by performing tasks such as creating calendars or generating revenue estimates for nobility. Another trend in this era is the mobility among professions, exemplified by Qaim Khan, a prince famous for his mastery in craft. It has been noted by numerous scholars of British rule in India; the physical presence of the British in India was not significant. Yet, for almost two centuries, the British were able to rule two-thirds of the subcontinent directly, and exercise considerable leverage over the Princely States that accounted for the remaining one-third. While the strategy of divide and conquer was used most effectively, an important aspect of British rule in India was the psychological indoctrination of an elite layer within Indian society who were artfully tutored into becoming model British subjects. This English-educated layer of Indian society was craftily encouraged in absorbing values and notions about themselves and their land of birth that would be conducive to the British occupation of India, and furthering British goals of looting India's physical wealth and exploiting its labour (Wikipedia, 2010).

During the 19th and 20th centuries most of the Indian princely states fell under the Raj. In the beginning of British rule in Bemgal and Behar, there were one lac schools, one school for 400 people (Syed Nurullah, 1980). According to William Hunter Muslims were not only excelled in politics but in education also. There system of education was able to produce highest intellectual training (Prof. Khursheed, 1977).But on the other hand Company wanted to make education just a missionary tool (N. N.Law,). The British rule during the 19th century did not take adequate measures to help develop science and technology in India and instead focused more on arts and humanities. Till 1899 only the University of Bombay offered a separate degree in sciences. In 1899 B.Sc and M.Sc. courses were also supported by the University of Calcutta. By the late 19th century India had lagged behind in science and technology and related education. However, the nobility and aristocracy in India largely continued to encourage the development of sciences and technical education, both traditional and western.

East India Company and Education in India
Charles Grant was the founder of company's education policy in India, he opposed the governor Richard Wellesley's combative and expansionist policies in India. He believes that Britain's duty was not simply to expand its rule but to civilize and Christianize the India. Grant Keenly Observed the social system of India and its civilization and featured it in his essay "Observation of on the state of society among the Asiatic Subject of great Britain. This essay established the basis of education and social reforms in India along with company's commercial policy. He argued the need o f missionaries in India. It was against the company's policy which held the position that missionaries conflicted with its commercial interest in India. In 1797, Grant presented this essay to the directors of company and later in 1813 to the house of common which ordered its reprinting Grant, as chairman to the company used his position to sponsor his ideas. He was the founder of East India company college at Hailey bury (wmcarey.edu, 2010).

Company gained the control of all India except Punjab, Sindh and Nepal through the aggressive policies of Wellesley and Hastings. But expensive wars deteriorated the company's finance. This was the pressure which forced company to seek help from parliament. This was background to the charter act of 1813. But this renewal of the charter for next 20 years deprived company of its Indian trade. The Directors kept their rights of patronage but all important appointment were henceforth to be subject to the approval of the crown. The Act marks the beginning of an ecclesiastical establishment in India for missionaries were now permitted to settle in the country. An educational policy was also initiated by the grant of Rs one lakh out of the Company's Indian revenues for the encouragement of education, literature and science (history tuition, 2010). Local governments of India were given the right of levying taxes on their subjects and punishing those not paying them (Dodwell, 1963). A Lakh repee was to set apart for education. The college of Hailebury, the military seminary at addiscombe and the college

of at Calcutta and Madras were placed under the supervision of the board of control (Punnaiah, 1938).

During Bentick,s administration a great controversy was raised regarding the medium of imparting education to the people as well as the nature of education to be imparted in India. Macaulay, the historian who was then law member throw the weight of this great influence in favor of English, which thenceforth became the medium of higher education (languageinindia, 2010). Lord, Macaulay's minute is the most important to understand the British, strategy in India (Siwaramasawami, 2010). He said in his minute that they had to educate people who could not at present be educated by means of their mother tongue. They must be taught some foreign language and that is English which held the knowledge of science, philology, literature and humanities (Krishnaswami, 2006). He said that company had to pay Arabic and Sanskrit students while who learned English are willing to pay company. He said "I propose that we replace her (India) old and ancient education system, her culture, for if the Indian think that all that in foreign and English is good and greater than their own, they will lose their self esteem, their native culture and they will become what we want them, a truly dominated nation (languageinindia, 2010). This was first serious effort by British to enslave the India Minute provided them a rational base of all this new strategy. It proved worthy for British but an awe for Indian who were forcefully deprived of their culture and heritage. Within a matter of years, J.N Farquhar (a contemporary of Macaulay) was to write: "The new educational policy of the Government created during these years the modern educated class of India. These are men who think and speak in English habitually, who are proud of their citizenship in the British Empire, who are devoted to English literature, and whose intellectual life has been almost entirely formed by the thought of the West, large numbers of them enter government services, while the rest practice law, medicine or teaching, or take to journalism or business (India-resource, 2010).

In 1835, a resolution was adopted that the funds granted by the government for education should be devoted solely to the instruction of the natives of India in the English language and in western sciences. Bentick established the Calcutta medical college and the Elphinston institution of Bombay. Rammohn,s activities were manifold, he was a pioneer of English education. He along with David Hare, a famous missionary founded many schools to impart English education to the Indian and started the Hindu College which finally developed into the presidency college (Mukherji, 1950). Shortly we can describe company's period in these words. In 1815 Bombay educational society was established by the government, in 1816 an institution was established in the name of "Calcutta Vidiyaliya". It was made college in 1819. It was the first govt. college in India with English medium of Education. In 1823 education for all committee was established and in Agra an institution for Hindi language was started. In 1828 governor general William Bunting confiscated Muslim Institutions. In 1836 Hugely college Calcutta and Medical

College Calcutta were established. In 1844 engineering classes in Hindu college Calcutta were started. In 1847 engineering college Rir was established. Counsel of education was established in 1842. In 1844, Lord Harding announced that only the people educated from Govt. schools would be eligible for govt. service. So to get service was the objective to get education (Mukherji, 1950).

Company's last effort regarding education was Wood's Despatch. Wood's Education Despatch formed the basis of the education policy of EAST INDIA COMPANY's government in India since 1854. Drafted probably at the instance of Sir Charles Wood, President of the BOARD OF CONTROL, it was forwarded to the Government of India as Despatch No 49 of 19 July 1854 for 'creating a properly articulated system of education, from the primary school to the University'. The renewal of the Company's Charter in 1853 provided the occasion for the despatch. As usual, a Select Committee of the House of Commons held a very thorough enquiry into educational situation in India. Often described as the 'Magna Carta of modern education in India', the despatch was one of the wisest state papers prepared by the COURT OF DIRECTORS. It was indeed a landmark in the history of education in modern India and presented a comprehensive plan for the later development of the educational system in the subcontinent (Sharma, 2004). Consisting of a hundred paragraphs the document dealt with several issues of great educational importance."It recommend the establishment of a network of education institution such as primary schools, higher schools, colleges and universities, each leading to the next higher stage (Mukherji, 1950). According to Wood's Dispatch

1. There would be education department in every province headed by Director Public Instruction.
2. Annual report, regarding education would be prepared with statistics.
3. Universities would be established like London University in 1857 Bombay, Calcutta and Madras Universities were established. Punjab University was established in 1882.
4. Grants in aid system would be established.
5. Teacher training institutes would be established.
6. Woman education would be given importance
7. No religious education in government schools

The despatch drew special attention of the government 'to the importance of placing the means of acquiring useful and practical knowledge within reach of the great mass of the people'. English was to be the medium of instruction in the higher branches, and the vernacular in the lower [24]. English was to be taught wherever there was a demand for it, but it was not to be substituted for the vernacular. The system of grants-in-aid was to be based on the principle of perfect religious neutrality. A properly graded system of scholarships was to be introduced and female education was to receive the frank and cordial support of the government (Krishnasawami, 2006).Hindus got admission in these

institutions set by British rule but Muslims out rightly denied to get modern science and English education

Education Policy under Crown:
East India Company established an education system for India at solid footings. They adopted missionary policy adopted English as medium of education and deprive of locals of their ancestral system. After the war of Independence, India came under the direct control of crown. Viceroy was the crown's representative here in India. Different Lords during their reign in India introduced different policies but all were bound to each other. During the reign of Lord Canning, many steps regarding education were taken. With drawl of doctrine of lapse was his most important step regarding social reforms. During his reign another important step was the establishment of Bombay and Madras (Mukherji, 1950). From 1880 – 1884 Lord Riper introduced many social reforms. He was one of the people who worked for the establishment of a political party fro Indian to express their reservation about government. He tried to make free education from the official control. He allowed a free play to the natural development of the local education institution. He appointed a commission headed Sir William Hunter. The result was the new regulation passed for education these were laid down for the increase and improvement of primary and secondary schools, till now neglected by the state commission also laid stress upon woman education in India (Mukherji, 1950).

Tehrik deoband and Muhammadan Anglo Oriental School, then college and university were the institution to counter British aspirations. Deoband was a purely Islamic institution to impart Quranic education along with other social sciences; But the M.A.O was an institution with Islamic, scientific and oriental aspiration. This was reaction by Muslims. On the other hand Ganga dhar Tilak started flourishing Hindu civilization.Lord Curzon took another step regarding universities in 1904. It was to bring them under the strict control government this act regained the constitution of syndicates, provided for the official inspection of colleges. Universities were raised from mere examining body to teaching bodies. It was another act to sabotage India private enterprise in the field of higher education. Curzon did it to control the higher education for natives. It was an act which again forced locals deprived of higher education with their own will (Mukherji, 1950).

In 1990, a department of education was established. Indians were its members and they were responsible to represent in the executive council. Another step taken by government in 1913 was residential universities. Out break of world war 1914-18 delayed these reforms. Meanwhile the progress of the education has been reviewed by the commission under the headship of Sir Michael Sadler. It laid stress on research work t university level. It also made many important recommendations for general education. After this report universities of Lucknow, Patna and Annamalai were established. A Central

Advisory Board of India was set up to the progress of education in 1925 (Mukherji, 1950). The history of formal technical education in India can be traced back to mid 19th century. It got momentum in 20th century for technical education; government passed a constitution of technical education committee of the central university board of education (CABE) in 1943. In 1944 Sergeant Report was prepared and in 1945 all India Council of technical education (AICTE) was formed (banglapedia, 2010)

The Sergeant scheme was the last effort by Britain in India regarding imparting of education. It is also known as the report of the Sergeant commission on Post war education development in India. It was a memorandum prepared at the behest of the British- run- government of India that out lined the future development of literary and education in India. It aimed to bring about universal literacy in India with in 40 years of it introduction i.e. 1984 (Krishnasawami, 2006). A central goal of the Sergeant Scheme was the educational reconstruction of India. It recommended the introduction of free and compulsory education for all Indian children in the 6-11 years age group. The plan aimed to bring about universal literacy in India within 40 years of its introduction, i.e. by 1984. Although the 40 year time-frame was derided at the time by leaders of the Indian Independence Movement as being too long a period to achieve universal literacy, average literacy levels in post-independence India had only reached about 65% in 2008 (Wikipedia, 2010)

According to Sergeant Report
1. Compulsory and free education till the age of 14 year.
2. Primary education from 7 to 11 years.
3. High school education would be from 12 – 16 years.
4. Technical and commercial education was made part of scheme.
5. Adult education and Libraries set up.

This way British rule opted its own policies in their period. All these were to subjugate the Indian rather Muslims or Hindus. This way they produced such Indian who have legacy with crown and not of motherland India.

Conclusion

British historian accepted the fact that the education in sub continent was free and for all. Standard of education was high with a lot of facilitation. Sir Thomas Munro accepted in his report 1822 that there was a school in Madras for every five hundred people and one third of population had school facility. According to R.V Prolekar "Ratio of Literacy in India is as per in Europe"

If we analyze the period of British role regarding education it is fact that company and British government has same policy for education in India. Whatever planned by company regarding education was acted upon by British government later.

Study of British education system in India shows that it was an activity to abolish Indians especially Muslim educational institutions where education was free and for all and those were autonomous financially and administratively. It was against the Muslim heritage. Its objective was to make Indian people their slaves abolishing their education and culture. The foremost objective of the system was the supply of obedient civil servants for British government. Second was the mission for Christianity. They introduced such a curriculum which was prepared to produce civil servants only. No other religion except Christianity had importance in it. Teaching of English literature was first priority; history was to be taught according to western view. It was taught in such a way that Indian students felt inferiority complex and to make them realize the English are far superior. Economics was to be taught for materialism and capitalism. Arabic Persian and Hindi had no place and so the Indian culture. It was an attempt to make stagnant the culture and civilization of sub continent. So we can conclude that the British education system in India was solely with the imperialistic approach which was in the British government's interest.

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Role of Intelligent Technology in Promoting Quality Education

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Abstract

One of the factors of hampering quality education is non-availability of the long term planning. This is result of the rapid political changes in the government that causes changes in the key post(s) in the public sector universities and their monitoring institutions. Because it is very often the political governments are misusing their power. As a result public universities failed to run autonomously and the quality of education drops day by day. The rapid increase of the number in private universities led them go through a tough competition in the market. They must ensure the quality of the education to survive in the market. The use of advanced technology will help them to ensure quality education. This paper presents a model in which software agents as an intelligent technology have been proposed to represent a student behavior, the teacher's knowledge delivery and the evaluation of learning ability on a topic by the student. Use of intelligent technology (agents) in education system will make them free from all interventions that affect the quality of education. The efficacy of applying this model on various Human Computer Interaction issues has been presented. The emerging issues categorized to formulate strategies for effective pedagogical approaches for distance learning environment and in effective organization of the teaching material presented before the learner.

Keywords: Quality Education, Software Agents, User Profile Monitoring, Student, Teacher, Learner

Introduction

The agent-based systems that were virtually known in the earlier years but over last fifteen to twenty years it has become almost commonplace. Emergence of the World Wide Web and advances in distributed object technology play as the main driving force for this field. Agent-based systems are capable to execute efficiently in complex and distributed environments. According to their capability and versatility agents ranging from the generic autonomous agents, software agents, intelligent agents, interface agents, virtual agents, information agents and mobile agents (Luck & d'Inyerno, 2001).

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Intelligent Software Agents
Software agents are programs characterized by few or all of the following features.

- Autonomy, where agents perform their tasks without intervention of the users after their design. They are independent to carry on their functionalities.
- Social ability, where agents may communicate with other agents and humans.
- Reactivity, where agents understand the change in the environment and signals and act accordingly.
- Pro-activity: agents do not simply act in response to their environment; they are able to exhibit goal-directed behavior by taking the initiative;
- Temporal continuity, where agents continuously run actively without sleeping
- Goal-orient, where agent is capable to divide its task into subtasks to handle complex and high-level tasks.
- Software agents are capable to record certain user behaviors and pass those results to other desired hosts that either originated the agent and / or volunteer to receive information that an agent is programmed to collect (Wooldridge & Jennings, 1997).

Architecture of Agents
Agents are an integrated part of the end-program. Agents build with a knowledge-based approach, where the agent has extensive domain-specific information about the application. Agents must have a learning approach, where the agent has some knowledge of domain but learns what the user would like it to do base on user actions (Gradinarova & Bakardjieya, 2006). A general model for an intelligent agent is shown in figure1. Three fundamental skills are required in an agent: Task level skill, Knowledge and Communication skills. The skill level tasks refer the basic jobs it has to do. The agent can enhance some new information to its knowledgebase. An agent must know how to communicate with its user and other agents (in multi-agent environment).
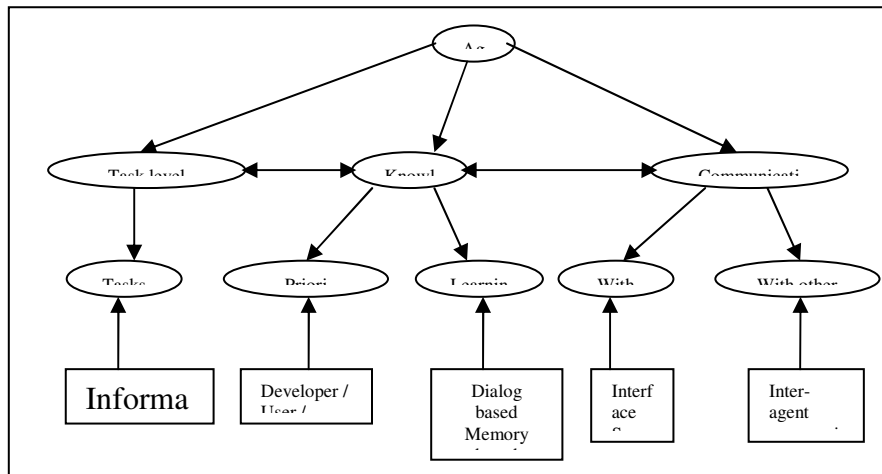
Figure1: Model of an Intelligent Software Agent

Quality Education

The parameters of quality education mainly focus on Teaching, Learning process and the Infrastructure / Environment. The role of teachers is always questioned through public opinion because teacher is responsible to impart knowledge. That's why it common practice that teacher is quickly blamed in case of lacking quality education. It is common perception and might be wrong because there may be a lot more components comprising education that are being ignored. It is also observation that sometimes different teachers teach same course with different approached. To avoid this, contents are bounded to be the same in shape of Textbooks. Teachers are bound to teach the textbooks to follow the same contents (Iglesias, 2002).

Likewise, sufficient foundation and infrastructure has key role for quality education. The second step is to analyze how that infrastructure provides services to the students. This is the responsibility of institute to create learning environment that every student may be able to achieve the goal. Students are evaluated by class tests, quizzes, assignments, projects etc. The purpose of the examination is to grade the learner and create the learning environment. The Quality Education should provide stability and balance between publicity and truth. It should also be observed that what was the objective and what is practice? It can be summarized that quality education is concerned with 'processes of teaching, learning, testing, and managing which must be investigated on their own terms'. There is need of an in-depth qualitative investigation of such processes and concentration on more insider viewpoint of what happens inside institution and classrooms (Jacques & Catolica, 1999).

Intelligent Agents in Education

The development of the World Wide Web has brought amazing revolution that the many people around globe are facilitated to access information in unlimited quantity without limitation of time and space. With the integration of intelligent technology like software agents will provide learning environment to masses at different levels. The use of software agents enable will help to create more flexible and dynamic pedagogical system. Students can be facilitated in following ways. They interact themselves and keep themselves busy to get healthier results. A shared environment in which a teacher is supervising the discussion is provided to the learners to keep them on the intended topic. A multiagent system will be the appropriate solution where agents of different skill are used to monitor the communication in teaching-learning (Collins & Browns, 1987). As a pedagogical expert, an intelligent (software) agent will be used to analyze and monitor the better implementation of teaching intercessions. With the guidance and monitoring of intelligent agents learners can improve their performance. Intelligent agent can flexibly mentor than the human mentor. At this moment we do not consider the difficulties that an intelligent agent will face as a pedagogical expert (Lea & Barlow, 2001).

Impact of Technology
It has been proved that technology has positively affected student learning and left good results. Students' satisfaction and interest level has been increased through technology. In today's learning environment teaching faculty has shown positive role with the use of technology. Educational institutes have established extensive evolution toward the use of Internet for distance learning. Course Management Software (CMS) has been implemented in few of the institutes to complement traditional classroom instruction. Course-management tools have facilitated students to identify courses, textbook requirements, submit and review class assignments, receive teacher's instructions, discuss various teaching issues with others, login chat-rooms for preparation of the examinations. While the distance-learning concept provides more convenient virtual access to learners around the world, it also introduces some limitations and shortcomings, mainly from communication, pedagogy, and course administration perspectives. The course instructor cannot enjoy the powerful face-to-face communication channels available in a traditional classroom environment. The virtual teacher will have difficulty assessing student progress in learning as well as their participation in classroom collaboration. Use of intelligent agents in distance learning environment can diminish some of these limitations (Jafari, 1999)

Implementation Details
Until recently, a major requirement of any CMS was ease of use. This no longer seems to be the main concern. Dynamic and elegant learning environments are need of the day that have autonomy that is more useful for the students and teachers. Using intelligent agents in an environment using CMS can diminish some of the current limitations. This paper defines three groups of intelligent agents for use within a course management or in an e-learning portal or any institute's own portal. Each set of agents is conceptualized to perform certain tasks as it relates to learning, teaching, and administrative assistant needs. The agents communicate with their human clients using a combination of text, graphics, speech, facial expression and voice recognition.

Teaching and learning intelligent agents operate within CMS systems or campus portals. Each member of a CMS or campus portal has access to a series of personal intelligent agents after signing on. User should have the authority to configure their agents to perform specific tasks or services. Intelligent agents can be integrated into existing teaching and learning environments as an add-on tool. Alternatively, CMS and portal vendors may improve the functionalities of various tools within their learning management systems to offer similar intelligent services. Campuses with self-built course management and portal software will have more flexibility in the design and integration of intelligent agents. In house development of agents could be accomplished faster and easier (Jafari, 2002).

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Agent designs rely heavily on the use of databases. Agents use external databases to obtain information about each user and local databases to store the query results and to build user profiles. Agents also use a substantial amount of computer resources on database server side to run queries, stored procedures, triggers, and user defined functions. Each agent may require its own server. This will certainly required budget provisions for purchasing new hardware and software, and for new maintenance and support services, especially in the area of database and data storage. Institutions with greater programming and database expertise, substantial resources within IT support units or more research groups within academic departments of the institution can take the challenge to setup a CMS or portal as the host of intelligent agents.

Intelligent agents rely heavily on learning profile data of individual learners (if any agent is designed to keep track the progress of learners or any agent is dedicated to monitor the performance of a faculty). A learning profile includes easily available data such as student grades and performance in different courses along with their learning objectives. By analyzing learning profile data and agent can intelligently suggest a pedagogical package suited for an individual learner.

Probable Agents in Learning and Teaching Environment
This paper has identified three groups of intelligent agents for teaching and learning applications for three classes of users, for students "Digital Classmate", for the faculties "Digital TA" and for the administrator "Digital Secretary" (Jafari, 2002; Pakistan Economist, 2001).

Agents for Students
From a student perspective, a growing body of evidence indicates that the presence of an agent is beneficial. An agent can search information with the help of the massage board in the portal or can arrange a threaded discussion in a portal. A student can set up a message service that will aware the student two days before the deadline date appear for an assignment or some other messages like this.

Agents for Teachers
The digital TA is a personal agent that may be configured by its owner, at the beginning of a course/semester. It can be designed to check the progress of the students regularly and aware the instructor to take necessary steps for the students. It can give message to the instructor as the assistance required by the faculty.

Agents for Administrators
Digital Secretary assists students and instructors in various logistical and administrative assistant needs. Digital secretary can be designed to monitor the progress of the courses,

progress of the class performance of different courses. It can be even designed to monitor the performance of the faculties. This agent can share information with other agents.

Obstacles in Implementation of Agent Based System

An agent may have access to a variety of dynamic and static data, including data obtained from the campus student information system, course management system, and student profile database. As a result, given the massive amount of data processing involved, it might necessary to run intelligent agent software on dedicated computer servers. Further more, various tasks performed by an agent could be distributed among several computer servers. So it is very clear that funding for hardware and software can be a big issue to overcome at the beginning. Availability of skilled manpower to maintain and monitor the system is also not an easy task (Albretch, 2004)

Technical, Legal and Ethical Hindrances

- Different agents can access private and confidential data of any member and it can be the prime issue to stop implementing intelligent agent.
- Responsibility which goes with relinquished authority: Whenever a user is going to relinquish some of his responsibility to software agent, the man should be aware of the authority that is going to be transferred to the agent. (Say for an example, due to the unavoidable absence of an instructor agent may submit the grades of the students).
- Legal Issues: As the concept of agents is very new, present law may not (possibly not) accept the role of agents in a society.
- Ethical Issues: Role of agents can strike the present ethical issues in human society.

Systematic Hindrances

In Pakistan the education system is mainly divided in three sectors:
- Primary and Secondary School Education
- Higher Secondary School and
- Higher Education.

Curriculum for Primary and Secondary School Education, Higher Secondary School is designed by Ministry of Education and textbooks are designed and approved by Regional Text Book Board. On the other hand the universities or degree awarding institutes themselves mainly conducts Higher Education. Universities are autonomous bodies and design their curriculum by their own academic councils. Universities can be classified in two classes: Public and Private Universities. Public Universities receive an annual subsidize from the Government and thus their annual budget is mainly regulated implicitly or explicitly by the Government. The Government very often selects even the key administrative posts. On the other hand the trustee board selects the regulatory body

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of the Private Universities. Private Universities do not get any grants from the Government. As a result annual budget is more flexible and almost free from the government intervention. Executive body of the private universities is selected by their own. While only the posts like the Vice-Chancellor, Pro-Vice-Chancellor and Director Finance in public universities are approved by the Chancellor (Governor/President). Neither the Chancellor nor the Higher Education Commission (HEC) appoints anyone by his or her own choice except the mentioned posts. As a result, the administration of the public universities is completely free from the interference of the Government. But the curriculum of these universities is approved by the HEC.

Feasible Sectors and Predictable Advantages
The first two sectors of education system in Pakistan (Primary and Higher Secondary School) are run by the Government. It seems impractical to implement intelligent agent or such a computerized technology. The reasons are:

- Majority of the people are incapable of using computer technology, as they are not economically solvent. Maximum schools or colleges do not have enough computers or even they can't afford to maintain even a computer laboratory with more than 100 personal computers.
- Government rules to approve an institute to run computer courses at higher secondary level also reflects that this is not the appropriate time to plan to introduce such an advanced technology.
- It has been found that the high government officials are reluctant to adopt the advanced technology.
- Less than 2% (two percent) of the total population of Pakistan is using Internet. Secondary education is given to a mass of people where about 75% college students do not know the use of computer.

On the other hand, students from all disciplines of the Private Universities necessarily learn the computers as their foundation course. Even in the Public Universities the percentage of the students who can't use computer is negligible. It is thus found the university students can cope up with this new technology. Still the drawbacks are listed below and the way these can be surmounted is also mentioned below:

- Budget Issue: As it is mentioned before, intelligent agents may require separate servers and either a CMS or a portal; Private Universities can easily make some changes and bear the expenses. On the other hand Public Universities can propose this issue to HEC to allocate proper funds and it seems that HEC is taking keenly interest to promote higher education.
- Skilled Manpower: To implement an agent based system, it is very important to conduct a research to design the three types of agents. Possible actions to be expected must be defined. Experts who can handle a Campus Portal or CMS and as well as design intelligent agents must be in the institute. It is only available in the universities not anywhere else.

- Legal and Ethical Issue: It is relatively easy to handle any legal issue raised for implementation of intelligent agent by the universities, as they are autonomous bodies. As all the concerned persons are well educated they can neglect the ethical issues can be raised (Khan, 2000).

In Pakistan it can be the first field where intelligent agent can be used avoiding the social barriers like legal and ethical problems. Successful operation in education sector can attract industries to move forward and adopt the advantages of Intelligent Agent.

On the other hand the campus environment will be more dynamic and administration can feel more comfortable to monitor different sections of the institute. While an agent starts running autonomously at the beginning of a semester, no one can change his or her mind to compromise with the quality. Administrative agents should monitor other agents to ensure the quality education.

If the agents are designed without detecting the needs of a campus, it can drive the administration in a wrong way. Frankly, designing of a customized agent for an institute requires detail investigation and discussion among the different bodies of an institute. As agents can communicate them, privacy of any specific section can be violated and should be handled very carefully (UN Report, 2001).

Conclusion
The parameters of quality education are focused on three key issues: teaching, learning and the environment. Traditionally, the environment is perceived to be classroom environment only with the physical presence of a teacher, students and classroom teaching aides/resources. With the booming growth of Internet, now in all parts of the globe more research is being focused to create applications to converge the amply diversified Internet based community. Distance learning has developed websites that contain tutoring materials and students accessing those with smart engines and bookmarks to identify an individual's progress. Some may even contain videos & pre-recorded sessions for a better dissemination of knowledge.

Software Agents have major contribution in emerging intelligent technologies. They are autonomous programs having the ability to record certain user behaviors and to pass those results to other desired hosts that either originated the agent and/or volunteer to receive information, which an agent is programmed to collect. These agents can be easily programmed to collect the computer system usage profiles of a typical user. Mobile software agents have the additional capability of working through a wide variety of devices and on a bigger data communication protocol canvas. With the implementation of the proposed model the quality education can be ensured even in the change in

government. The implications of this model are to be compared with other similar models in future.

Acknowledgment by Authors

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Implementation of Affective Education: The Case of a Middle School in China's Guangzhou

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Abstract

This study illustrates how affective education was realized in a middle school in China's Guangzhou. It identifies an approach of affective education implemented in a three-level manner-individual level, class/group level and institutional/whole school level. It is also revealed that affective education was characterized by highly centralized leadership, the irreplaceable role of homeroom teachers and the emphasis on class and whole school level for implementation. A multi-functional committee served as an agent of promoting the interests of the collective. To implement Meiyu at individual student level and class level, the school relied on the homeroom teachers who made use of personal contact and relationship with students to assert influences as role models. At the whole school level, "school ambience" of Mei was promoted for dissimilating values of perfection and forming moral character. While all the characteristics identified reflect the legacy of traditional values and are explicable in the light of cultural factors, they also illustrate that political considerations are pertinent to such a unique approach of affective education in China. The collaboration of the centralized leadership and the intensive work undertaken by individual homeroom teacher produce a unique support system in a collectivistic culture, in which students' collective identity instead of their autonomous self was developed.

Keywords: Affective Education, Implementation, Middle School, Cultural Factor, School Ambience

Introduction

Affective education generally pertains to the student's experience of learning (Ackerson 1992), and such kind of learning is concerned with the emotions and feelings that motivate or shape human action (Best, 1998). While a variety of terms, such as education for affect, affective development, affective development education, and affective domain have been used to address affect in education (Martin & Reigeluth, 1999), affective education is always an umbrella concept that manifests possibly in a number of different ways throughout the world (Lang, 2003). These terms are found to be used interchangeably and how they are interpreted depends heavily on the social and cultural context. A wide range of approaches to affective education has been discussed in the West (e.g. Beane, 1990; Lang, 1998; Lang, Best & Lichtenberg, 1994), but how affective education is practiced and developed in school communities in Asia is seldom

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investigated. Empirical studies about the implementation of affective education which may inform comparisons across regions are even of minimal. In Mainland China, affective education is termed as *Qinggan Jiaoyu* that literally means education of emotion and feeling, and its realization is a topic under-researched. The present paper reports a qualitative case study which attempts to investigate how affective education is realized in a middle school in Guangzhou- the biggest city in southern China. It is hoped that the findings can shed light to illuminate the essence of affective education in its operation and implementation in a Chinese context.

Literature Review

To identify the constitutive elements of affective education, Martin and Reigeluth (1999) propose a model of affective education which is made up by six dimensions and three major components. The six dimensions denote affective development including emotional, moral, social, spiritual, aesthetic and motivational. The three components are knowledge, skills and attitudes. Such a model demonstrates a clear categorization of the affective domain and illustrates that affective development can be both a process addressing individual growth as well as an end-product addressing the affectively well-adjusted person. To further elaborate the affective development,

Puurula, et al. (2001) offer a significant dimension that generally involves a concern for students' moral, spiritual and values development, in which a number of affective constructs can be found. They include feelings, beliefs, attitudes, emotional literacy, interpersonal relationships and social skills. Hence, a wide range of constructs varying from feeling-based dispositions to internally consistent qualities can be termed as the constitutive elements, and these constitutive elements form the salient content of affective education to be realized in the formal and informal curriculum.

Affective education is integrated with every aspect of learning and schooling (Beane, 1990; Katz et al., 2003). The realization of affective education involves not only the way of implementation but also the extent of actual practice. Lang (1998) suggests that affective education operates on at least three levels and has objectives involving different time scales. The first one is of the individual level. Attention is given to individual students to promote their self esteem, emotional literacy, study skills, their life and career plans. The second level targets at the class/group. The focus is the nature and quality of interactions within the groups in which students work and relate. The third level is the work with the institution (whole school level). It is concerned with the quality of the social climate of the school itself, and the guidance and support it offers to students. It is believed that the different levels are interrelated and do not function in isolation.

Lang (1998) also proposes a model in the form of a three-level structure. It is consisted of three different components: Response or Cure, Proactive or Prevention and Enhancement.

Response or Cure basically is a remedial approach to cope with problems. Examples include individual counseling or referral of students to relevant agency. Proactive or Prevention is about how students cope with anticipated problems. Anti-drugs programmes and the development of code of conduct are the examples at this level. Enhancement is about whole-person development. Lang's model does not only provide better understanding of the nature of affective education but also illuminate the development order of different aspects of affective education identified in educational systems.

Affective Education in China

In China, the translation of the term affect is qing which represents a generalized concept related to the inner feelings of an individual. Ames (2003) argues that qing constantly reform our natural tendencies as human beings. According to Confucian teaching, the expression of qing should always conform to patterning in order to achieve harmony (Tang, 2003). How to live in dignified harmony with others is the major concern of a person. It is shown by an individual in his or her relations to social communities, and to his or her own moral cultivation by which the self is brought to maturity (Liu, 2004). As mentioned, affective education is called Qinggan Jiaoyu in modern China. Being a prominent theorist of affective education in the Mainland China, Zhu (1993 &1994) maintains that qinggan equals to affect (while jiaoyu means education). Broadly speaking, the emphasis of qinggan jiaoyu is put on the moral development, specifically on fostering moral affect (Lo, 1993; Yu, 1999; Zhu, 1999 & 2004). Zhu (1999) identifies at least eight different manifestations of affective education in the Mainland as developed by different proponents and theorists. They are:

1. Meiyu – aesthetic education at its broadest sense.
2. Lexue jiaoyu –interest-oriented education
3. Qingjing jiaoyu– contextual learning
4. Hesie jiaoyu– harmony education
5. Zizhu jiaoyu– self-directed learning
6. Jiaowang jiaoyu – interactive education
7. Chenggong jiaoyu– success education
8. Shenghuo jiaoyu – life skill education

Though the practice of affective education varies, most of them are in line with traditional concern for ethics, and morality is perceived to be central to the affective development of an individual. Affective education in China is thus characterized by moral values and strong influence of traditional virtues.

Empirical studies investigating how affective education is implemented in a Chinese context are not common. In comparing the nature and development of affective education in the Mainland China and Taiwan, Hsu (2003) studied twelve primary schools in the

regions and managed to highlight some significant initiatives of delivery. Wang and Ku (2010) conduct research on the affective education course in a Taiwan elementary school and identify the components of a framework for affective education implementation. While findings of both studies inform us how affective education is being realized in primary schools in Chinese societies, its practice and operation in secondary school context has not been explored. Moreover, it seems that the prevalent theories and practice of affective education which are interpreted in an individualistic cultural context of the West are inadequate to inform what affective education entails in a Chinese culture. In view of this lack of work to study how affective education is realized in secondary schools in a Chinese context, the study reported in this paper seemingly can fill in this gap on existing research on the provision of affective education.

Methodology

The research project is a qualitative case study conducted in a middle school in Guangzhou- the biggest city in southern China. The case school has a history of forty years and student population of about 1000. It possesses uniqueness in the provision of affective education which is in the name of Meiyu (broad sense of aesthetic education entailing the meaning of harmony and perfection). Official recognition was given by the government to the school for its strong emphasis on affective development of its students. There was not a specific subject or stand-alone course labeled as affective education (qinggan jiaoyu) in the school, but it was generally understood and widely adopted as an essential theme of the school's mission. Guangzhou city is chosen because of its uniqueness in cultural complexity. Guangzhou has long been labeled as the symbol of Lin Nan Culture (The southern China culture) (Li, 2003; Zhao, 2005), which is characterized by openness and inclusiveness (of different cultures), as well as the preservation of the cultural heritage (Chen & Yu, 2005). Fieldwork was carried out from 2005 to 2007 to investigate the perceptions of school leaders (school principal and School Communist Party Secretary), teachers and students about the concept and practice of affective education. Data are drawn from observations, analysis of textbooks and school documents, in-depth interviews with the present and former school principal, the Communist Party secretary, teachers and students of the school. A total of 35 semi-structured interviews were conducted involving 41 informants including 3 school leaders, 20 teachers and 18 students. 23 sessions of on-sited observations were conducted in the school and during school outings. A shadowing approach of observation to the principal was also adopted to gather more data of school management at senior level. .

Findings

Different sources of the qualitative data were categorized, thematically analyzed, and triangulated. Content elements of *Meiyu as* affective education across the curriculum (both formal and informal) were identified and how they are implemented was investigated. Salient themes include the development of moral character, the building up

of harmonious human relationship, and the promotion of code of conduct and psychological health. Lang's model is adopted in this paper as the framework for presenting how the content elements were realized in different school levels, namely, (A) individual level, (B) Group/Class level, and (C) Whole school/institutional level. Particular attention is given to the following interrelated issues in each level:

- The school system or personnel involved in the practice of   affective education
- The nature and strategies of the implementation of affective education

(A)   Individual level
Teacher-student private talk as a strategy of implementatio*n*
Private talk was in the form of a talk conducted privately between a teacher and a student beyond the classroom situation. Such a talk appeared as a usual practice in the case school. The rationale of using private talk as the strategy to implement Meiyu was for better communication. It was believed that conversation in an informal situation between teacher and student resulted in deeper understanding of each other. According to the Communist Party Secretary at the school, private talk was a must in homeroom teacher's work. She said:

…there is a need for in-depth communication (between teacher and students). There will be better understanding then. That is why we need teacher-student private talk.

The strength of private talk was deemed to be the creation of closer teacher-student relationship. Apparently, teachers, especially homeroom teachers, play a key role in the individual level, and the private talk as a strategy facilitates the transmission of values and belief to student.

Role modeling
The rationale was related to the original meaning of the Chinese character "teacher", which refers to "being a role model" (shifan). Students are expected to learn from the examples of their teachers. Hence, the model provided by the teachers would help to cultivate the image of perfection of character. Since teaching was considered as a kind of work which instilled thoughts and values, the character possessed by a teacher would affect his or her students. As described in the school publication:

The one who wants to educate others with Mei (beauty and perfection) must first educate oneself with Mei…(Teachers) use own behaviour as model to educate, dissimilate Mei and provide guidance to students.

The principle of this strategy was based on the notion of teachers' giving subtle influences to students through daily life contact. It was a gradual process which helped

students to pursue perfection of character or form moral behaviours under the influence of their teacher.

Personal care as a strategy
It is mainly seen as a way to build up rapport and then form harmonious teacher–student relationship. The rationale for personal care is based on the belief that the provision of support enhances teacher-pupil relationship, which in turn helps the student to learn from the teacher. The personal influence of a teacher was valued in both relationship building and character formation. A homeroom teacher could support students emotionally or provide guidance via non-verbal means. These included sending SMS messages and feedbacks on students' weekly journal.

Individual counseling
The rationale for individual counseling services is to supplement homeroom teacher's work on "guidance". The principle of the counseling support is two-fold. One is the utilization of expertise and the other is the maximization of social contact to establish close relationship with client students. The provision of counseling service as a means to build up closer teacher-pupil relationship seemed to be a supplement to the work of the homeroom teachers.

To sum up, the practice of Meiyu as affective education at individual level was about both remedial and developmental. The adoption of personal care to student as a strategy of realizing Meiyu by homeroom teacher or the teacher counselor was basically remedial work that reacted after problems had arisen. However, the conveying of values to students through personal contact was developmental in nature. The way to implement Meiyu at the individual level is mainly through personal interaction. Teachers, especially the homeroom teachers, support individual students through personal relationship, in which care and concern were shown and personal influence was channeled. The role of homeroom teacher became the focal point in the realization of Meiyu at individual level.

(B)   Classroom / group level
At the group/class level, establishing the "class collective", organizing class periods according to pre-determined themes, pedagogical practices and running competitions were strategies adopted to facilitate the implementation of Meiyu.

Building up class collective
"Class collective" was a terminology adopted by the case school to represent the concept of a class as a community. It was in this physical and social environment of a class that students spend most of the time of a school day. The following excerpt from a school document highlighted the nature of a class in a collectivistic society:

A class is a miniature of a society. Here we have rules and boundaries. Here we have human affections. Here we have effort jointly paid. Here we have harmony. Here we have rows. Here we have improper manners…Teacher, being the manager of the class, should make the best use of this small society…to convey Mei (the value of perfection and beauty)…to achieve the goal of beautifying students' mind…

The major duty of a homeroom teacher was to create good class ethos for the class. Through positive class ethos, values of Mei were transmitted and realized. Besides, the homeroom teacher was the role model in the process of creating the class ethos.

Organizing class period
Organizing "thematic class teacher period" was another strategy to implement Meiyu at the group/class level. According to school document, class teacher period was considered as "a venue which sets the code of behaviour, conducts character education, and consolidates the class as a collective". In organizing thematic class teacher periods, the themes had to address students' educational needs in order that students would internalize what they learnt and manifest in their behaviour. Examples of specific themes included in these class teacher periods were unifty, friendliness, and safeguarding the collective interests and honour. All these were related to character building of students and code of behaviour. Class teachers played vital role in planning and provision of leadership in implementing thematic class teacher periods.

Subject teaching
Meiyu was deemed to be "permeated" in different subject teaching .In planning the curriculum and classroom teaching, clear guidelines were given to include the values of Mei. For instance, in implementing Meiyu to promote code of behaviour via classroom teaching, teachers were also asked to relate teaching content to different areas of Mei such as "behavioural Mei", "Mei in one's speech", and "Mei in one's affective feeling. They were presented as "beauty" in its broadest sense which in fact referred to proper manner or etiquettes in general.

Competition
Another strategy is to employ competition as a means to promote Meiyu. There were two directions. One was to help students to tie up collective honour and individual behaviour in the course of competition. The other was to internalize the spirit of collectivism. To implement the strategy, students were trained to compete with other classes in a variety of activities and assessments every day in order to gain "honour for the collective". Scores were recorded and shown publicly on boards to encourage inter-class competition. It is possible that under such influence of competitive atmosphere, a collective value of striving for excellence could be cultivated and strengthened. Most importantly, a collective identity was built and recognized.

The practice of Meiyu as affective education at group/class level was about remedial work and prevention. However, the creation of positive class climate and inclusion of themes for personal growth as well as social development of individuals at class teacher periods addressed developmental needs of students.

(**C**) **Whole school / institutional level**
At the whole school level, three salient strategies were identified to enable the effective implementation of Meiyu. They include, namely, organizing school-wide programmes, promoting campus culture and management of Meiyu via a functional committee.

Organizing school-wide programme
Students' quality was believed to be formed while they participated in educational activities. These included extra curricular activities, and internal and external school functions. The rationale for the running of large scale activities is for the permeation of Meiyu through an informal and hidden curriculum. As illustrated from the guidelines of implementation of Meiyu, the focus of these school wide programmes was to promote morality. The school activities and mass progammes were extensive, and they can be grouped into eleven main categories: training, interest groups, outings, visits, contest, service learning (voluntary work), performance (art and music), exhibition, educational exchange programmes and festivals. The significance of running these activities is the generation of positive feeling towards school. School activities also provided opportunities for students to engage in social interaction among peers and trained individual students to work collaboratively with others.

Cultivating campus culture
Meiyu was implemented at the whole school level through "fostering a campus culture of harmony". The so-called campus culture is an integral part of the overall school culture based on the belief that "culture moulds people's thoughts and helps character building". The guiding principle for the implementation is the focus on gradual transformation. As outlined in the school document, the moulding effects of the campus culture were "soundless" and "gradual". It is termed as "subtle nourishment" that was based on classical beliefs. The physical environment (e.g. architecture, arrangement of horticulture) was intentionally designed so as to dissimilate the value of Mei. It was stressed that students could feel the ambience of Mei via the artifacts that were "for the nurturing of students in the area of feeling and emotion, and shaping of their character".

Managing Meiyu via a multi-functional committee
In the case school, guidance and support to students at the whole school level was operated in the form of a hierarchy using a top-down approach under the centralized leadership of a functional committee. It was called Jiao Dao Chu (JDC) which literally

means "the teaching and guiding committee". At each level of the hierarchy (form and sub-committees), there appears a clear and systematic division and coordination of work among teachers. The committee was mainly responsible for promoting ideo-political education and a variety of duties related to academic and student affairs. It was also the committee in the school which planned and organized programmes of guidance and discipline. JDC's daily duties included some other workload such as liaison work with government and private sectors, publicity, and close monitory work on students' academic performance. To realize Meiyu at whole school level, JDC provided support to teachers on both instructional and non-instructional aspects.

At the whole school level, the realization of Meiyu was mainly preventive and developmental in nature. Though there were a variety of school activities and different kinds of learning experiences related to affective development, most of them were for developing moral character, sustaining harmonious human relationship, and promoting social adjustment into norms.

To illustrate the operation of Meiyu as affective education in the case school, the following figure provides a conceptual presentation.

Characteristics of implementation
At least three salient features were identified as the characteristics of the implementation which help formulate a Chinese approach to the practice of affective education. They are:
1. The operation of affective education under centralized leadership
2. Homeroom teachers' multiple roles in supporting students
3. The emphasis on whole school and class level

In the case school, the management of Meiyu was in the form of a hierarchy under the centralized leadership of JDC which exercised strict control over the planning and implementation of the programmes. The school principal and the Communist Party Secretary offered co-supervision. However, the former was to provide political and ideological leadership to ensure the realization of the state (the Communist Party) policy on education in schools. This facilitating role creates effective channeling of ideology from the Communist Party to the teachers and students in schools (Ogden, 1995).

In the case school, homeroom teachers were key persons in offering individual support and care to students. They were also key figures in forming the so-called "class collective" with positive class ethos. The multiple roles of the teachers in the case school are not uncommon in schools in China. Homeroom teachers' roles are known for being multifaceted and significant. And homeroom teachers are expected to be involved in most matters concerning their class (Lo, 2001; Zhu & Liu 2004). Homeroom teachers exerted their influences through building a close teacher-student relationship. They developed

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personal relationship with students, and presented themselves not only as teaching staff but also as parents who cared for students as their children. Due to such close contact and relationship, homeroom teachers have become the most accepted authority figure for students.
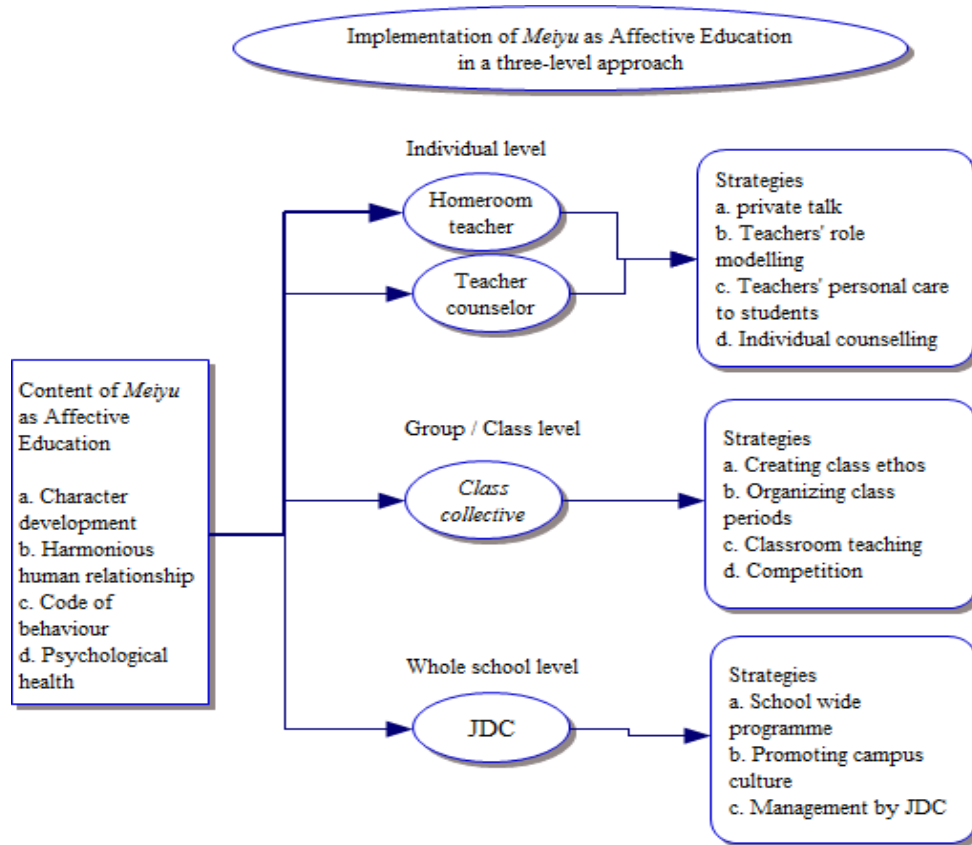
Besides cultivating personal relationship with students, the homeroom teachers have a specific role in building the "homeroom' to function as basic unit of the school collective. Contact with students offers the homeroom teacher opportunities to inculcate societal norms and values. Such practice is in line with Liu and Barnhart's (1999) observation that the strength of a homeroom teacher in China lies on his/her establishment of a personal relationship with students and even students' families. Furthermore, in implementing Meiyu as affective education, the case school specifically emphasized the importance of teacher as a role model in fostering students' virtuous character. Teachers, particularly homeroom teachers, played a pertinent role of being exemplars of what

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constitute 'Mei' as personal qualities, so that students could learn from them moral virtues and acceptable code of behaviour.

The case school showed particular concern to implementing Meiyu at the class level and whole school level. It can be explained by the emphasis of collectivism. Class was construed as a basic unit of the school collective. Hence, "class collective" is therefore perceived as a 'group" of the whole. In collectivistic culture, people tend to think of groups as the basic unit of analysis of society (Nakane, 1970). According to Triandis, Mcusker and Hui (1990), achievement and interdependence within the in-group are emphasized in collectivist cultures. In-group interdependence and harmony are stressed and therefore in-group members have to conform in order to gain acceptance from others. It accounts for the case school's effort to foster the idea of class collective and the enhancement of class ethos. Via promoting the value of Mei, collective norms were formed and conformity could be achieved. On one hand it is to help create harmony within "group" (class collective) and on the other hand, it is a way to mould students' character development under the influence of the collective norms.

To implement Meiyu at whole school level, the case school made use of the "school ambience". Students were constantly under the subtle and gradual influence of Mei for character development. In fact, such a way of "unconscious influence", as Wang (2004) terms it, is basically the teaching of Confucius who highlighted the importance of environmental influence (Analects 4.1). According to Confucian ideology, the impact of the environmental influence can be deep and enduring. Virtues are cultivated via unconscious influence. Hence, proper social and physical environment are the factors contributing to the formation of moral character. It explains why the case school, which was keen on promoting Chinese traditional ethics, transmitted the moral values such as harmony as virtues of Mei via architecture, arrangement of horticulture, and various festive programmes. By doing so, a school-wide dissimilation of values among students can be achieved in a subtle manner.

Discussion
The research reported in this paper demonstrates a unique approach of how affective education is implemented in a Chinese context. It shows strong inclination to the working for the common good and the regulation of self, with the ultimate goal of constituting harmonious social order. Findings of the study also provide a Chinese perspective which addresses both psycho-cultural and socio-political dimensions of affective education. .

A psycho-cultural dimension
The practice of affective education in the case school reveals the traditional belief of "self". Affective education in the West is concerned with personal and social development (Pring, 1987). For adolescent development, it is about the formation of a

sense of identity including the developments of different aspects of self (Wall, 1977; Watkins, 1995). Affective education in the case school seemed to demonstrate a different picture of "self-development". Cultivation of moral virtues of human self is emphasized and self is, to a great extent, defined in terms of one's roles and one's relationship to the nation or the collective. The underlying message of the affective education on the development or perfection of personal qualities in the case school, in fact, echoes with the traditional belief that an individual can be transformed into a person with virtuous character via cultivation of self (Wang, 2004). There is always a capacity of the heart and mind to reflect on and reshape one's own life (Cheng, 2004). Affective education, entitled as Meiyu in the case school was employed as means for character formation and nourishing inner-self. The main foci of the practice of the affective education are the working on the common good and sustaining the benefit of the collectivity. Such foci were manifested on the interpersonal dimension in the provision of affective education in the case school. The essence of affective education was to demonstrate the way to achieve self-actualization through collective identity. On the other hand, emotional literacy as an essential dimension of personal and social development was not adequately addressed in the case school. Such lower priority in affective education reveals the Chinese way of coping with emotions. As argued by Yu (1999), self-cultivation is always believed as the effective way to regulate one's emotion. It is in line with the traditional belief of the need of regulating one's inner feelings. Being a "relational" self, students tended to be interested in maintaining harmonious human relationship. And regulating one's own affect is a purposive and conscious way of enabling oneself to engage in harmonious human interaction in daily life. Apparently, in this regard, affective education, instead of facilitating the liberation of self, is for the purpose of regulation of self.

A socio-political dimension
Parallel with the development of reforms and the promotion of modernization, profound changes are taking place in the social and economic sectors of China. In facing the marketization of the economy, there is a need for the establishment of corresponding values and norms of morality. Fostering positive human relationship and promoting social ethic as a response to rapid social changes and tension caused by the establishment of market economy are necessary (Li, Zhong, Lin & Zhang, 2004; Qi & Tang, 2004.). Thus, the re-emphasis of the traditional Confucian values is deemed to be urgent to maintain social and political stability (Yu, 2008). These changes are reflected in the stress of the case school on addressing the issue of human inter-relatedness, ethical behaviours and public morality by promoting affective education. Ideo-political education has been found to have significant influence in the school's affective education. Such influence is understandable since China's educational system is always a subsystem of the political system and has been used as an instrument to sustain a social order and to build up a modern society (Zhou, 2003). In supporting the ideology of collectivism and encouraging conformity to the socialist values, ideo-political education is implemented by using

affective education as a vehicle to foster the civic morality and reinforce collectivistic culture in the case school. Besides, in order to respond to the political doctrine of the Communist Party on bringing the notion of harmony among groups with conflicting interests in China, the dissimilating of "harmony" as Confucian value was prevalent in the case school. Beyond doubt, affective education is politicized in order to promote political values for stabilizing society as well as strengthening the political leadership of the Communist Party.

Implications of the present research
The implementation of affective education as identified in this study serves to supplement Lang's three-level approach of how affective education operates. Instead of focusing on self-esteem and emotional literacy, the practice of affective education at the individual level in the case school saw the emphasis on social contact and relationship building between teachers and students. At the class level, attention was given to the formulation of class collectivity to realize interdependence among students. The major concern at the whole school level was the infusion of moral values throughout the formal, informal and hidden curriculum, so as to present the affective themes that permeate everyday life in the school. In the name of "harmony", school climate as identified at the whole school level was the one emphasizing the maintenance of order and moralizing by authorities. Certainly, the external expectation and directives from the Communist party also create strong impact on the climate of school.

The approach also reveals the essential features of centralized management in a collectivistic culture while implementing affective education. Central to the management is the multiplicity of JDC's roles in promoting ideological, political and moral education via Meiyu. Some support offered for students by JDC for the enhancement of students' welfare and behaviour is always understood as a form of pastoral care in the West. However, pastoral management characterized by offering systematic leadership and effective coordination for meeting student's developmental needs as proposed by Best (1995, p.14) is not the practice of JDC. Instead, centralized leadership with hierarchal management facilitated the work of JDC in implementing Meiyu programmes for the well-being of the collective. Such an approach of management demonstrates the realization of social control in the practice of affective education in a collectivistic culture, which provides an area of further investigation on school guidance management.

There is also pedagogical implication derived from the study. The practice of Meiyu as affective education saw the cross curricular implementation or an infusion approach of implementing affective education. Mei as the value of perfection and beauty permeated via every aspect of school life, particularly the classroom pedagogical practice. More empirical studies are needed to investigate the design and implementation of affective

curriculum that is not only situated within a framework of education and pedagogy but also a social and cultural context.

Conclusion

This study illustrates how affective education was realized in a middle school in China's Guangzhou. It identifies an approach of affective education implemented in a three-level manner-individual level, class/group level and institutional/whole school level. It is also revealed that affective education was characterized by highly centralized leadership, the irreplaceable role of homeroom teachers and the emphasis on class and whole school level for implementation. A multi-functional committee served as an agent of promoting the interests of the collective. To implement Meiyu at individual student level and class level, the school relied on the homeroom teachers who made use of personal contact and relationship with students to assert influences as role models. At the whole school level, "school ambience" of Mei was promoted for dissimilating values of perfection and forming moral character. While all the characteristics identified reflect the legacy of traditional values and are explicable in the light of cultural factors, they also illustrate that political considerations are pertinent to such a unique approach of affective education in China. The collaboration of the centralized leadership and the intensive work undertaken by individual homeroom teacher produce a unique support system in a collectivistic culture, in which students' collective identity instead of their autonomous self was developed.

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Decision-Making Practices of Head-Teachers in Public Secondary Schools of Dadu District

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Abstract

The present study explores the decision-making, the problems and challenges faced by heads of secondary public schools in making and implementing decisions. The purpose of this study is to use qualitative research paradigm, within this paradigm phenomenology method is used to explore the broad body of knowledge relating to the leadership roles of head-teachers in implementing, empowering and transformation of decision-making. The audio-recorded in-depth interviews, individual and focus-group-discussion were conducted to collect & analyze the data and interpret the findings. The data was transcribed comprehensively and the essence was obtained in the relevant section: sections were divided on the basis of the two subject categories Headmasters and Headmistresses for identification purposes. The findings of the study conclude that the concepts, attitudes, knowledge, and skills of decision making process are divided into two distinct categories. The promotees-head teachers' general attitude is negative, and they mostly accept external influences in their decision making. They only cry against the weaknesses of the system but they actually do not take any initiative against it. Whereas the head teachers recruited properly through qualifying the commission examinations, have different overall attitude, knowledge and skills of decision making process. Instead of the weakness of the system they have potential to stand against it.

Key words: Classical, Behavioral, Alternatives, Programmed, None programmed, Rational, Shared

Introduction

Decision-making is something essential and compulsory that we all have to do over and over again in our lives and it is core element of management. The management is the process of achieving organizational objectives within a changing environment by balancing efficiency, effectiveness, and equity, obtaining the most from limited resources, and working with and through other people. The manager's role is very important. They have the ability of interpersonal, informational, and good decision-making. The decision-making is the key factor of managers in which they choose a course of action among alternatives.

Decision-making is the process of choosing the best option among available alternatives. It involves critical and analytical thinking process. Every one experiences decision-making procedure in one's routine life. The main purpose of decision-making is to get the maximum possible benefits from available resources. We go to market and buy fruit,

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clothes, and other commodities, but consciously or un-consciously we follow a particular decision making process to get the proper item at the reasonable cost (resource). We do not simply go and buy things always. Firstly we observe the market price and variety among required items, and then we choose the required item that comes within our pocket range. We also ensure that it will do for what it is brought for. Even when we simply go and buy specific items form a particular shop or market. It also implies our previous experience of decision making and we consciously or unconsciously are aware of the validity and reliability of that particular shop or market. We are sure of their quality and costs. Decision making is involved in almost every aspect of life from buying and selling to managing and educating our children for future returns. The reputation and the standard of educational institution directly depend on the decision-making process. Styles of head-teachers the role of educational managers is involved in decision-making process all the times. Many functions of the schools remain in-effective due to poor decision-making.

The present study explores the decision-making, the problems and challenges they face in making and implementing decisions and also provides the broad body of knowledge relating to the leadership roles of head-teachers in implementing, empowering and transformation of decision-making. Through this study we create good human relationship among the teachers and head-teachers. The decision that is made with mutual understandings will result in positive and constructive approach towards the stake holders. In general three areas of decision-making can be school based: budget, personnel, and curriculum. Regarding school finances under school-based decision-making models, schools receive either a lump sum budget or some portion of the district budget from which they may make decisions regarding personnel, equipment, materials, supplies, and professional development.

Although budget authority implies a new level of autonomy, because personnel expenditures account for approximately 85 percent of the district budget and other fixed costs cover an additional 5 to 10 percent. Therefore, staffing expenditures and decisions regarding staffing structures and assignments are keystone school-making decisions that might substantively affect the school's operation and effectiveness. In terms of personnel decisions, schools are afforded flexibility and the power to determine how best to staff their schools. Personnel decisions typically fall in two areas: determining staffing needs based on the school's mission and educational plan and selecting people to fill the positions. Schools are afforded the latitude to decide whether their personnel funds are best spent on teachers, instructional aides, specialists, or clerical support.

Once determinations are made regarding staffing needs, schools are actively engaged in the selection of new school personnel. In the third decision area, decisions regarding the curriculum and instructional strategies are determined at the school level within a

framework of district or state goals, while attending to the school's unique mission and needs. School-level personnel draw on their professional expertise and localized knowledge in making decisions that affect the school's educational program and instructional system. School personnel monitor the effectiveness of their programs and their students' academic performance. Decisions pertaining to budgeting, staffing, and the instructional program are often restricted and controlled, however, by district policies regarding matters such as class size, tenure, hiring, firing, assignment, curriculum initiatives, textbooks, and assessment procedures.

It is also important to provide implication for the leadership of school's principals or head-teachers as they implement shared decision-making in their institutions. This study tells the existing approaches of decision-making practiced by the head-teachers, perceptions of the stake-holders, alternative issues, challenges and possibilities to maintain the proper administration at secondary school level. In this study, the researcher will discuss methodology which was designed in qualitative paradigm, within qualitative paradigm the phenomenology method was used for the purpose of study by the researcher. The tools and strategies have been discussed which involve in in-depth interviews and focus-group discussion of archive records regarding decision-making of head-teachers. The researcher will make possible efforts to the phenomenon and the collection of necessary data.

The purpose of study is to explore decision-making styles of head teachers, the problems and challenges they face in making and implementing decisions at secondary school level and relationship between leaders, perceptions of the leadership's behavior of secondary schools head-teachers and their perceptions of the level of shared decision-making practiced in their schools, to provide insight into head-teachers behavior which nurtures participation. The main purpose of this is to match the styles of head-teachers and their practices with different theories. The result of the study adds to the body of knowledge of educational leadership and has implications for both practicing head-teachers and head-teachers perception.

Methods
Methodology which is designed in qualitative paradigm, within qualitative paradigm the phenomenology method is used for the purpose of study by the researcher. The suitable methodology in this study gibes us guidelines. The researcher has also discussed the tools and strategies which involve: interviews, focus-group discussions and observations of archive records regarding decision-making of head-teachers. The setting and sampling of the study has also been discussed with a brief and succinct description of how the data is collected and analyzed. Ethical considerations have also been discussed here. The research design for the study was the phenomenological method within qualitative paradigm where emphases are placed on accessing the real experience of the participants

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through the use of loosely/semi-structured interviews. After reviewing literature on phenomenology the researcher found it to be consistent with my views and interests, the researcher therefore, saw it as an appropriate tool that could help me answer my research question. It is an interpretive methodology, where emphasis is placed on accessing the lived experience of participants (chiefly) through the use of in-depth interviews of Head Teachers regarding the decision making process they adopted in their educatioal institutions; and focus-group discussion of the concerned Head Teachers of the District Dadu (Sindh).Participants were purposively selected on the basis of experience of the phenomenon under investigation, as well as their linguistic proficiency in the research language.

Since participants' language is usually the only data researchers work with, it is essential that participants are verbally fluent and expressive; the researcher adopts a position of "conceptual silence" (Stones, 1988, p. 124), or naivety, bracketing and suppositions. In an attempt to honor all data equally (and not be tempted to analyze and thus set aside what appears to be irrelevant) the interview protocols were reduced to natural meaning units, in which each unit represents a statement that makes complete sense, expressed in the words of the participant; The researcher explicated the natural meaning units, and then described what was presented, thus attempting to capture the lived-world of the participant. The participant's lived experience of the phenomenon was then set within its context. The lived experience of the head teachers regarding the decision making process, from its planning to implementation and evaluation stage was sought through in-depth interviews and focus group discussion.

The researcher obtained the actual perceptions, feelings, sensations not only limited to their conscious world about the phenomenon, but included the unconscious-world about phenomenon were tried to obtained through epoche and bracketing of researcher's personal feelings, opinions, and beliefs about the said phenomenon. Eidetic Reduction was obtained through categorizing the data into essential categories and they were analyzed to get the essence of the studied phenomenon i.e. the decision making process of the head teachers through their shared detailed and lived-experiences and consciousness. They provided the enriched data in their context for the process of decision-making with respect to planned or on-the-spot decisions.

Population
The populations in this study were all head teachers (Head Masters, Head Mistresses) of secondary and middle schools of District Dadu Sindh. They were working as heads of the institution in the area of my study. Moreover they were well-experienced and well-known head teachers in the district. The total population of this study consisted of one hundred and thirty-seven (137) head teachers of middle and secondary schools in District Dadu. The researcher focused on 16 schools so as to be in a position to select my participants.

From the 16 schools I have then selected 16 head-teachers (head-master or head mistress) who would take part in this study.

Theoretical or purposive sampling has been selected. Eight elementary and eight high schools are categorically selected. For this study a sample of 16 Head Masters/Head Mistress of those schools were selected for in-depth interviews.

Table-1: Sample size

Dadu		Johi		KN Shah		Mehar	
Male	Female	Male	Female	Male	Female	Male	Female
2	2	2	2	2	2	2	2

Head-teachers of high and middle schools   = 16

The researcher took care of male and female representatives (respondents or head-teachers) of the middle and secondary public schools of the district. Moreover, the care had been taken to include at least one representative respondent from each tehsil of the district Dadu.s

Research Instruments
Considering the constraints, like limited time period and the fact that only one researcher is undertaking this study, it is considered most appropriate and beneficial to carryout semi-structured and focus-group interviews in order to reach the core of the matter rather than administering the written questionnaire. Furthermore, written questionnaire are somewhat rigid in nature and the complete lack of personal contact prohibits verifications of views and knowledge.

Interview schedule
Individual In-Depth Interviews
The researcher purposively selected the five head teachers for in-depth interviews, at least one head-teacher from each tehsil, and two head teachers from District headquarter. The researcher got consent and appointment from the said respondents to be interviewed, and settled time duration for the same. As they were in-depth interviews, therefore each interview lasted for minimum of 1.5 to 2 hours. The venue was set-up with the joint agreement between the researcher and the respondent. The consent was also sought for the interview being recorded. Some of the respondents hesitated to record their interviews at first, but after clarification and ensuring their anonymity, they showed their volunteer willingness to record their interviews.

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The researcher had semi-structured frame of the interview in his hands. And the respondents were totally allowed for sharing their personal feelings, experiences, and consciousness. The researcher put his intentions, opinions, beliefs, and knowledge aside to discover the lived experience of the respondents regarding the decision making process of the head teachers in their institutions. The researcher only probed into the matter to know the actual lived experiences on the respondents' part.

Focus Group Discussion
Eleven Head Masters/Head teachers were invited for Focus Group discussions, a few of them did not participate in the discussion, and they were individually interviewed. The discussion lasted for about 2 hours on questions provided beforehand for focus group question. These questions were generated following the informal discussions or conversations with H, M / Head teachers. This discussion proved very fruitful as the participants, being experienced teachers, head masters were themselves a part of the process of local examination in much interested to find a solution for its betterment. They were fully aware about the whole phenomena under discussion. This discussion was moderated by the researcher himself as a co-participant and an attempt was made to ensure "even participation by encouraging the hesitant participants to make contribution as well as managing those who seek to dominate the proceedings.

Issues in Data Collection
During the data collection process the researcher faced a lot of problems and issues. As most of the research participants were responsible administrators. It was very difficult for them to spare time for the researcher. The researcher had to visit them frequently and it became very difficult for him to organize the interviews and focus group interviews within a limited time period he had. Secondly, most of the schools were situated at scattered places in rural areas, which created incontinence problems for the researcher. It was quite difficult for the researcher to go there and interview them without having in these school even basic facilities of life. The individual head teachers were very difficult to be approached because they were selected throughout the district schools. Thirdly the research participants were very busy individuals having administrative and academic responsibilities. Thus researcher was able to interview them only once, for a short periods of time, because of which he had to be very careful in selecting the type of questions.

Results
In this study the in-depth interviews were taken from the five head-teachers who belonged to different talukas of District Dadu. There are four talukas in Dadu. There were three male and two female head-teachers of high schools and middle schools. Three head-teachers were selected promotees and two were commission passed. Each interview remained about 1.5 to 2 hours. Then the focus group discussion was arranged at Dadu, in which eleven head-teachers participated, and they discussed a lot about the issues of

decision-making practiced at various schools of DaduDi*s*trict**.**The data that was collected in the in-depth interviews was also triangulate in the focus group discussion. The questions were asked deeply in each interview. It was tried to focus on the following questions which were mainly related with the research questions.

- Which type of decisions is taken by you?
- How are the decisions made?
- What is the procedure of decision-making?
- How are the decisions taken in the emergency?
- When the decisions are not accepted, what will be the action?
- How are the decision imposed?
- Which things are kept in mind at the time of decision-making?
- What is decision-making and it's important?
- Which type of decision-making do you accept?
- Do your staff co-operate with you at the time of decision-making?

In-depth interviews:
As a result of these questions many issues were raised and discussed in which the head-teachers openly said about their powers, styles, strategies and processes. Their detailed views and perceptions have been divided into seven common themes involved in decision making practices.

Themes
Identification of the Problem
In this study, three out of five head teachers reported that they found difficulties in identification of the problems in decision making process. It was also found that in collecting ideas they find difficulties and even in finding the related factors with the problem. They also found that they are not fully independent in making decisions. The implication was the in availability of the required knowledge and resources. Head-teacher of GHS Duabo viewed that we do not know about the problem identification it is important thing but we follow the traditional method and we have to follow the pressure of political factors. (Personal communication, December 12, 2008) .

Finding Different Alternatives
Four out of five head-teachers suggested that majority of head teachers do not focus the alternatives due to unawareness of the steps of decision-making. They do not analysis the various aspects of the decision-making. They only focus on burning issues and work with situational change. Most head-teachers are unable to verify the actual targets of decision-making and its implementation. They do not know the nature of decision-making and follow the traditional way and previous experience. They believe on their own perception and thoughts. It was assumed that most head-teachers take decision on their common-

sense but do not taste with the current situation or with the nature of problem. They do not follow the stated objectives but only follow the previous practice and take decision. It looked amazing when few head-teachers of Dadu told that "who is thinking about various aspects of decision-making but only we are dictated to decide the matters and sometimes we are being victimized to decide the artificial decisions (Interviewed, December 13, 2008) But some head-teachers of K N Shah on the same date told that "we decide as per rules and follow the regulations (Argued, December 14, 2008).

Process of Decision-Making
It was reported that four out of five head-teachers do not follow the process of decision-making. They take their decisions on the situation based and follow the traditional way of decision, in which they follow the existing or the old methods. Most teachers are not able to take their decisions according to time and circumstances. They are not flexible in their ideas and thoughts or perceptions. They are not aware of the current affairs. They do not discuss and share their experiences with others. Most head-teachers work under some old guidance but locally they take their behavioral decision that is influenced by local pressure. These words were told by head teacher of government high school Ghareebabad Dadu with laughing style "which process? No process. It is our own wish to decide any thing. My dear who is following the process it is only the game of words, other-wise we have to decide on face the situation, we have to manage the atmosphere, and we have to handle the pressure (interviewed, December 14, 2008) Some head-teachers of Mehar talaka rejected angrily that "my friend Decision-Making process! Ha. . Ha. , Ha. Process. . . .process of superiors, process of land lords, process of rich-man (Personal communication, December 15, 2008) some admitted positively that, "Certainly we have to follow the rules & regulations we have to take care of many things (Interviewed, December 15, 2008)

Factors affected decision- making
It was deeply interviewed that almost all head-teachers' decisions were influenced or affected by political pressure, social pressure, economical conditions, and cultural conditions, moral, religious and un-known factors. Head-teachers sometimes are pressurized by SMC members, local tribes-men, communities, races, nations and various diversities. They are not able to face the social pressure and they change their decisions according to social priorities but they do not work with logical order. It has been seen that in villages the most head-teachers are more affected than head-teachers in cities regarding decision-making. The local tribes-men always interfere through SMC and they do not allow the head-teachers to work according to their requirements of the environment. Most of the head-teachers have to work according to the logical order. But some head-teachers of Dadu schools argued that, "Our schools are local sitting places at the time of marriage or condolence ceremonies, so we are not able to decide our own decisions but we follow the instructions of local tribes-men. We take steps for the betterment of schools according

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to the wish of local MPAs and MNAs, so we are not authorized to take any step according to our higher authorities or rules & regulations(field notes, December 16, 2008) Some told, "no one can take decisions according to rules, this is our weakness however we blame others, we are able to follow the instructions of our higher authorities but we deliberately do not take positive steps due to personal interest because sometimes we get social and other benefits from these decisions. Every-body is selfish and no one is sincere with this system though the rules exist(interviewed, December 16, 2008) But there was an exception one head teacher who was commission qualified told that he tried his best to decide in a systematic way and for the actual benefits of the students and institution, but he said for this he had suffered a lot; "I had been transferred to distant places in the district four times, and do now how many transfers are waiting there in my carrier!!(Personal communication, December 16, 2008)

Decision-making criteria
For this study's purpose five in-depth interviews were conducted in which the researcher gathered the data that four out of five head-teachers do not know the importance of decision-making and its criteria but they use their own tactics, although each decision has its own criteria and each criterion has its sub-criteria too. But the most head-teachers do not follow the important things of decision-making such as accuracy, acceptance, limitations, emotions, logic and location of decision- making. It was reported that no-body is focusing on the accuracy of decision-making. They only follow the ordinary policy of decision-making. Some head-teachers take care of the accuracy and other aspects of decision-making. They are not able to assess or evaluate their own steps but they work with traditions and current affairs. It was found that some head-teachers take risky and un-certain steps which are beyond the actual criteria but this show their experiences and a little confidence. Some head-teachers of Johi talaka told, we decide according to situation, place and circumstances and leave the rules because we make our own rules and make the possible effort to fulfill the task. We have criteria for decision but local influence plays a great role, so we are masters, we are the in charge of schools so we have to make time-table of the school examination schedule, admission of children and other good or bad assignments (Interviewed, December 17, 2008) Some argued," We have some limitation and boundaries to decide any thing for the betterment of institutions (Field notes, December 17, 2008) Some head-teachers of middle schools K N Shah viewed, "We take decision according to the logical order and rational way (Interviewed, December 17, 2008)

Consequences of the Decision-Making
It was deeply interviewed that the decision that is made according to situation will be fruitful and remains positive. Most head-teachers explained that," sometimes we feel very difficulties to solve the problems but we have to implement the decisions. People do not like our polices suppose in the villages we take decisions for the school-attendance for

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children and their dresses and punctuality but their parents do not like all these things because they want that their children should work in the fields and they should take extra efforts to face the economical burdens. There are so many problems in villages such as social, religious and cultural so in this type of situation we face a lot of difficulties. But in cities we feel other type of pressures such as problems of rich families, transport problem, irregularity of students, unionism of teachers, favoritism (Personal communication, December 17, 2008 Some head-teachers of Dadu schools told with anger style that," Good consequences or positive results depend on the common since of head-teachers and their selection of alternatives. This also depends on the evaluation of problems. Hence the consequences make the standard of institution and its credibility in the society (Interviewed, December 17, 2008)

A few head-teachers of Johi talaka argued that," no result, no profit, no work, no loss, no thinking nothing but order, that is imposed by the authority, which is the progress, result, outcome and evolution (Interviewed, December 18, 2008) Most head-teachers were in support that on the basis of consequences we make good decision for future and there will be sustainability and persistency if we remove our mistakes.

Future Plan of Decision-Making
 It was interviewed that good decisions leave good results and that results make a sustainable value which support the beneficiaries in actual sense. It forms the basis for strong social structure, values, consistency, and creation, power of evaluation, accuracy, credibility, and motivation to positive work. Head teachers however totally agreed that fair system would ensure bright future for coming generation. Most head-teachers supported that there must be planning for future and they told that," we do not manage the situation because of poor planning for future and some political pressures. They further told that good implementation is a mirror for future generation (Personal communication, December 18, 2008) Head-teacher of government middle school Dadu told with sad voice that "I am disappointed and fail due to non sequential process of decision (Personal communication, December 18, 2008) One head-teacher said on the same date that" what is plan, which is plan, it is not in my hand but the planning is in the hand of higher authorities, so gentle-man nothing is done by us but all these things has been imposed Head-teacher of government Pilot school Dadu told that," No-body is taking care of these things but it depends on the behavior of officers that how they decide (Interviewed, December 18, 2008)

Focus-group discussion
Focus group discussions have become a popular method of obtaining qualitative information regarding numerous topics. Such a discussion can provide insight into issues that cannot easily be covered in a formal survey. Focus groups are a good method to have people involved in the decision-making process and providing their input regarding the

topic. However, while participants in a focus group session might feel it as free flowing, relatively unstructured and simple; a good focus group discussion requires careful planning and preparation. It was arranged at Government Girls Pilot Secondary High School Dadu on Sunday at around 12:00 noon. The location was equally suitable for local as well as outside participants. It included eleven participants who were head-teachers. They included seven male head-teachers and four female head-teachers. They also represented appropriate proportion of various levels of schools. Five participants were head-teachers of secondary school; two head-teachers were the heads of middle schools. Four female head-teachers represented two secondary schools and two middle schools. There were six head-teachers promotees and five were commission passed. The researcher conducted the proceedings of focus-group discussion, and played the part of 'moderator'. The moderator briefed about the main purpose of discussion and made it clear that discussion should focus on decision-making process, its types, applications, issues & challenges, and personal perceptions. All respondents were explained that each participant's view, opinion, or observation was equally important. Agreeing and disagreeing will equally be appreciated. The moderator played passive part and mostly listened to participant's views, but whenever it went in wrong direction or a participant seemed to be dominating the discussion, he gently interfered and put it on track again. The focus group-discussion mostly revolved around these basic themes;

Themes
Exploring the depth and clear opinions regarding decision-making
On this issue there were different ideas of head-teachers, one head-teacher of middle school Johi talaka argued," there is not any fixed concept about decision-making but it is a group of mental elements that provide us a positive behavior regarding decision-making. As a result we motivate to work hard. (Discussed, December 21, 2008) Some said that it is an agreement with us to take action on one point for preceding any matter.(Personal communication, December 21, 2008) Head-teacher of government high school Patt opined differently "We do not know any opinion about decision-making but we know that we have been making many decisions since birth, we have not thought about the consequences but always wanted for higher commands.(Opinion, December 21, 2008) The majority said that there must be clear concept for decision-making, first of all one should think about his or her job description and responsibility, then he should be motivated for facing the situation and its different alternatives and their consequences. Some said, it is a mental process so at the time of decision-making we should be fresh mind, alert and active, because we make many decisions for the betterment of institutions, teachers and children. One or two head teacher responded that it was the process of choosing alternatives or the best option among many available options. (Discussed, December 21, 2008)

Understanding of differences in perceptions

It was observed in discussion that everybody had different perception or idea about decision-making. But some points were common. Two respondents said that this process is imposed by the authority. We have no right to decide. One head-teacher of government middle school Khudabad viewed as, "This is inborn ability that builds our perception and thoughts. (Interviewed, December 21, 2008) Three head-teachers said that the decisions are made according to situation and structure of society. The remaining head-teachers said, we are powerless, hence we are not able to make our decisions but we are compelled to decide.(Personal communication, December 21, 2008).

Conditions/situations, where they felt need of any decision-making

The majority of head-teachers were in support that decisions are made according to situation and its needs. Head-teacher of high school Mehar laughed and told" leave it my dear, no body is sincere with the needs and situation but they decide for their personal benefits, so why are you asking their type of questions, we are the part of this system and the system has been corrupt (interviewed, December 21, 2008). Two head-teachers viewed that the situation always changes, the nature of need and we think that our system is being influenced by different sources that can not be disclosed but everybody knows about them. (Recorded as they spoke, December 21, 2008) One head-teacher told, "why are you compelling me to disclose the actual reality, you are the part of this system so do not make fun of me, thanks, ok. (Remarked, December 21, 2008) Some agreed upon this point that good conditions always create a sustainable atmosphere for making good decisions (Personal communication, December 21, 2008).

Issues & challenges in decision-making.
Financial Issues:

As far as issues and challenges regarding decision making process are concerned most of the time the head teachers spent on discussing the issues and challenges in this regard. Almost all the head teachers were of the opinion that the major issue in decision making process involved financial crisis in their educational institutions. There were no funds available to take any measures for the maintenance of school affairs. Most of them informed that in previous governments the schools received adequate SMCs-funds and budget for school maintenances, but it was discontinued and a single penny was not available in the schools for taking any efforts in conducting any academic and non academic activities.(Personal communication, December 21, 2008) The head Mistress of GGHS Dadu expressed with deep sorrow "Biya kam ta thahiyo per likhan lie chalk be poora naahin" (Leave other things! But our teachers haven't any chalks to write with!(Ideas shared, December 21, 2008) All head-teachers more or less agreed that students in their public schools were too poor to wear proper dresses; they haven't proper shoes, note-books and pens. One Head teacher talked in length that they have not any budget to celebrate red-lettered days in their schools. Therefore co-curricular activities i.e. sports-

activities, debates, seminars, and even fare-well parties to the students of metric class could not be held and celebrated (Revealed, December 21, 2008).

Administrative and political issues:
The discussion showed that majority of opinions accepted the ground reality of poverty in their locality; therefore there was mismatch between the actual number of on-roll students and present students in their schools. They claimed that in one or the other way the absentees helped their parents to earn for their livelihood. In this situation it was quite impossible for the head-teachers to maintain perfect or ideal attendance of students in their institutions. One head teacher surprisingly informed that not only students are involved in these earning activities, but many teachers had their side-business in this regard. Teachers could not make both ends meet in this   high inflation age, so they are compelled to do this. Also this attitude of teachers resulted in frequent absenteeism and ignorance of their teaching-duties (Commented, December 21, 2008). Moreover the researcher found that there was negative impact of social pressure of local Sardars, Waderas, (influenced Tribesmen & Persons) on the process of decision-making regarding excluding a student from the admitting in boards' exams due to hundred-percent absence of concerned student. Or even they influence to award first or Second position in their local exams to their favorite students. Hence the head teacher could not decide any way for their students. The head-master of middle school K N Shah stated "I firmly decided to give the positions in the local exam on pure merit-based, and result was finalized, but on the eleventh hour an influenced person threatened me on phone to award the first position to his close-relative (student) otherwise face the worst consequences!". He regretfully said that in those conditions how a head teacher can stand on his principles; Transfers are not very common if the head teacher did not oblige those influenced persons.(Facts gathered, December 21, 2008)

Professional Training Institutions & their degrees:
"The researcher also noted that almost all teachers possessed bachelors or masters professional degrees but showed a simple mis-match between their degrees and required supporting 'reinforcing' attitude. Almost all trained teachers used more or less corporal punishment and their attitude towards students was not friendly. Therefore, the above professional training institutions and their courses and degrees must incorporate effective training to shift the teacher-centered paradigm towards learner-centered education". The decisions regarding teachers' professional development was related to other professional institutions, therefore, the most head teachers were of the opinion that they could not do any decisions in this connection.(Personal communication, December 21, 2008).

Refresher-Courses / In-Service training
"Every teacher should be provided equal chance to at least once in a year to attend in-service training so that teachers could equip themselves with modern ideas and concept

regarding effective teaching and learning process. Presently constructivist approach and self-learning through computer soft-wares are focal point all over the world. Obviously all these modern concepts are beyond our reach. Our educational system is far behind from all those programs but eliminating corporal punishment from classrooms and incorporating conducive-environment using low or no cost social reinforces is obviously within reach. Therefore responsible management and administration should train the teachers on these lines." The focus group discussion though was divided in their opinions. One group of head teachers said that they could train their teachers but the cooperation of teachers and upper administration was a pre-requisite. While the other group simply opposed that their in-service training was the matter of existing profession training institutions.(Different ideas discussed, December 21,2008)

Types of decision-making

The focus group-discussion revealed that ninety-five per cent head-teachers in public schooling system adopted classical types of decisions. They follow the rules and regulations and directions from the upper administration for deciding the important things for their educational institutions. And most of them agreed that it was an easy process for them. Whereas, on-the-spot type of decisions got five percent place in head teachers' decision-making process. They said that on very few occasions they take on the spot decisions—technically here called as behavioral-type of decisions. Majority of the head teachers agreed that they decide on-the-spot for few occasions i.e. during sudden crises. For example, during conflict of students, teachers, or lower-staff, head teachers decided to handle the situation. Also one head master told that there are number of schools situated in Kacha-area that is supposed to overflow during floods in the rivers or rains. And very surprisingly one head teacher indicated that a school was surrounded with water at first, then the flood water raised enough, but the head master who left the school waited for the directions of higher authority, and could not do any thing to take out the costly material and furniture. Ultimately, the building collapsed and resulted in huge losses of all the material in it. This all shows the lack of ability of taking behavioral decisions.

Motivation for decision-making

Overall trend that was discussed regarding motivation for decision making showed that there were negative factors which restricted the majority of head teachers to motivate for taking any decisions. Majority of head teachers as mentioned earlier told that they often follow directions from higher authorities, influenced persons and left the institutions at the mercy of environment. All those factors hindered their motivation for decisions (General opinion, December 21, 2008). Even the head teacher of government high school Dadu told "I personally evaluated a student that he had aptitude of electrical-repairing and appliances, so I invited his father to suggest for his son that it would be better for him if you admit him in electrical engineering or diploma education. But very surprisingly;

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his father replied "I have made up my mind to make my son a doctor, and I will do everything for this dream". This showed environmental and social factors that hurdled head teachers to decide on their own. Also financial reasons and negative and non-cooperative attitude of teachers was reported as an important hurdle in motivation.(Personal communication, December 21, 2008)

Finding alternatives in decision-making
 Some head teachers claimed that they adopted democratic attitude to find out the alternatives, they called a general meeting in their schools to discuss the matter in detail, and seek out different alternatives. But one head teacher amongst eleven had a different view. He said that he decided the matters on his own, keeping all things in mind. And call the meeting to inform them about his decisions (Viewed, December 21, 2008).

Analysis of decisions
In focus group discussion, the moderator introduced the above theme whether head teachers analyzed their decisions after they are made and implemented. Most of them said that if the result is favorable we consider it as a valid and reliable decision, otherwise it wasn't. One head-teacher of middle school said, *"Analysis! What is analysis? I am analysis, I am authority to decide any thing, I do not follow the orders of any person, why are you making fun of me. Every body knows the current system of corruption.*(Argued, December 21, 2008).

Implementation of decision-making
In focus group discussion majority of head teachers were of the opinion that they implemented the decisions as per rules and regulations; and directions from upper management. They reported that environmental context usually tended to alter the implementation process. But more or less they were in line with the said criterion. The head teacher of government girl's high school Johi disclosed the secret that "some decisions and their implementation only remain in papers, but not in actual sense. There are many paper-schools, paper-students, paper-furniture, paper-plantation, and even paper-buildings. (Personal communication, December 21, 2008) It resulted in huge loss of government money, they realized, but they said that they can not do anything in this regard. "Corruption is in full swing in anti-corruption department!"(One head teacher added, December 21, 2008).

Consequences of decision-making
The consequences of decision-making were an important theme which was discussed in focus-group discussion. Majority of head teachers said that they only make decisions for satisfying other stakeholders than the actual beneficiaries. Therefore, the influenced persons, politicians, upper administrations, usually satisfied when decisions were made according to their wishes. This practice caused huge loss to the actual beneficiaries, for

whom these educational institutions are running "When the decisions are made according to the requirement of the institutions, and their students; they obviously are appreciated by the students and poor parents", one head teacher concluded but these kinds of decisions are very rare (He added, December 21, 2008).

Future planning for decision-making
Most of the head teachers were of the opinion that planning and future planning was the headache of upper administration generally, but at school level they plan for school-calendar, schedule of studies, general time-table, submission of school budget, and submission of charter demands on specific proformas, up to date office record, service-books maintenance etc

Discussion
The in-depth interviews and a focus-group-discussion formed the basis of data collection and analysis; therefore it is necessary to discuss separately for these two forms of data findings.

In-Depth Interviews
Five in-depth interviews from head teachers were conducted. The researcher found seven criteria focused seven criteria during these interviews. Here the researcher presents overall conclusion about all these themes. Three out of five head teachers simply said that they did feel difficulty in identification of problems, and were not aware of all the systematic process, if existed. But the remaining two head teachers who were selected and appointed after qualifying the commission examination, had a different point of view in this regard. They were well aware of the first step, and knew all the systematic process of decision making. They claimed that they made decisions in their educational institutions on the basis of a systematic procedure. Four out of five head teachers lacked sufficient skills how they should go for finding alternatives. They accepted that mostly they received directions and instructions from their higher ups in case of any important matter (decision). Though, one head master said that he formally calls staff-meeting for discussing the problem and its possible alternatives. It implied that most of the head teachers did not strive in this regard, due to many social, political, and departmental influences.

The researcher did not use the technical terminology to find out perceptions and personal approach of the respondents. He simply asked whether their decisions were pre-planned or taken on-the-spot. Here all head teachers agreed that their most decisions were based on the directions and instructions from higher ups, rules and regulations of the department; whereas, they had planned decisions for school-time-table, schedule of studies, school-timings, etc. They unanimously agreed that on very few occasions they were supposed to take on the spot decisions and mostly on the time of any emergency,

crisis, or, conflict within the institution. All five head teacher accepted the bitter reality that they run their educational institutions under the negative influence of certain influential persons i.e. MNAs, MPAs, local-bodies counselors, area officers, land-lords, tribes-men, SMCs chairmen and members and many other parties. They could not overall afford to oppose their imposed decisions. The schools were used as meeting places during influential persons' parties, marriages, and other ceremonies. Financial problems restricted head teachers to make decisions for providing extra facilities, and even maintenance of existing things within the school. Almost all head teachers who were interviewed in in-depth, were of the opinion that only social and political influence was the criteria of their decision making. Whereas one head teacher took rational and logical stand that he did not consider any influence in this regard and did all which according to him was beneficial to his institution and students. But he accepted that the influential people disturbed him a lot and was transferred many times in his carrier. Decisions were made according to the wishes of influential people produced no harms to the head teachers, and they survived in this situation. Whereas one head teacher who opposed them faced troubles in the forms of frequent transfers, yet he was contented that his students at least and the institution received reputation and confidence and benefits. Logically they all agreed that there must be future plan, but most of them accepted that their practices were not in line with their claims. They put same political, social, and other reasons for their failure.

Focus Group Discussion
The focus group discussion revolved around eleven general themes regarding decision making process adopted by the head teachers of District Dadu in public schooling system of education. These themes included Explore the depth and clear opinions regarding decision-making. Regarding the process of decision making most of them expressed their perceptions and experiences and tried to relate it with their context. Though they did not have a clear and comprehensive definition of the decision making process, yet they expressed the major theme of the process according to their perception and learning. One or two head teachers systematically briefed the process and explained the comprehensive definition of decision making. They all saw with the managerial angle and point of view. Talking about different perceptions and strategy about routine and situational decisions, majority of the head teachers were of the opinion that head teachers had no right to decide for any matters. This shows that they were forced not to decide and use their administrative and managerial right within public schooling system. It points out the social, political, and bureaucratic pressure on the head teachers. Mostly they are made victim of being imposed the decisions from outside. Commenting on the issues and challenges regarding decision making, the head teachers agreed that there were financial, administrative, political, and social pressures on head teachers. Normally the decisions were either imposed or altered to their required level by those external influences or factors.

All head teachers agreed that there were no budget or funds for the school. One head mistress' words express the gravity of the situation: "Bio ta thahiyo per likhan lie chak be na aahin" (Leave all other things, but even we have no chalks to write!) There were no funds available in the schools to run the institution properly. Previously there had been budget of SMC for this purpose, but it was not available as yet. Lots of administrative, and political influences were debated which hindered the head teachers to take decisions on their own. The influenced persons mis-use the educational institutions' buildings for their private parties, and celebrations. During those ceremonies the schools were disturbed and violated in terms of their cleanliness, furniture, and other usable things. Discussing alternatives the head teachers revealed that their teachers lack in proper professional knowledge and attitude, hence their approach was not up to mark according to the discussion of the head teachers. Though they all possess higher professional degrees, yet they were not able to see the scenario in a broader vision. Therefore the alternative finding process was bit difficult for most of the head teachers. One head teacher also said that he never discussed the matters in general meeting, and made all decisions on his own. So the democratic and autocratic attitude of the head teachers also was found. Most head teachers claimed that in-service training and refresher courses were not related to their jobs hence they could not decide for their trainings, yet one commission qualified head teacher had a different point of view and said that he trains their subordinates in this respect. In discussion types of decision making it was found from the focus group discussion that mostly they followed directions from upper management and influenced persons regarding important decisions. They follow routine decisions on the basis of rules and regulations. Head teachers got few chances to decide on their own. And also financial limitation made the head teachers compelled not to decide anything which might cause load on their pockets. Financial, political, and social influences disheartened the head teachers to get any motivation for making decisions.

Conclusion
From the in-depth interviews and the focus group discussion the researcher came to the conclusion that the concepts, attitude, knowledge, and skills regarding decision making process were divided into two distinct categories. The promotees-head teachers' general attitude was negative, and they mostly accepted external influences in their decision making. And they only cried against the weaknesses of the system on one hand but they did not take any stand against any negative pressurizing source. Their decisions are considered classical decisions. Whereas the head teachers who were selected after qualifying the commission examination for their posts, had quite different overall attitude, knowledge and skills regarding decision making process. They though accepted that the system had lots of weaknesses, yet they had potential to stand against them. In doing this they faced lots of problems yet they claimed that they took those decisions which according to them benefited their students and institutions. These decisions are considered behavioral decisions.(Two out of five head-teachers were commission passed

for in-depth interviews, whereas, five out of ten head-teachers were commission passed for focus group discussion. In the institutions they face lots of problems to make decisions like the improvement of studies, the attendance problem, teachers affairs, time-table problem, external pressures, implementations of higher orders, co-curricular activities etc. All these problems are solved with mutual understandings. If the head-teachers do not follow the suggestions of their teachers are fail to take good decisions. It was further concluded that the head-teachers who always take their decisions with mutual co-operations and share their ideas with other colleagues are quite good decision-maker and take balanced decisions. They do not take any kind of pressure but always focus on different alternatives and choose suitable alternative. They select good time for good decisions and some time they use their common sense according to the time and circumstances for the betterment of institutions and students as well.

Recommendations

- It has been observed that the head teachers who passed commission are quite competent in their assignments and they follow the rules of government hence it is said that most head teachers should be appointed through commission.
- It is recommended that the commission pass head-teachers take behavioral decision. So they should be assigned administrative responsibilities and other assignments.
- It is recommended that at the time of policy-making regarding school system new head-teachers should be invited to give their suggestions.
- It is recommended that head-teachers should be provided the moral support to implement the decisions so that school system can be managed in a systematic-way.
- The head-teachers should be given an authority to make their decisions according to circumstances and conditions.
- They should be given authority to treat the teachers according to their performance. And he must be able to give the remarks.

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Using Reading Racetracks and Flashcards to Teach Sight Words to Students with Disabilities: Effects for Acquisition and Response Maintenance

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Abstract

The purpose of this study was to evaluate the effectiveness of reading racetracks and flashcards for teaching and response maintenance of sight words. Another purpose was to compare the use of different ratios of known and unknown words on both acquisition and maintenance. Both participants were enrolled in a special education self-contained classroom. The first participant was diagnosed with severe behavior disorders and a specific learning disability. The second participant was orthopedically impaired with severe scoliosis. The number of correct and error words were measured. A combination multiple baseline and reversal design with follow-up probes was used to evaluate the reading racetrack, flashcard, and ratio interventions. A functional relationship between racetracks and flashcards was established. To assess maintenance of sight words, a mini-reversal was conducted at the end of each reading racetrack condition. Maintenance of sight words was 100% after exposure to reading racetracks. Comparisons between using 7 (3 known and 4 unknown) or 14 (5 known and 9 unknown) words on a 28-cell reading racetrack did not produce differential outcomes for either acquisition or response maintenance of sight words. Follow-up probes also found high rates of response maintenance of sight words for each participant. Suggestions for further classroom implementation and research utilizing reading racetracks and flashcards were made.

Keywords: Reading, Sight Words, Generalization and Maintenance, Single Case Research Design, Elementary Students with Disabilities

Introduction

Reading is an essential skill for success in life (Carnine, Silbert, Kameenui, & Tarver, 2004; Chambers, Dunn, & Rabren, 2004; National Research Council, 1998). Difficulty in reading continues to contribute to the dropout rate of students in schools, which is a key element for success (Chambers et al., 2004; Howard, McLaughlin, & Vacha, 1996).

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It appears to be essential that reading instruction be conducted in such a manner that students can learn to be highly proficient readers.

Students with more moderate to severe disabilities need reading skills and the ability to employ sight words for successfully function both in and out of school (). Developing and maintaining literacy stills are often compounded for children with moderate disabilities. This population of students is inherently at risk for illiteracy (Hedrick, Katims, & Carr, 1999). There is little research revealing that students with moderate disabilities are unable to read at an independent or functional level. Often, the school curriculum in special education for students with moderate to severe disabilities stresses social and intrapersonal functioning rather than academic instruction (Allor, Mathes, Jones, Champlin, & Cheatham, 2010). Though importance of these skills is not to be underestimated, the ability to read at a proficient level is truly critical to daily lifetime success (Allor et al., 2010; Hedrick et al., 1999). Effective instruction and a continuing emphasis on academic skills can create proficient literacy in students with intellectual disabilities, and prevent them from the statistical likelihood that they will be illiterate as adults (Allor et al., 2010).

In 2000, the National Reading Panel announced six areas of reading instruction that were proven strategies that help create successful readers. They were phonemic awareness, phonics, fluency, vocabulary and comprehension of text. Reading racetracks (Rinaldi & McLaughlin 1996) are teaching strategy that specifically targets one of the six important areas of reading instruction, fluency. Reading racetracks have been shown to be effective across a wide range of students (Rinaldi, Sells, & McLaughlin, 1997). They found that employing a reading racetrack procedure improved the reading fluency across all their participants regardless of disability designation. Additional replications have been conducted using reading racetracks with flashcards with students with mild disabilities (Falk, Band, & McLaughlin, 2003; Anthony, Hern, Rinaldi, & McLaughlin. 1997). Anthony et al. (1997) and Falk et al. (2003) added flashcards to reading racetracks to improve the sight word recognition of a single student with learning disabilities.

Maintenance of treatment gains continues to be a very important goal in behavioral research (Copper, Heron, & Heward, 2007). The importance of finding procedures that can produce generalization and maintenance of treatment gains has been discussed widely in the literature (Cooper et al., 2007; Horner, Koegel, & Dunlap, 1988; McLaughlin, 1980; McLaughlin & Connis, 1991; Morgan & Jenson, 1988; Stokes & Baer, 1977, 2003; Stokes, Mowery, Dean, & Hoffman, 1997; Stokes & Osnes, 1989). Stokes and Baer (1977) noted that generalization and maintenance should be an important part of behavioral research and should be programmed and planned. From our past research with reading racetracks and flashcards (Anthony et al., 1997; Falk et al., 2003; Kaufman, McLaughlin, Derby, & Waco, in press; Printz et al., 2006; Rinaldi &

McLaughlin, 1996; Rinaldi et al., 1977), we have not actively examined maintenance. Our recent studies (Falk at al. 2003; Kaufman et al., in press; Printz et al., 2006) added the use of flashcards to pair with reading racetracks. But though successful, did not evaluate response maintenance over time. Clearly, response generalization with reading racetracks needs empirical verification.

The ratio of known to unknown words when employing active responding procedures recently received attention in the literature. Brasch, Williams, and McLaughlin, (2008) found that one could increase the ratio of known to unknown math facts without a decrease in student performance of math facts. Another issue, can this same outcome be replicated with sight word vocabulary within a reading racetrack intervention?

The present study employed two 12-year-old elementary school males with delays in the areas of reading, writing, and math. The research questions posed for this study were as follows: Will a reading racetrack paired with flashcards increase the academic accuracy of the participants in the area of reading sight words? Would using different known and unknown ratios either with 7 (3 known and 4 unknown) or 14 (5 known and 9 unknown) words per racetrack produce differential outcomes during acquisition or response maintenance? A final purpose was to replicate and extend the use of reading racetracks and flashcards with different students, and type of classroom setting.

Method
Participants and Setting
There were two participants in this study. The first was a 12-year-old male, who had been diagnosed by the school psychologist and the school's multi-disciplinary team with a severe behavior disorders and a learning disability. He was receiving services in the special education classroom in the areas of reading, writing, and math. He also frequently displayed behavioral difficulties with adults and other children in the classroom. The second participant was a 12-year-old male, who was orthopedically impaired with severe scoliosis. Each scored well below grade level in reading, writing, and math when the first author administered the *Woodcock-Johnson Test of Achievement NU-III* (Woodcock, McGrew, & Mather, 2001). The participants were chosen to increase their skills in reading. In addition, each student would be moving to a middle school the next school year and independent reading skills are part of the middle school curricula. The first participant was currently working on reading words from the pre-primer Dolch list; these words were seven grade levels behind his expected grade level. The second participant was working with the school district's 4th grade core word list. This list was two grade levels below his expected grade level.

The classroom was located in a low-income school in a large urban school district in the Pacific Northwest. Sessions were held Monday through Friday during the first half hour

of the school day. There were eight other students enrolled in the classroom with various disabilities, ranging from intellectual disabilities to autism. The first author was also completing her student teaching in the classroom. There were one certified teacher, two permanent instructional assistants and one itinerant instructional assistant present in the classroom. Data collection was part of the documentation required for state and national accreditation (NCATE) of teacher preparation programs. Both state and national accreditation require pre-service teacher candidates to produce and document positive outcomes in student learning (McLaughlin, Williams, Williams, Peck, Derby, Weber, & Bjordahl, 1999).

Materials
A reading racetrack described by Rinaldi et al. (1997) was employed (See Figure 1). A reading racetrack is composed of 28 cells placed along an oval track. There is a picture of a Ford Mustang, which allows the teacher to place on the track the number as well as the type of word list that is being employed. These words were chosen from the pre-primer and primer Dolch word lists (See Figure 2) and the school districts 4th grade core word list (See Figure 3). The first author also placed the sight words on 3x5 white flash cards. Notebook paper was used to take data and a digital kitchen timer was employed for both practice and official timings. Pencils, pens, dry erase markers and a white board were also employed.

Dependent Variables and Measurement Procedures
The dependent variable was the number of correct or errors per session. A correct was defined if the student's oral response matched the phonetic pronunciation of the word. An error was scored when the students read a word incorrectly or if the word was skipped. The error was not scored if the students self-corrected before moving onto the next word.

Data Collection and Inter-observer Agreement
The first author used notebook paper to record the data. There was a list of the words written down and then to the right of the words, a baseline session, reading racetrack number or reversal session was written.

Either the certified classroom teacher or one of the instructional assistants gathered reliability of measurement data. For the first participant, inter-observer agreement was completed 36% of the total sessions, and 37% for the second participant. The two observers would sit on opposite sides of the participant during the reading of their words from the reading racetrack to ensure accurate, non-biased, independently taken data. After each participant had completed their one-minute reading racetrack timing the two observers would compare the number of errors they recorded. The formula used for computing inter-observer agreement was the smaller number divided by the larger number and multiplying by the number 100. The mean agreement was 100%.

Experimental Design and Conditions

A multiple baseline and reversal design with follow up probes (Barlow, Nock, & Hersen, 2008; Kazdin, 2010) was employed. This study also evaluated various known to unknown word ratios with an imbedded ABCABCABCABCDDDD single case replication design across participants.

Pre-assessment

Prior to gathering baseline data, a pre-assessment for each participant was taken. The first author consulted the classroom teacher to determine what word list the participants had been working on the previous year. Next, the first author assessed each participant to determine which words each retained from the previous school year's word lists. After assessing the number of words the students could read, sight word lists were made. Word lists were created using the principle of not using words that were both auditorially and visually similar on the same racetrack (Rinaldi et al., 1997). The first participant's word list alternated between having 7, 14, 7, 14 words. The lists with 7 words contained 3 known words and 4 unknown words. Racetracks 1 and 3 were designed in this manner. Lists 2, 4 and 6 contained 14 words (5 known and 9 unknown). The 5th word List employed 7 words that were missed during a review session of the four previous Lists.

The second participant's lists also alternated between having 7 to 14 words. Lists 1, 3, 5, 7, and 9 had 14 words, with 5 known and 9 unknown words. Lists 2, 3, 4, 6, and 8 had 7 words, employing 3 known and 4 unknown words. After creating the word a list, every word was placed on flashcards for baseline and response maintenance data collection.

Baseline (B)

One baseline data point was taken at the beginning of every new word list for each participant. The participant was asked to read 7 or 14 flashcards depending on the number of words in that specific word list. The first author would present each flashcard individually and the participant would have to respond by reading the word within 5s. This time period allowed each participant to sound out the word if they did not know the word presented. If the participant did not know the word or was unable to sound it out, they could reply with "skip." There was no feedback given for the accuracy during baseline. The first author would place the flashcards into two different piles, one for correct and error. After the participant had read through all of the flashcards, the piles were counted and errors and corrects were recorded.

Flashcards and reading racetracks (RR)

After baseline data were taken, instruction on words began by using flashcards. The first author would present each flashcard individually to the participant. The participant was to read the word if he knew it, but if he did not know the word the first author would provide instruction. The first author would say the word to model the correct reading of

the word and then ask the participant, "What word is this?" The participant was required say the word. The participant would be asked to repeat the word several times, and then the first author would present to the next word.

After going through the deck of flashcards three times, instruction on the sight words using the reading racetrack took place. There were two forms of the racetrack for each set of word lists. An example would be the following, RR_1A and RR_1B. These tracks were alternated between each other for every session to prevent memorization. After selecting the appropriate track to use the first author would point to each word on the track and have the participant, orally say each word. The first author would provide positive feedback and praise to the participants as they read. The racetrack track was completed at least once. If there were still sight words the student didn't know, the first author orally read the words on the racetrack a second time?

Next, the first author would conduct a "practice timing" with each participant. The student would be asked to sit up, point to the first word on the racetrack and get ready to read. During this practice timing the first author would set the digital kitchen timer for one minute. Each participant had to point to each word as he read it. If the student misread the word, the first author would model the right word and the student would have to again say the word correctly before moving onto the next word. The first author also provided praise as the students correctly read each work.

Occasionally the participants would ask to do more than one practice timing. For data the collection session, the student was given one minute to read through the reading racetrack independently. The student did not receive any feedback or praise for this timing. As the participants read their outcomes were recorded on a data sheet. The participants were required to stop after they had gone through the track once. There were five sessions with a specific reading racetrack. These tracks alternated between A or B forms. If a participant made no errors, they were allowed to move to the next racetrack.

Reversal (RV)
After three to five sessions of reading racetracks, the first author would once again present the words on the flashcards. This was carried out to determine if words could be read without the use the reading racetrack. It also served as a measure of maintenance of treatment effects (Cooper et al., 2007).

Ongoing probes (P)
Once four word lists were completed, a review session was carried out. Flashcards were once again used for these ongoing probes. These words were presented in the same matter as baseline or the reversals. This was conducted to determine whether sight words

were being retained. However, due to the second participant's excellent performance on probes, a new word list was created with novel words.

Results
Participant 1
The number of words read correctly and incorrectly during baseline, reading racetrack intervention, reversal, and ongoing probes are shown on Figure 4. During baseline for List 1, the first participant read 3 words correct and made 4 errors. Throughout the reading racetrack intervention, he averaged 27 corrects with 1 error (range of 24 to 28 corrects with 0 to 4 errors). He finished List 1 by reading all 7 words correctly and making no errors.

On List 2, the participant had 5 corrects and made 9 errors during baseline. Throughout the reading racetrack intervention his sight word performance improved. He averaged 25.6 corrects and 2.4 errors (range of 19 to 28 corrects and 0 to 6 errors). He completed this word list by reading 13 words correct and with1 error.

For List 3, participant 1 made 3 corrects and 4 errors during baseline. In the reading racetrack condition, he averaged 26.4 corrects with 1.6 errors (range 23 to 28 corrects with 0 to 5 errors). For the reversal, the participant was able to read all 7 words correctly at the end of this phase.

The participant had 8 corrects with 6 errors for baseline with List 4. In the reading racetrack phase, participant 1's performance increased ($M = 22$ words correct with 6 errors). His performance for corrects ranged from 19 to 26 correct with 2 to 9 errors. For the next reversal for last 4 sessions he read all 7 words from this list correctly.

Data for the review session using all of the words from the previous lists were as follows. The participant recalled 6 words and made 1 error on the List 1. For List 2, he was able to read 11 words correctly with 3 errors. For List 3, the participant read 6 words correctly with 1 error. Throughout the review session for List 4, he had 13 corrects with 1 error.

List 5 was created using the seven error words from the review session. For baseline he read 2 words correct and made 5 errors for baseline. When the first reading racetrack session began, had 14 correct with 10 errors?

For baseline with List 6, the participant read 10 words correctly with 4 errors. In the reading racetrack phase, he averaged 24.2 corrects with 3.8 errors. During the reversal session for List 6, the participant read 14 words with 0 errors.

Participant 2
The number of words read correctly or in error during baseline, reading racetrack intervention and reversals participant 2 are shown on Figure 5. For the List 1, the participant read 6 words correct with 8 errors. During the reading racetrack intervention for List 1, he averaged 27.2 corrects and .8 errors (range of 26 to 28 corrects and 0 to 2 errors). He completed this list with 7 corrects and 0 errors.

On List 2, Participant 2 read all 7 words correct with 0 errors for baseline. For the two reading racetrack sessions, he read all 28 words correctly with 0 errors. During the reversal, he read all of the words correctly.

For baseline on List 3, the participant read 6 words correct and made 8 errors. During the reading racetrack phase, he averaged 27 corrects and 1 error (range 26 to 28 corrects and 0 to 2 errors). The participant demonstrated maintenance for List 3 by reading all 14 words from the correctly (See Figure 3).

Participant 2 read 3 words correct and made 4 errors on List 4 in baseline. During the reading racetrack intervention for List 4, the participant had 100% accuracy. His maintenance score for List 4 was all 7 words.

A review session was conducted with all of the words from the Lists 1 through 4. The participant was able to read all 14 words from List 1 and all 7 words for List 2. For List 3 sight words, the participant read 14 words correctly with 0 errors. Throughout the review session of List 4, he read all 7-sight words correctly. Since mastery was shown on all four-word lists no review track was given.

For the List 5 baseline, he read 5 words correct and made 9 errors. Throughout the reading racetrack intervention his performance improved ($M = 26.6$ corrects and 1.4 errors). He demonstrated maintenance by reading all 14 words correctly for the reversal.

On List 6, Participant 2 had 3 corrects with 4 errors for baseline. For the reading racetrack intervention his performance increased (range 23 to 28 corrects and 0 to 5 errors). He finished this word list by reading all 7 words during the reversal for List 6.

For List 7, participant 2 read 6 words correct with 8 errors. Again, his performance increased during the reading racetrack intervention ($M = 27.75$ corrects and .2 errors). The participant accomplished mastery of this word list by reading all 14 words correctly during the reversal for List 7. Similarly, for List 8, baseline, Participant 2 read 3 words correctly with 4 errors.   Again, his performance was perfect ($M = 28$ words correct and 0 errors). His maintenance score for this list was all 7 words.

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A review session was conducted with all of the words from Lists 5 through 8. The participant was able to correctly read all 14 words from List 5, recalled all 7 words from List 6, all 14 words from List 7 and all 7 sight words from List 8.

For baseline with List 9, he read 7 words correctly with 7 errors. He averaged 24.8 corrects during the reading racetrack intervention with 1.8 errors (range 18 to 27 corrects with 1 to 3 errors) for this list. His maintenance score for List 9 was 14 words correct.

Discussion

The outcomes indicated that the reading racetrack procedure was successful for both participants. Each increased their ability to read words from their selected sight word Lists. In addition, maintenance of treatment effects (Copper et al., 2007; Stokes & Baer, 1977; Stokes & Osnes, 1989) after the reading racetrack procedure was completed was found. The use of a reversal at the end of each reading racetrack phase could be viewed as an active way to assess and generate maintenance of treatment gains. Also, since sight word reading was the major dependent variable, the participants may have had additional experience these words in the other classroom work.

At times the first participant would engage in high rates of inappropriate during reading. He would become very frustrated with the review racetrack for List 5. He also avoided completing his sessions for one week of school. The first author and the classroom teacher decided to not employ a review racetrack. After a week, the first author asked the participant if he would want to do his reading racetracks again with a brand new word List. He readily agreed to begin a new list. Even though this was sometimes a hard task for him to complete, he indicated that he enjoyed seeing his improvement when his data were graphically displayed. He especially liked completing the final timing for the racetracks and seeing how much time he had left when he had read all 28 words. This student also had difficulties with the timer. As a result for both participants, the timer was placed so only the first author could see it.

The second participant was always very eager to work when it came time to work on his reading racetracks. He was very easy to work with and compliant when a request was put on him during the reading racetrack sessions. If the first author did not work with him with his reading racetracks and flashcards in the morning, he would remind the first author that he wanted to do his racetracks later in the school day.

Another positive outcome of the study was the increase in reading from the master list of 4th grade core words for the second participant. These assessments took place several times throughout the study to continually check for maintenance of the sight words. The same procedure took place during these times as when the pre-assessment data were gathered. When the second assessment was carried out, the student had increased his sight words reading recognition from knowing 57 out of 150 4th grade core words to

being able to read 91 out of 150 words. The third time the assessment of 4th grade core words was conducted; the participant correctly read 122 core words out of 150. When the final assessment took place after the study was completed, he was able to read 137 4th grade core words out of the 150. This was an increase of 80 words over the duration of the study. The second participant was about to start the 5th grade core words with one of the classroom instructional assistants using the reading racetrack intervention when the study was completed. This provides some preliminary evidence regarding the maintenance of sight word vocabulary when taught using reading racetracks and flashcards.

The present outcomes replicate much of our previous work with students with mild disabilities (Armstrong et al., 1996; Falk et al., 2003; Kaufman et al., in press; Rinaldi & McLaughlin, 1996; Rinaldi et al., 1997). However in the present analysis, data regarding maintenance of student performance were taken. The maintenance of treatment effects was a very important finding and aspect of this research. Finally, the participants employed in the present research were attending in a self-contained classroom rather than a resource room setting (Armstrong et al., 1996; Falk et al., 2003; Kaufman et al., in press; Printz et al., 2006; Rinaldi & McLaughlin, 1996).

The study was very practical. The reading racetrack intervention was effective and easy to employ in the classroom setting. The materials were inexpensive and the racetracks were easy to create. Reading racetracks is something that could also be a part of the classroom's daily routine for any students needing more instruction with sight words. Finally, there was little difference between the two ways in which we compared the number of known to unknown sight words. Such a finding also replicates our previous work (Brasch et al., 2008) in basic math facts. In that research we found no difference when the ratio of known to unknown math facts was manipulated and examined.

A limitation of this study was there was no data taken to determine whether or not students could generalize their sight word skills to reading words in context. A future study could easily add a test for generalization of reading to words in context. A second issue was that the reassessment of the Pre-primer and Primer Dolch List words was only conducted once with the first participant. However, when the reassessment was completed on the Dolch pre-primer words about a month and a half after intervention had began. He was able to increase his reading from 23 words to being able to read 30 of the pre-primer Dolch List words. This was only accomplished once since he would become quite agitated if he had to read 40 words in one sitting. This made the re-assessment quite difficult. Maybe presented the words in smaller Lists would have correctly this problem.

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To better evaluate the success and maintenance of treatment effects, reading racetracks, could be employed in various settings and across a wider range of disability designations. The first author worked with the participants' classroom teacher and instructional assistants so that they would continue using reading racetracks with the two participants or make it a continued part of their day. At this writing, other students in the classroom that have been receiving instruction on sight words and math facts using the racetracks. Finally a copy of the final study was given and shared with the participants' teacher and parents.

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Figure Captions

Figure 1. Dolch Pre-primer word List

Figure 2. Dolch Primer word List

Figure 3. 4th grade core word List

Figure 4. The number of corrects (circles) and errors (squares) for each condition for Participant 1. B=Baseline, RR= Reading Racetrack intervention, RV=Reversal, P= Ongoing probes.

Figure 5. The number of corrects (circles) and errors (squares) for each condition for Participant 2. B=Baseline, RR= Reading Racetrack intervention, RV=Reversal, P= Ongoing probes

Dolch Pre-Primer
(40 Words)

a	here	play
and	I	red
away	in	run
big	is	said
blue	it	see
can	jump	the
come	little	three
down	look	to
find	make	two
for	me	up
Funny	my	we
go	not	where
help	One	

Dolch Primer
(52 words)

|		
all	into	that
am	like	there
are	must	they
at	new	this
ate	no	too
be	now	under
black	on	want
brown	our	was
but	out	well
came	please	went
did	pretty	what

do	ran	white
eat	ride	who
four	saw	will
get	say	with
good	she	yes
have	so	
he	soon	

Fourth Grade Core Words

able	complete	heard	order	stop
a	course	himself	perhaps	strong
against	cut	hold	person	sun
ago	didn't	horse	piece	sure
am	dog	hot	plants	surface
American	done	hundred	play	table
among	door	idea	point	talk
answer	draw	inside	probably	ten
anything	early	it's	ran	that's
area	eat	I'll	ready	thing
became	English	I'm	really	though
become	example	kept	red	told
before	face	knew	remember	top
behind	family	later	rest	toward
back	fast	learn	river	town
body	feel	learned	room	tree
book	felt	less	run	true
box	fine	letter	sad	try
brought	fire	List	sea	turn
built	fish	lived	seen	turned
cannot	five	living	several	United States
can't	front	matter	short	upon
car	full	mean	shown	usually
certain	gave	money	six	voice
change	green	morning	space	whether
city	ground	move	special	whole
class	group	nothing	stand	wind
close	grow	notice	start	yes
cold	half	oh	state	yet
common	hear	open	stood	young

The Effects of Reading Racetracks and Flashcards on the Teaching of Participant 1
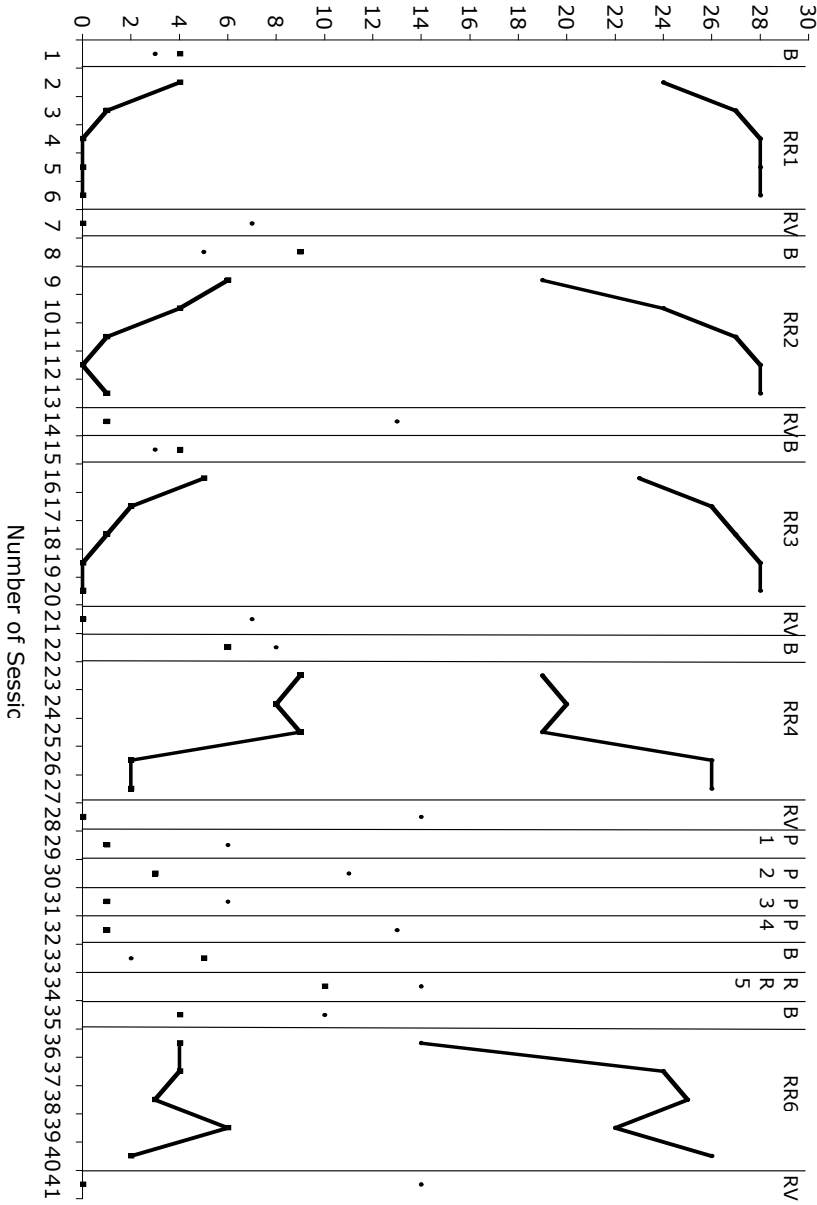
The Relationship between Logistics Programme and Logistics Educational Needs: An Exploratory Study

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Abstract

This study examines the relationship between logistics educational needs (LEN) and logistics programme. LEN is assumed to comprise three dimensions: knowledge of logistics, knowledge of non-logistics and competency. The study uses 128 logisticians from logistics firms located in Malaysia. The results of factor analysis confirm that LEN is multidimensional and consists of the above-mentioned dimensions. The findings show that there is a direct, positive and significant relationship between the dimensions of LEN and logistics programme offered by higher education institutions. It is also found that competency dimension had strong correlation with logistics programme. Implications and limitations of the study are also discussed.

Keywords: Logistics Educational Needs, Logistics Programme, Competency, Higher Education Institutions

Introduction

Studies regarding the relationship between logistics programme offered by higher education institutions and logistics educational needs (LEN) have received considerable attention in the logistics education literature (for examples see Gravier and Farris, 2008; Wu, 2007; Pryor, Sloan and Amobi, 2007). Such interest might be attributed to the belief that logistics programme facilitates logistics graduates' capability toward knowledge of logistics, knowledge of non-logistics, and competency. Thus, logistics programme have been assumed to promote competent workforce in logistics industry (Gravier and Farris, 2008; Wu, 2007; La Londe, Ginter and Stock, 2007).

Studies regarding on the relationship between logistics programme and LEN dimensions using Malaysian samples have not been widely pursued. Studies closer to the problem were conducted by Razzaque and Sirat (2001) and Goh and Pinaikul (1998). Razzaque and Sirat make a comparison between Singapore and Malaysian logisticians based on the views from top management and did not include element of courses in logistics

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programme while Goh and Pinaikul study the need for higher education institutions in Thailand to supply competent logisticians.

Need for this Research
This study seeks to further explore the nature of the relationship between these variables based on Malaysian scenario. It seeks to provide some insight into the LEN dimensions of Malaysian higher education institutions from the perspective of Malaysian logisticians. The study hypothesizes that logistics programme is directly or positively related to LEN. Specifically, it proposed that competency would be more related to logistics programme than knowledge of logistics or knowledge of non-logistics. A multidimensional approach to the concept of LEN is adopted in this study. For this purpose, the paper is structured as follows: a review of the LEN literature related to knowledge of logistics, knowledge of non-logistics, and competency dimensions. Following that, the next section describes the research method adopted. Furthermore, the paper provides the results of the empirical study. Finally, a brief discussion and conclusion of the paper is presented.
In an attempt to meet the objectives of the study, specific research questions that need to be addresses are identified as follows:
1.   What is the nature of relationships among the LEN dimensions (knowledge of logistics, knowledge of non-logistics and competency)?
2.   What is the nature of relationship between LEN dimensions and logistics programme based on Malaysian setting?

Literature Review
Logistics Educational Needs (LEN)
The "educational needs" is a condition of the necessity for education on a specific topic identified by a gap in professional or working practice (Lai, 2010). In relation to logistics, it is a situation that refers to the discrepancy or gap between what the logistics industry expects of a competent logistician and what actually occurs at present. In this study, the components of LEN are logistics programs for undergraduates, knowledge, and logistician competency. Failure to acquire accurate LEN will lead to deficiency as competent logisticians and therefore it will make them dysfunctional in an organization. It emphasizes logistics graduates' necessity, urgency and inevitability to have effective and accurate logistics programs, knowledge and competency to become efficient and effective logisticians. Failure to fulfill the gap will affect logistics organization performance and productivity as a whole. According to Marzo-Navarro (2007), the gap will result in the imbalance between the trained human capital and the needs of the labur world. Specific LEN items include knowledge of logistics functions, knowledge of non logistics functions, logistician competency, working experience, courses in logistics programme, interdependence skills, group management skills, integrity, and communication skills (Gravier and Farris, 2008; Golicic, Bobbitt, Frankel and Clinton, 2004; Myers, Griffith, Daugherty and Lusch, 2004; Knemeyer and Murphy, 2004;

Pryor, Sloan and Amobi, 2007; Wu, 2007; Cherington and Schneider, 1967; Stock, 2002; Christopher, Magrill and Wills, 1998; van Hoek, 2000; Murphy and Poist, 2007; Novack, Rinehart and Langley, 1994; Lancioni, Forman and Smith, 2001; and La Londe, Ginter and Stock, 2007) are grouped into courses in logistics programme, knowledge of logistics, knowledge of non-logistics, and competency.

Knowledge: Logistics and Non-Logistics
Among past studies that have examined the knowledge of logistics and non-logistics dimensions of LEN, the most cited in the literature is the work conducted by Cherington and Schneider (1967). Specifically, Cherington and Schneider explore the relationship between LEN and knowledge in transport for logistics graduates. The study reveals that there was a need for logistics and transportation courses to be blended with the concepts and techniques of the non logistics courses such as management and business. Their study was further supported by Myers, Griffith, Daugherty and Lusch, 2004; Knemeyer and Murphy, 2004; Pryor, Sloan and Amobi, 2007; and Wu, 2007.

Logistician Competency
Beier (1972), Collison and Bess (1987), Closs and Stank (1999), Lancioni, Forman and Smith (2001) and Wu (2007) studied the relationship between LEN and competency. Wu (2007), for example, conducted a comparative analysis of logistics education among Europe, North America, and Asia, between developing nations and developed nations, and between continental nations and island nations. Wu indicates that there is a strong relationship between higher education institutions offering degrees in logistics programmes and higher rate of employability.

Logistics Programme
More recently, Gravier and Farris (2008) studied how LEN associate with logistics programme in higher education institutions. Their study was based on three areas: defining curriculum, developing content and skills taught, and refining teaching methods. They discovered that four factors: an increase in the number of logistics educational programs, limited supply of logistics-trained faculty, changes to content requirements, and a changing teaching environment provide impact to the current status of logistics education.

Although knowledge in the area of LEN has expanded, researchers investigating knowledge of logistics functions, knowledge of non logistics functions, logistician competency related to logistics programme have given limited attention particularly in the Malaysian context. In Malaysia, study that examines the relationship between LEN and logistics programme from the logistician perspective is still very rare (Razzaque and Sirat, 2001).

Methodology

A self-administered structured survey questionnaire was employed for gathering data in this cross-sectional study. The questionnaire contained questions on logistics program, knowledge of logistics, knowledge of non-logistics, competency, and a series of demographic questions. It consisted of 59 questions in five sections. The first section of the questionnaire which consists of 6 items was used to obtain the general information concerning the background of the respondents. Demographic characteristics were captured through questions with respect to position in company, working experience, company size, company category, age group and education background.

41 questions in sections two, three and four were designed to capture the respondents' assessment towards LEN: knowledge of logistics (11 items), knowledge of non-logistics (17 items), and competency (13 items). Finally, items in section five of the questionnaire measured logistics programme (12 items).

Sample

The sampling frame was logistics practitioners working in logistics firms in Malaysia. They were chosen by virtue of the fact that the subject would provide information regarding the current and future needs of knowledge, skills and competency required for working in logistics firms. Prior to answering the questions in the questionnaire, the respondents were informed of the purposed of the study. A simple random sampling was used for sampling purpose.

Measures

LEN was measured using a modification of items from Wu (2007), Murphy and Poist (2007) and Way (2002) instruments. The modified items consisted of 41 items and were designed to capture the three dimensions of LEN. As for knowledge dimensions, 11 items that measured the dimension for knowledge of logistics were based from Murphy and Poist (2007) while 17 items that measured the dimension for knowledge of non-logistics were based from Wu (2007) and Way (2002). 13 items related to competency were measured based on the study from Murphy and Poist (2007) and Way (2002). A five-point response was employed, ranging from 1 (extremely unimportant) to 5 (extremely important). 27 items were omitted due to the low communalities values (a cutoff value of 0.5), as recommended by Hair, Anderson, Tatham and Black (2006). There were 14 items that have communalities values 0.5 and above were retained. The internal consistency (measured by Cronbach's alpha) for LEN dimensions were 0.7987 (knowledge of logistics), 0.7063 (knowledge of non-logistics) and 0.8659 (competency).

The measure for logistics programme was adopted from Gravier and Farris (2008) and Wu (2007) instruments. There were 12 items in together. To ensure consistency with the measures of LEN, a five-point response was employed, ranging from 1 (extremely

unimportant) to 5 (extremely important). The internal consistency for this scale in this study was 0.8083.

Analysis
In order to facilitate the analysis of the statistics generated from the data, this study employed three types of analyses: descriptive analysis, correlation analysis and factor analysis. Factor analysis has been widely employed to confirm the multidimentionality of a dimension (Malhotra, 2010).

Results
The sample comprised 128 logisticians employed in 889 logistics firms in Malaysia. The response rate registered was 14.4 %. The results then were analyzed using SPSS version 17. Table 1 shows the detailed characteristics of the sample.

The outcome of a confirmatory factor analysis of the LEN measures is reported in Table 2. In the analysis, varimax rotation method was used. The statistics generated indicate that the sample and model were adequate (Kaiser-Meyer-Olkin measure of sampling adequacy, 0.846; Bartlett's Test of Sphericity with a Chi-square value of 734.412 significant at $p < 0.001$, df = 91). The results indicate that LEN is multidimensional and has three dimensions, which can be appropriately labeled as competency (factor 1), knowledge of logistics (factor 2), and knowledge of non-logistics (factor 3). These dimensions contributed for 60.93% of the total variance. Competency captured the highest percentage of variance (39.31%), followed by knowledge of logistics (13.27%), and knowledge of non-logistics (8.35%).

Table-1: Sample Characteristics

	Characteristics	Frequency	Percentage
1.	**Position in Company**		
	Top	38	29.7
	Middle	56	43.8
	Supervisor	34	26.6
2.	**Company Size**		
	1 - 10	13	10.2
	11 - 50	22	17.2
	51 - 100	10	7.8
	101 - 300	27	21.1
	301 - 500	12	9.4
	500 and above	44	34.4
3.	**Company Category**		
	Multinational	42	32.8
	Local	86	67.2

4.	**Age Group**		
	25 - 35	52	40.6
	36 - 45	48	37.5
	46 - 55	24	18.8
	56 - 65	2	1.6
	65 and over	2	1.6
5.	**Education Background**		
	High School	17	13.3
	Diploma	27	21.1
	Degree	60	46.9
	Master	20	15.6
	Ph.D	1	0.8
	Others	3	2.3
6.	**Mean of working experience**	11.92 years	

Table 2: Factor Analysis of the Logistics Educational Needs Measures

Item	COMP	KL	KNL
A value added perspective: providing ingenuity, innovation and creativity	0.789		
Negotiation skills	0.739		
Ability to approach problems with clear perception of organizational and political reality	0.723		
Ability to work effectively with others	0.719		
Pro-activity: prevention of problem situations	0.688		
Marketing skills	0.666		
Sensitivity and consciousness about professional image	0.657		
General logistics management		0.817	
Global logistics / Supply chain management		0.789	
Manufacturing logistics		0.785	
Transportation		0.591	
General knowledge of finance, sales, marketing, customer service, corporate law, human resource management, information system, and geography			0.781
Understanding corporate culture			0.726
International business environment			0.668

COMP: Competency   KL: Knowledge   KNL: Knowledge non-logistics
logistics

Factor 1 (COMP) eigenvalue (5.504), percentage of variance (39.31%),

Cronbach's alpha = 0.8659
Factor 2 (KL) eigenvalue (1.858), percentage of variance (13.27%),
Cronbach's alpha = 0.7987
Factor 3 (KNL) eigenvalue (1.168), percentage of variance (8.35%),
Cronbach's alpha = 0.7063

Table 3 demonstrates the means, standard deviations and intercorrelations of the variables of interest. Results indicate that the respondents' LEN was important. Among the dimensions of LEN, the mean of competency was the highest (4.27), while the mean of knowledge of non-logistics was the lowest (4.11). It can also be seen that the level of knowledge of logistics was slightly higher than the mean value for knowledge of non-logistics. As for the intercorrelations, the correlation coefficients between variables indicate that the three dimensions of LEN were relatively independent of each other. The correlations between the variables of interest further indicate significant relationships between each dimension of LEN and logistics programme. Among the dimensions of LEN, competency represented the dimension most highly correlated with the latter ($r = 0.691$, $p = 0.01$).

Table 3: Means, Standard Deviations and Inter-correlations of the Research Variables

Variables	1	2	3	4	Mean	SD
Competency	1	0.430**	0.475**	0.691**	4.27	0.49
Knowledge of logistics		1	0.494**	0.526**	4.19	0.53
Knowledge of non-logistics			1	0.512**	4.11	0.53
Logistics Programme				1	4.26	0.38

Discussion and Conclusion
The results of this study support the belief that LEN is a multidimensional concept as proposed by Keller and Ozment (2009), Gravier and Farris (2008), Wu (2007), La Londe, Ginter and Stock (2007), and Murphy and Poist (2007). Using the Malaysian logisticians as respondents, the study adds to the previous studies that Malaysian LEN can take several dimensions. On the correlation between LEN and logistics programme, it is interesting to note that direct and positive relationship at 0.01 level of significance exists between all dimensions of Malaysian LEN and the latter. A differential relationship that characterizes the link between these variables suggests that Malaysian logistics practitioners demonstrated a different degree of perception towards logistics programme, would demonstrate a different dimension of LEN for logistics graduates. Moreover, the

findings of this study suggest that, higher competency, knowledge of logistics and knowledge of non logistics are associated with higher logistics programme scores. The findings of this study offer some interesting guidelines to Malaysian higher education institutions (MHEI) in designing logistics programme. Any MHEI that intends to develop effective logistics programme would obviously have to ensure a high degree of competency must have in the curriculum. Furthermore, the curriculum needs to emphasize the contribution towards a high degree of logistics knowledge.

Finally, there are some limitations to this study which need to be considered. Firstly, a major limitation of this study is the small sample size. As a result, the power of the test is weaker. Secondly, the application of correlations as evidence of the association between the dimensions of LEN and logistics programme should not be confused with cause-effect relationships. Meaning, the correlations only suggest relationship, but not causality between the variables of interest. For future research, a study could be done to determine the relationship between the LEN dimensions and logistics programme in Malaysia using regression analysis. Thirdly, the findings should not be generalized to other samples. The use of other types of samples in future research may produce different results.

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Learning Style Preferences of Adolescents in Relation to their Mental Ability

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Abstract

This research paper examines the learning style preferences of students in relation to their mental ability. The sample comprised of 750 students studying in class VIII to X, divided in to three groups of mental ability (low, moderate and high) on the basis of quartile deviation. Students Learning Style Scale by Grasha & Riechmann (1974) and Raven's Progressive Matrices (1977) for assessment of mental ability were employed. The data so obtained were analyzed using rank order, correlation, mean, S.D and t-test. The findings of the study reveal that there seems almost no difference between students with different levels of mental ability in their order of preference for six learning styles considered under the study. However, students with different mental ability differ in their magnitude of preferences for various learning styles. Finally, it may be said that students' mental ability shows somewhat noticeable impact on their learning styles preferences.

Keywords: Student's Learning Style, Preferences, Mental Ability, and Mental Level

Introduction

The process of human learning starts since the birth. As he grows, his mental faculties develop and learning process becomes more and more refined. Generally, it is observed that one who is more intelligent, may learn easily and quickly and the one who has low mental level may take more time to learn. Thus, we can say that mental ability is somehow related to learning process.

Further, it is well known fact that most effective learning occurs when learning activities match most closely with learner's preferred style. So, it is very important to know as to what are the styles of students. But the question is that how can a teacher know any authentic information regarding the variation in learning style of students with different characteristics? Answer to above question can be given if the factors related to learning styles in students could be identified. Mental ability of students, which is closely related to learning process, may be a significant factor influencing the learning style preferences of students.

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A review of related literature reveals that little effort has been done by the researchers to ascertain the effect of their mental ability on learning styles preferences of higher secondary level students. For instance, Singh (2001) found that high and average intelligent boys and girls show significant difference in learning style preference while low intelligent boys and girls were not found different in their preferences. Kumari (1997) found that students of different intelligence level were not different in their learning style except in case of average intelligent boys. However, Kaley (1977) found that I.Q. can predict learning style only when combined with reading.

On the basis of these findings it can be concluded that connection of learning style preferences with psychological variables, more specifically with mental ability, has not been adequately explored by the researchers and findings are inconclusive. Thus, there is a gap of knowledge with regard to relationship of learning style preference with the student's mental ability.

Operational Definitions
Learning Style
The term 'learning style' has been defined by Dunn (1983) as "learning style consists of a combination of psychological, physical, emotional, widespread elements that affect the way individual……………receive, store and use knowledge or ability". Reiff (1994) holds the view that learning style can be described as a set of factor, behaviours and attitudes facilitating learning for a student in a given situation. In the present work, styles of learning as classified by Grasha and Riechmann have been considered.
Grasha and Riechmann (1974) describe six types of learning style.

    (i) Independent   (ii) Dependent   (iii) Competitive
    (iv) Collaborative   (v) Participant   (vi) Avoidant.

(i)   *Independent*– This response style is characteristic of the student who likes to think himself. He prefers to work on his own, but he will listen to the ideas of others in the classroom. He learns the content he feels is important and is confident in his learning abilities.

(ii)   *Dependent*- This style is characteristic of the student who shows little intellectual curiosity and who learns only what is required. He sees teachers and peers as source of information and support. He looks to authority figures for guidelines and wants to be told what to do.

(iii)   *Competitive*- This response style is exhibited by the student who learns material in order to perform better than others in the class. He feels he must compete with other students in the class for the rewards of the classroom, such as grades or teacher attention. He views the classroom as win-lose situation where he must always win

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(iv)   *Collaborative*- This style is typical of the student who feels he can learn the most by sharing his ideas and talents. He sees the classroom as a place for social interaction as well as for content learning.

(v)   *Participant*- This style is characteristic of the student who wants to learn course content and likes to go to class. He takes responsibility for getting the most out of class and participates with others when told to do so. He feels that he should take part in as much of the class related activities as possible and does little that is not part of the course outline.

(vi)   *Avoidant*- This response style is typical of a student who is not interested in learning course content in the traditional classroom. He does not participate with other students and teachers in the classroom. He is uninterested by what goes on in the classes.

Mental Ability

Mental ability refers to a general capacity of an individual consciously to adjust his thinking to new requirements, new problems and conditions of life. In the present work, mental ability refers to only general factor of the intelligence and excludes specific factors necessary for excellence in a specific area. Thus, it is general mental adaptability to new problems and conditions of life.

Objectives

The following specific objectives were envisaged for conducting the study.

(i)   To ascertain the learning style prevalent among adolescents who belong to different levels of mental ability.

(ii)   To analyze the effect of mental ability on six learning styles of higher secondary level students.

Methodology

This study was conducted through survey method in which tools were given to the sample students studying in higher secondary classes.

Sample

The sample of present research work comprised of 750 students studying in class VIII to X selected from government/aided and privately managed forty five secondary schools of Rohilkhand region, on the basis of multistage stratified random sampling technique. Students were divided into three groups of mental ability (low, moderate and high) on the basis of quartile deviation. Thus, there were 197, 357 and 196 students in low, moderate and high mental ability groups respectively.

Tools Used
- Students Learning Style Scale by Grasha & Riechmann (GRLSS) was used for data collection. The tool measures the preferences of students in interacting, that is, how students interact with teachers and other students with respect to their learning processes. This scale contains 60 items using Liket type five point scale. It assesses preferences for six learning styles as mentioned above i.e. Independent, Dependent, Competitive, Collaborative, Participant, and Avoidant.

These six styles form three pairs of bipolar traits:
(A)　　Independent–Dependent; (B) Competitive – Collaborative (C) Participant – Avoidant

Scores on each item (ranging 1-5) are summed up for each learning style separately. Thus, the scale provides quantitative value for the level of each style.

- Standard Progressive Matrices: To measure the mental ability of the students, researcher used the test Standard Progressive Matrices developed by J.C. Raven, J.H. Court and J. Raven (1977). This scale consists of 60 problems divided into five sets (A, B, C, and D, E) each containing 12 problems. In each set, the first problem is as nearly as possible gone more difficult but on the same argument as first one. The five sets provide five ways to know the method of thought required to solve the problem to assess the person's intellectual capacity. There was no time limit for the test; however it can be administered conveniently in a period of 50-60 minutes in a classroom situation.

Mean values regarding preferences for various learning styles as mentioned in the table presented that most preferred style of learning in low, moderate and high mental ability group is participant style, that means students prefer this style of learning the most in which they want to learn course content by going into the class, they take responsibility for getting the most out of the class and participate with others. The least preferred style of learning is avoidant; it means students are least interested in learning course content in traditional classroom.

The data presented in above table also reveals that in case of low and high mental ability groups of students, the value of 't' on bipolar dimension of independent Vs dependent learning style has been found significant at .01 level. Obtained value of 't' on competitive Vs collaborative learning style is insignificant. Table shows that low and high mental ability groups showed more preferences for dependent and participant learning styles over independent and avoidant learning styles respectively. Dependent learning style was preferred by the students meaning thereby that these students are not able to learn with out help of teachers and colleagues and want to take decisions about learning as per their

suggestions. Preference of participant learning style over avoidant learning style shows that these students like to listen the views of teachers in the classroom and want to participate in classroom activity more and more. In case of moderate mental ability students, values of 't' for all the three bipolar dimensions of learning style (independent Vs dependent, competitive Vs collaborative and participant Vs avoidant) are found significant at .01 level. Table shows that moderate mental ability group showed more preferences for dependent, competitive and participant learning style over independent, collaborative and avoidant learning style respectively. It is evident that students with moderate level of mental ability preferred competitive style more over the collaborative one, whereas the extreme groups showed similar preferences for both the styles i.e. they prefer competitive as well as collaborative style of learning. Thus, it is the average intelligence group which views the classroom as a win-lose situation where he must always win. On this dimension of learning style, other two groups do not significantly prefer any specific style more.

Comparisons between the three groups have shown that for independent, dependent, collaborative and avoidant learning style, low mental ability group differed significantly with their moderate and high level mental ability counterparts. On competitive and participant learning style, moderate mental ability group differed significantly with low and high groups. According to these findings, it may be inferred that students with low mental ability are preferring independent, dependent and collaborative learning styles least and avoidant learning style more. Moderate mental ability students prefer competitive and participant learning style more. Findings contradict the results of Singh (2001) and Kumari (1997) who found that students of different intelligence levels did not differ in their learning styles except in case of average intelligent boys.

Conclusion and Suggestions
The study concludes that all the styles of learning are not equally prevalent among students. The most preferred style is participant and least preferred one is avoidant and this is regardless of student's level of mental ability. However, students with different mental ability differ in their magnitude of preferences for various learning styles. Low mental ability students are neither interested in traditional classroom nor able to take decision by themselves. They can not understand the view of teachers hurriedly as compared to other students. Average mental ability students want to compete with other students.

The present study has drawn our attention towards such students who have low level of mental ability; teacher should develop confidence in them, diminish their hesitation and convey their thoughts to such kind of students in more easy way.

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Comparative Study of the Academic Achievements of the Schools at Secondary Level under the Administration of University of Peshawar

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Abstract

The study aimed to describe the academic achievements of the three schools under the administration of the University of Peshawar, for the last five years i.e. 2003-07.The total number of teaching staff, their academic & professional qualification, and nature of employment was compared through schools' existing prospectus. The total number of students enrolled at secondary level, the students appeared in annual exams of Board, their results, pass percentage, positions in Board, grades etc. were compared through schools' annual reports, BISE gazettes & Personal visits. The overall conclusion was derived & suggestions were made.

Keywords: Academic Achievement, Secondary Education, Quality Education, Administration, Intellectual Level

Introduction

The University of Peshawar is a prime institute providing Quality Education from nursery to Ph.D. level. Following are the schools working under the direct administration of University of Peshawar.
Islamia Collegiate School (ICS),
University Public School (UPS) and
University Model School (UMS)

The students' enrolment ratio of Islamia collegiate School, University Public School and University Model School were compared. Based on the annual SSC results of the three schools, conclusions were drawn which shoe the intellectual level of the students enrolled in these schools. The study aimed to find out total enrolment in these schools for the last five years i.e. 2003 to 2007, to find out total number of permanent, Temporary and adhoc teachers and to find out the general and professional qualification of the teaching staff.

It was also considered to find out the level of academic achievements of these schools at secondary level for the last five years i.e. 2003 to 2007. and to compare the academic achievements of these schools. The final purpose of the study was to suggest ways and means to improve the performance of these schools. Education is a lifelong process. This process involves students, parents and teachers as well as the society. If all these elements

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are performing their duties well on their part then objectives of literacy can be achieved. Teachers play a major role in imparting basic education. The teachers have to interact with the principals

Our institutions are facing a lot of problems due to low rate of literacy, lack of cooperation from parents, lack of well equipped laboratories, lack of transport facilities, and poor use of Audio Visual aids and arrangement of text books. The study shows the performance of the teachers, planning, management and structure of the institution and the tangible results achieved from it. This report can help the high authorities and administration know the potential of the institute and some the drawbacks which needs to be overcome. The study also provides complete and accurate data of academic achievements of these schools, the exact number of students enrolled and appeared in annual examination for the last five years. The study is of limited scope as only the schools under the administration of the Peshawar University are selected. The study is further delimited only to the academic achievement at the secondary level for last five years i.e. 2003, 2004, 2005, 2006 & 2007. The University of Peshawar, founded in 1950 is spread over an area of about 1050 acres. The university has six faculties i.e. arts, sciences, oriental languages, Islamic studies and Arabic, Law and Education.

Darul-uloom-e-Islamia in the form of Islamia Collegiate School and Islamia College Peshawar was founded by Haji SahibTurangzai Baba in 1913, along with the contributions of Sir Sahibzada Abdul Qayum Khan. In 1963 University Public School (UPS) was founded as the English medium Branch of ICS. Later on in 1964 it was then established as a separate School. University Model School (UMS) was established as "Junior Model School for Girls" in 1955. In 1967 it was recognized by the Board of Intermediate and Secondary Education Peshawar (BISEP). The comparison of these schools at primary levels, the comparison of the co-curricular activities in these schools, the financial survey , the educational facilities & Medium of instruction in these schools have already been researched by M.Ed. students of IER in the previous sessions.

Method and Material
It is a descriptive type of research. It involves collecting, analyzing and interpretation of data of Islamia Collegiate School, University Public School and University Model School, under the administration of University of Peshawar. The academic achievements of the three schools are compared for the last five years i.e. 2003, 2004, 2005, 2006 and 2007 which is taken as the population for the given study. The SSC results of the three schools for the sessions 2003 to 2007 are taken as a sample. The data was collected through annual gazettes, Personal visits to schools, the schools' prospectuses, magazines, internet and schools' annual report under the guidance of the supervisor in the light of the criterion that it was relevant to the problem of the study, it was clear and unambiguous and it was consistent with the scope of the study.

Analysis of Data
The data gathered was organized in tables, analyzed and interpreted accordingly. For clear and easy understanding the data were represented in the form of graphs.

Findings

Table-1: Teaching Staff

School	Permanent	Fix Paid	Adhoc	Total
ICS	69	19	12	100
UPS	48	17	18	83
UMS	41	22	10	73

The table shows that Islamia Collegiate School has more staff than University Model School and University Public School. There are sixty nine, forty eight and forty one permanent teachers in ICS, UPS and UMS respectively. The fixed paid teaching staff in UMS is more than ICS and UPS. There less fixed paid teachers in UPS. However, the adhoc teachers in UPS are more than ICS and UMS.

Table-2: General Qualification of Teachers

Name of School	MA / M.Sc.	BA / B.Sc.	Other	Total
ICS	78	16	6	100
UPS	70	12	1	83
UMS	53	20	-	73

According to the given data, ICS has seventy eight of hundred teachers are Masters in their relevant subjects. Similarly in UPS seventy out of eighty three teachers are masters and in UMS fifty three out of seventy three teachers are masters.

The teachers with Bachelor's degrees in ICS, UPS and UMS are sixteen, twelve and twenty respectively.
Teachers with other qualifications (F.A./F.Sc, Metric etc.) in ICS are six and in UPS there is one such teacher. However, in UMS, there is no teacher with such qualification.

Table-3: Professional Qualification of Teachers

Name of School	M.Ed.	B.Ed.	Other	Total
ICS	45	46	9	100
UPS	35	47	1	83
UMS	28	43	2	73

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The table shows that forty five out of hundred teachers in Islamia Collegiate School are Master in Education while forty six are B.Ed. Nine teachers have other qualification such as C.T or P.T.C.
In UPS, there are thirty five teachers with M.Ed and forty seven teachers with B.Ed, while one teacher is with other professional qualification.

In UMS twenty eight teachers are M.Ed, forty three are B.ed and two are having other qualification.

Table-4: Students Enrolled

Session	ICS (Main Branch)	ICS (Urdu Medium)	UPS	UMS
2003	268	91	153	229
2004	115	257	161	222
2005	175	68	126	210
2006	210	55	144	183
2007	245	136	152	170

The table shows that in Islamia Collegiate School the overall enrolment of students at secondary level is the highest for every year as it has an Urdu Medium section as well as a main branch. For the year 2003, the enrolment in main branch is the highest, i.e. two hundred and sixty eight and for the year 2004, it is the lowest, i.e. one hundred and fifteen. In its Urdu medium section, the highest enrolment of two hundred and fifty seven is observed for the year 2004 while it has a minimum of fifty five enrolment ratio for the year 2006.

The lowest enrolment of students is observed in UPS throughout with maximum of one hundred and sixty one, for the year 2004 and minimum of one hundred and twenty six, for the year 2005. The students' enrolment ratio of UMS is somehow moderate with highest for the year 2003, i.e. two hundred and twenty nine and lowest for the year 2007 i.e. one hundred and seventy.

The annual result reveals that in ICS main branch the failure rate of students was high in the year 2004 but minimum students failed in the year 2007. There is a consistency in the annual results of UPS while UMS showed a hundred percent result for the year 2007.

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Table-5: Annual Result (Student Passed)

Session	ICS (Main Branch)	ICS (Urdu Medium)	UPS	UMS
2003	255/268	63/91	151/153	217/229
2004	67/115	227/257	158/161	210/222
2005	161/175	57/68	123/126	209/210
2006	203/210	48/55	141/144	181/183
2007	243/245	116/136	150/152	170/170

Positions among Top Twenty of the Board of Intermediate and Secondary Education Peshawar

- For the year 2003 ICS got Three, UPS got one and UMS got eight positions.
- For the year 2004 ICS got no position, UPS got six and UMS got ten positions.
- For the year 2005 ICS got no position, UPS got three and UMS got five positions.
- For the year 2006 ICS got one position, UPS got no position and UMS got five positions.
- For the year 2007 ICS got no position, UPS also did not get any position and UMS got five positions.

Conclusion

Secondary education schools are pivotal for the overall structure of the educational system of a country. In Peshawar University, this service has been provided by three important institutions i.e. Islamia Collegiate School, University Public School and University Model School. The former two are for boys while the later is for girls. These schools are playing a very important role in raising the literacy rate of the country.

The study concentrated on the performance of these schools and their mutual comparison. Being time tested, reputed and historical, these three schools are the dream schools for the vast majority of parents in Peshawar who want to impart knowledge to their children. These are also ideal because they provide education and co-curriculum in the same institution. The present system of schooling is although useful but not ideal.

In Peshawar the rapidly growing population is building an extra pressure on these schools. Interesting results were hereby obtained for the three schools, all of which showed a high passing percentage in the BISE annual examinations.

All of the three schools get various positions among the top twenty students in BISE results. The schools are facing problems of overcrowding and proper utilization of the resources.

The medium of instruction is English in the three institutions; however Islamia Collegiate School has also an Urdu Medium Section which enhances disparities.
The gender factor may probably have done something interesting with the academic achievements where the UMS (being a girls' school) stands at the highest ranking order when compared with the ICS and UPS.

In spite of all shortcomings, the researcher still reckon the secondary school system in these three schools to be much better and role model for the rest of the educational institutions.

Recommendations
- Refresher courses and workshops should be arranged for the teachers so that they are aware of the latest techniques and teaching methods.
- Induction of staff should be purely on merit basis and those with highest qualification and merit should be selected.
- Extra staff and extra seats should be arranged but the quality of education should be maintained.
- Teachers should be well prepared and should give special attention to slow learners.
- English should be the medium of instruction in all the three institutions to avoid disparity in the expression of students.
- Regular staff meetings should be arranged so that the teachers can share their experiences and help each other to sort out any problem that may arise.
- Parent teacher relationship should be there and students' problems should be solved by mutual cooperation.

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Task-Based Learning: An In-Class ELT Experiment

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Abstract

Historical ELT (English Language Teaching) perspective reveals the fact that the history of English Language Teaching is actually the history of wide variety of methods experimented and advocated by wide array of ELT experts in the past. During teaching in a language class, these researchers were also cognizant of all such methods already in practice. Yet the method these researchers used Task-based Method as an experiment for ELT purpose since it offers a structured approach to language by supporting the notion that learning occurs most effectively when related to the real life tasks of an individual. The method comprises of three phases which serve as road map for the teachers. The researchers present in this paper a highly positive feedback along with lesson proceedings examined against current ELT research findings for future development of ELT practitioners.

Operational Definition of Task Based Learning

Task- based learning is a teaching/ learning approach which focuses on learner's active involvement in the process of learning. It is generally based on problem solving or role play activities. The range of tasks available (reading texts, listening texts, problem-solving, role-plays, questionnaires, etc) offers a great deal of flexibility in this model and should lead to more motivating activities for the learners.

Task-based Learning offers a structured approach to learning, and supports the notion that learning occurs most effectively when related the real life tasks undertaken by an individual or a group of students together. Task-based Learning (TBL) encourages the development of the reflective learner(s), and accommodates a wide range of learning styles in mixed-ability classes; as it did in this case when these researchers carried out their lesson based on the same method. Learner-based methods, such as Task-based Learning draw on the learners' knowledge, and consequently materials are selected on the basis of both their needs and interests. Learning in Task-based Learning can be seen as a collaborative enterprise, in which there is a great deal of negotiations among the learners, and the teacher.

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Another way in which Task-based Learning is more relevant to learners is that the aim of Task-based Learning is to integrate all four skills and move from fluency to accuracy plus fluency. Jane Willis (1996), outlines a third model for organizing lessons. The model of Task-based Learning is divided into three phases:

1. The Pre-task Phase
The teacher introduces and defines the topic and the learners engage in activities that either helps them to recall words and phrases that will be useful during the performance of the main task or to learn new words and phrases that are essential to the task.

2. The Task Cycle
The task cycle can be broken down into three stages:
Task: Learners perform the task (typically a reading or listening exercise or a problem-solving exercise) in pairs or small groups.
Planning: Learners prepare a report for the whole class on how they did the task and what conclusions they reached.
Report: Learners present their findings to the class in spoken or written form.

3. The Post-task Perspective
The teacher, after having had the lesson done in the class by students in his/ her supervision evaluates various aspects of the lesson with a view to investigate whether the lesson experiment turned out to be successful or unsuccessful. He/She also focuses on both positive as well as negative aspects of the lesson and plans ahead accordingly. Feedback on the learners' performance at the reporting stage may also be appropriate at this point.

Brief Profile of Learners
The sample population of this study comprised students of B.A. (Honors) P-I English at University of Jamshoro, Pakistan. Learners in this context age between 18-20 years. They come from diverse socio-cultural backgrounds. They possess mixed proficiency levels. In general, students L2 background is linguistically weak due to poor L2 exposure and input at all earlier levels. They, therefore, need Stephen Krashen's comprehensible input in low stress situations formula and Atkinson's justified L1 use provision so that they are provided necessary comfort zone. The learners classify as 60% public sector, college students 15% Hyderabad based, 15% cadets and a 10% minority of self motivated fast L2 uptake students.

Goals of the Activity
- To maximize the use of target language.
- To gain maximum possible fluency in the target language.

- To break through *speaker's block* by compulsively yet naturally using the target language.
- To exercise communicative competence with utmost efficiency.
- To share relevant information among the group members.
- To allow learners to become more self-directed and autonomous learners.

Role-Play Activity: Rationale

One of the most important facts highlighted by second language research is that progress does not occur only when people make conscious efforts to learn second language. More of progress occurs as a result of spontaneous, subconscious mechanisms, which are activated when learners are involved in communications with the second language. Littlewood (1984) implies that almost our whole teaching effort should be directed towards creating contexts for language use in the classroom, by Task-based means such as listening and reading activities, discussions, communicative tasks and role-play. These contexts should enable learners to construct their own representation of the target-language, in the same way as they would do in a natural environment and pass through the same sequence of development as a natural learner does contrary to traditional language-teaching activities like objective structure practice, word memorization, empty drilling, form focusing and habit formation/ rote-learning, which are not sufficient means to develop the ability to communicate in a language.

Task-based learning approach serves the asked –for purpose as it offers structured approach to language learning by supporting the notion that learning occurs most effectively when related to the real life tasks of an individual, Wang and Peverly (1986) recommend Task-based learning principle by defining effective learners as being effectively and cognitively active in learning process. Students who were actively involved in this "simulation" role-play activity happen to be at the advanced stage of their careers i.e. undergraduate university freshmen. These students being adult and independent qualify to take responsibility of their own learning in the light of teacher encouragement and guidance.

Harmer (2007: 352-353) observes that "many students derive great benefit from simulation and role-play. Students simulate a real life encounter (such as a business meeting, an interview or a conversation in an airplane cabin, an office, a hotel foyer, a shop, or a cafeteria etc) as if they were doing so in a real world. They can act out the simulation as themselves or take on the role of a completely different character and expect different thoughts and feelings they do not necessarily share."

This role-play activity relates also to the real life of the students as many a time they get into situations where they need to discuss issues, hammer out solutions and reach consensus as they are seen doing in this activity. Harmer (Ibid) further observes that

"simulation and role-play can be used to encourage general oral fluency or to train students for specific fluency or to train students for specific situation…" However Harmer (Ibid) calls on the teacher "to provide enough information about the background of the target situation…." which these researchers have already taken care to do. Scrivener (1994: 69-70) also authenticates this view "simulation is an excellent way to get students using the language.

It essentially involves using the imagination to make oneself into an other character or the classroom into a different place… by bringing the outside world into the classroom practice, we can provide a lot of useful practice (in cafes, shops, offices, business, streets, parties etc….These can also be a freeing from the constraints of culture and expected behavior; this can be personally and very liberating. Curiously, it is sometimes the shyest students who are most able to seize the potential. Task-based learning, being an integral part of learner-centered approach, thus has become an ideal approach toward English Language learning today.

Maximum amount of L2 Interaction during the Task 1
Elliss (2005) in his article of "Principles of Instructed Language Learning" in the Asian EFL journal observes"…successful instructed language learning requires extensive L2 input… and opportunities for output…" Ellis (Ibid) further says, " The opportunity to interact in L2 is central to developing learners L2 proficiency… and that for assessing learners L2 proficiency, it is important to examine 'free' as well as 'class' production." Nation (2001) advocates the maximum use of L2 and suggests teacher to choose manageable, non-threatening tasks that are within the learners' level of proficiency, inform learners of the value of the task in terms of ultimate objective, and get learners to pretend to be native speakers during the task practice. Nation (2003) also emphasizes the use of L2 in low-stress, context-based classroom situations.

Keeping the above L2 research indicators in mind, researchers have also designed the group discussion task (Lesson Plan: see Appendix) in such a way that it includes all these factors.

Use of L1 during the Task 1: Justification
Since the learners who researchers related to, and who researchers had prepared the task for, possessed weak L2 base; researchers, therefore, allowed them justified use of L1 provided:
  a. They did not understand key words.
  b. Could not decode a concept.
  c. Instructions of the teacher were not clear to them.

Post-Task Perspective: Achievement of Objectives
(i) Task Evaluation
A questionnaire of task was used to collect information on students' ideas about the activity conducted. Task-based learning turned out to be a highly effective way of learning speaking skills/ oral fluency/ communicative competence. The learners excitedly reported to have done the amount of speech which they had never done before in classroom situation. They reported very positively on having tremendously improved in all the targeted areas/ objectives.

(ii) Task Analysis: Reflection on Future Professional Development
Researchers were glad to discover that English Language community would often unknowingly use many TBL-LC methods in class contexts but now that researchers experimented the success of task-based learning approach and were fully trained to "teach" in the real sense of the word –then of course "facilitator, motivation, learner autonomy, language theories, reflection, process technique, learner-centeredness, lesson planning, and task-based learning" will now serve researchers as key words in form of our professional diction and practice.

(iii) Task Synthesis
The experiment researchers had by the use of this approach has given further deeper insight into the background of language learning, use of L1 and L2 along with language learning theories and their applications, and on top of all, enabled researchers also to use L1 if researchers are convinced that the learners are at a stage of L2 development where they deserve a comfort zone or if the teacher feels that L2 interferes with his instructional objectives. Situations in which overuse of L2 may intimidate learners there also L1 use is conceptually justified Schweers (1999) encourages teachers to "…starting with L1...it provides learners a sense of security and validates their lived experience, allowing them to express themselves without fear…" Duff (1989) "allows carefully regulated L1 use as he believes that it can help learners develop three characteristics essential for language learning, flexibility, fluency and clarity.

Language Support: After thought provide
Lev Vygotsky's psychological view goes well with L1 use, provision of offering learners "zone of proximal development" in which teacher serves as scaffold to learner and provides this proximal scaffolding to learner through all stages of his development. It can be said that L1 use encourages learners' ability to communicate during the task, focusing more on "meaning" than "correct use".

This is exactly what happened in class too. It was noticed that researchers scaffolded learners' gradual development through all the minor as well as major phases of the lessons only being around all the time during which learners did the given task.

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Objective Achievement Report
Source: Learner feedback obtained through follow up task
Activity Features

- Learners were given a situation. (Learner-centered)
- Learners acted as members of Board of Governors. (Task-based)
- Learners were grouped to reach a consensus.
- Learners had to reach a decision. (Take Responsibility)
- Teacher took the feedback from the groups. (Had to respond)
- Learners had to give reasons for their decisions. (Had to work seriously)
- Other groups may agree with them or not: option. (More involvement)

Achievement Indicators

- Situation seemed real one. Learners got interested in doing it.

- Role play: the learners imagined and felt like real BOG members and spoke freely without inhibition.

- Result of decision was important so language was used in real context.

- Learners had to think, analyze and justify their decision no one buys illogical ideas.

- Other groups had a purpose to listen to the presentations in order to agree or disagree.

Task 2: Role-play Activity Assessment Questionnaire
Task two was a rating of the activity to assess the students' ideas about the effectiveness of the role-play (speaking) activity conducted in the class. It was a ranking task where the students' had to rate the statements about the target activity on a scale of 1 to 5, 1 being the least useful and 5 the most useful. There were 5 questions given in form of a handout (Appendix 2).

Data Analysis:
The data collected was analyzed using SPSS version 12.01. Descriptive statistics (mean and standard deviation) was used to identify any significant difference that exists between the perspective on the effectiveness of role-play activity among the respondents and the various demographic characteristics at a significant level of 0.05.

Table 1: Mean and Standard Deviation on Role-play (speaking) activity aspects

Statements	Mean	Standard Deviation
The activity enabled learners to speak fluently in target language	3.86	0.86
The activity enhanced the learner's communicative competence.	3.69	0.91
The activity assisted the learners to gain confidence	3.55	0.85
The activity motivated the learners to speak freely in the given situation	3.51	1.01
The activity encouraged the learners acquire some autonomy and independence.	3.47	0.97
Overall	3.63	0.56

On the whole all five aspects of the activity included in the questionnaire proved useful for the learners. The mean scores ranges from 3.47 to 3.386. Analysis of activity reveal in Table 1 that the activity helped learners speak fluently in the target language is deemed to be the most useful aspect (Mean score of 3.86), The statement 'The activity enhanced the learner's communicative competence.' (Mean score of 3.69). And among the other aspects listed about the effectiveness of the activity, it seems that students considered that role-play activity gave less autonomy and independence to them.

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Appendix 1: Lesson Plan

Age:	18 and above
Level:	Advanced
Time:	120 minutes
Topic:	Lay off/ Termination
Skills in Focus:	Speaking
Activity Type:	Role Play
Number of students:	40
Activity Description:	Group Discussion
Number of Groups:	08
Number of Students in each Group:	05
Approach:	Task-based Learning
Task: Problem-solving:	Reaching consensus
Teaching Aids:	Handouts
Anticipated Problems	Time management

Solutions
   (1) Extended 120 minutes conversational class available at university level
   (2) Proper time allocated time in advance for each stage and step of the activity

Objective: Oral fluency practice

Situation
Each group plays the role of a managing board of a small company. The company has been going through a series of financial losses recently. The managing board, in its earlier meeting, has decided to gradually downsize the company staff. Your immediate task is to make beginning of downsizing process by firing/ terminating one person. (There is no way of doing this) which one of these people will you terminate? You need to quote strong arguments in support of your opinion.

- Bano is an irregular time-keeper (in particular) but when she is in form she is perhaps the best workers you have. She is 30.
- Saleem is the foreman. He does very little. The workers like him as a person. He is 50.
- Kazim is the shop assistant. He keeps the workers quiet by promising action when they protest against his laziness and does not do much. He is 45 and alone.
- Amena is not a good worker but she has been with the firm for twenty years. She is 47. She has eight children.
- Ali is very lazy. He knows a few private secrets of you (member of the managing board) which you do not want him to disclose. He is 25.
- Adeel is a union leader with a lot of influence. He is aggressive. He is 40.

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Procedure
Step 1: (03 min)
Teacher greets the students and explains to them the situation in question. E.g. for motivation teacher can ask students, "What to do if a machine stops working?"
It is assumed that the students say, "We should detect the fault." The teacher asks in return, "What if one of the machine parts is rotten?" Students are expected to say, " We should remove this part." "This way the teacher would pave the way for upcoming task.

Step 2: (02 min)
Teacher displays the visuals prompt (graphic version of pre-production model) to learners which he has designed on visibility large hard paper sheet. He puts the same on the black board- thus explaining to learners the exact seating order they have follow, the position and posture they have to take and space they have to maintain among one another and among others' groups.

Step 3: (02 min)
Teacher substantiates the graphic description with his verbal explanation of the same.

Step 4: (03 min)
Teacher then reads out slow and aloud to learners the operational framework which serves as discussion jurisdiction to learners. Digression in advance level discussion is something which is reported by practitioners to have often happened. Teacher ensures that the learners stay on the theme-track by asking them to remain within the limits of given work.

Step 5: (02 min)
Teacher tells the students to speak as freely as possible. He also tells them that they can make justified use of L1 of any one gets stuck up during the discussion occurs and that they should not act as monitor over users and should not fear inaccuracy, but can seek support of peers/ tutor to find out what to say and how.

Step 6: (03 min)
Teacher also invites students to make further queries and discuss their difficulties (if any) allowing them to use L1.

Step 7: (03 min)
Teacher tells learners that the number of learners in each group is five.

Step 8: (07 min)
To form balanced groups, the teacher allots one and the same number to five different students in a series: 1,2,3,4,5…1,2,3,4,5…1,2,3,4,5… then asks students to break into groups in accordance with their numerical classification.

Step 9: (05 min)
Teacher distributes the handouts carrying clearly mentioned instruction covering the sequence of all stages of the activity and asks students to read them carefully.

Step 10: (25 min)
Learner begin interacting on the task given in the handout while the teacher goes round facilitating the discussion and by providing L1 support as and when necessary.

Step 11: (40 min)
After thorough discussion each group of learners produces the targeted task (arrived at opinion) within allotted time.

Step 12: (25 min)
Each group is invited in front of the class to defend their decision in the face of peer questions.

Appendix 2: Role-play Activity Assessment Questionnaire

Role-play Activity Assessment Questionnaire

Rate the following statements.	Scale
1.The activity enabled learners to speak fluently in target language	1 2 3 4 5
2. The activity enhanced the learner's communicative competence.	1 2 3 4 5
3. The activity assisted the learners to gain confidence	1 2 3 4 5
4. The activity motivated the learners to speak freely in the given situation	1 2 3 4 5
5. The activity encouraged the learners acquire some autonomy and independence.	1 2 3 4 5

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Exploring Gender Disparities in Citizenship Education in Botswana Colleges of Education

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Abstract

The study examined and analyzed the problem of gender disparities in citizenship education in Colleges of Education in Botswana. The main objective of the study was to find out whether there are gender disparities in citizenship education in Colleges of Education and how those instances are addressed for the better. The study used qualitative methods of data collection which included interviews, observations and use of questionnaires. The qualitative analysis was used to provide explanations and descriptions as well as references to both primary and secondary sources. Two key Colleges of Education were used as research sites where interviews were carried out as well the administration of the questionnaire. The questionnaire was designed for students who specialize in Social Studies and the interview guide was formulated for Lecturers in the Social Studies department in the respective Colleges of Education. Using both primary and secondary sources, the study revealed that there are gender disparities in citizenship education in Colleges of Education. The findings highlight that the learning of citizenship education values needs to include a more pluralistic and a multicultural understanding of gender relationships. The study concludes with suggestions on engaging gender mainstreaming agenda in response to gender disparity in citizenship education. Gender mainstreaming involves including the perspectives of both females and males at the design, planning, implementation and monitoring phases of the curriculum. As things are now, the study reveals that female students are primarily disadvantaged in a number of instances because of their gender.

Key words: Citizenship Education, Gender, Gender Bias, Hidden Curriculum Patriarchy, Sexism, Sexual Orientation

Background of the Study

Attention to and concern about education for citizenship appears to have increased in recent years throughout the world. Some of the reasons for this increased attention vary from country to country. Common themes in various countries include a concern about low participation of women in local and national elections and marginalization of some young people especially women from the mainstream society. Women are seriously marginalized by their inability to secure economic independence and this in turn prevents them from enacting citizenship (Madeleine, 2006).

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In Botswana, the advancement of women can be read from the extent to which they have been constrained or assisted to develop as individuals as well as being members of a society at the levels of the household, the community, various institutions, and the nation at large. At all these levels, Botswana women are still subordinate to men. For instance, there is a living and troubling reality of unequal access to power and decision-making, existence of sexism in educational curriculum and gender stratification of careers. Education institutions at all levels are both hierarchical and bureaucratic structures which while not implicitly gendered, their top-down line management hierarchy have been colonized by men through the discourses of neutrality and objectivity. The male colonization of the organization and management of schools are evident in school unions, institutional management structures and decision-making processes (National Gender Programme Draft, 1997).

In Colleges of Education, female student-teachers may find it easier to choose the well travelled gender road of majoring in the arts and the humanities. Once admitted, female students find that academic life exemplifies a male mode of performance. The values of competition, individualism and aggressive classroom debates become stronger than in high school. College men quickly learn the value of catching the attention of faculty and their self-esteem continues to improve and soon outpace that of the female students. Women entering college experience a small, but measurable drop in self-esteem. Women also discover early that they receive less college encouragement for their work and will be listened to less and interrupted more than their male counterparts. This is certainly a disturbing scenario especially in a state like Botswana which preaches democracy.

Traditionally, women as a social group, as well as both men and women as humans, were united by the cultural values and practices connected to cooperation and participation (such as *Mafisa*, *Letsema* and *Mojako*). These values were taught through socialization, initiation schools and vocational training. Some of these values are still in existence today. They are not integrated into the modern value systems of individualism and meritocracy. As a result, women are disunited and rarely work cooperatively in the public sphere even though they work cooperatively in the private sphere, for example, organizing informal banking or burial societies. This inability to integrate traditional values constrains women's capacity to use their invaluable experience in the public sphere (National Gender Programme Draft, 1997).

There is an inherent bias in the curriculum content that portrays women in unfavorable lights or ignores them altogether as contributing members of society. For example, in the Social Sciences, History texts are overflowing with examples in which boys and men have been nurtured to gain high levels of achievement and success while girls and women have had their options limited and their growth curtailed. Men in most cases will be

shown as hunters, leaders and providers. Women had to be guardians of the hearth and raise and nurture children (Ornstein and Hunkins, 1998).

Basing on the above contentions, the study sought to identify and critically investigate how gender disparities can be addressed in Colleges of Education so as to promote a society which reflects democratic principles and values on an a scale of equity. The following questions were posed to guide the study:

- What is citizenship education?
- What is the relationship between gender and citizenship education?
- Are there any gender disparities in citizenship education in Colleges of Education?
- What are the likely causes and effects of these disparities on the learner?
- How can these gender disparities be addressed?

Methodology

The study followed mainly qualitative research methodology. Participants were selected from the Social Studies department of the respective colleges. A sample for the questionnaire consisted of 50 students and 7 lecturers. Participants were both males and females and had a multicultural background. The researchers used purposive sampling. Purposive sampling permits logical generalization and maximum application of information to other case (Cohen, Manion and Morrision, 2000). For example, group A of female students was chosen as the researchers were studying gender disparities affecting female students. Group B of male students who are less affected had been chosen because they indicated most distinctly the factors which contribute to gender disparities and how those instances could be addressed. Group C of lecturers of Social Studies was chosen to report on curriculum related matters.

The study used three kinds of data collecting instruments; a questionnaire, interview and participant-observation. The questionnaire was designed for students and the interviews for lecturers on a one-to-one-basis in both colleges. Observations took place during the interview sessions. Questionnaires were adopted because they tend to be more reliable and anonymous. They also encourage greater honesty (Mason, 1978). Interviews enabled respondents to respond in their own words to express their personal perspectives (Cohen et al, 2000). Participant- observation was useful for gaining an understanding of the physical, social, cultural and economic contexts in which the subjects live, the relationship among and between people, contexts ideas, norms and events and people's behaviours and activities (Maykut and Morehouse, 1994). In this regard, the combination of the three methods enabled the researcher to explore the opinions of students and lecturers on gender disparities in citizenship education.

Limitations of the study

There are limitations that affected the study. Firstly, the researcher instruments, the questionnaire and interview schedule had some limitations since some student-teachers wanted to be followed more than once before they could return the questionnaires. Some lecturers bluntly refused to be interviewed. Secondly, gender also influenced the responses of the interviewees, thus affecting the findings of the research. The validity of the findings was also affected by the fact that one of the researchers pursued a study at an institution where she was an employee. Lastly, resistance occurred on the side of male lecturers when the issue of power relations was being discussed and challenged. Discussions on issues of gender are always sensitive and the same also became true in the case of this study since some subjects were not willing to open-up during the discussions because of the nature of the study.

Results and Discussion

Profile of students

Table-1: Profile of students

		No	Percentage
Gender	Female/male	18/7	72/28
Age	20 - 30	20	40
	(30+)	(25)	(100)
Work experience	0 - 5	0	0
	10 years +	25	50

Of the 25 students in the sample, 18 (72%) of the respondents were males and 7 (28%) of them were females. Gender is important since it showed us which sex is mostly specializing in Social Studies. The results also implied that female students still dominate in primary Colleges of Education because the teaching profession is downplayed as a female profession. This is not surprising because teaching is still regarded as a feminine career more especially at primary level where it entails caring and nurturing which is technically seen as a mother's chore. Regarding age, the results indicated that 25 (100%) of the respondents were more than 30 years of age. Age is important because people's judgements depend strongly on the age and age is presumed to be guiding one's reasoning. 25 (100%) of the respondents had more than 10 years of teaching experience. Teaching experience is important because one expects those with teaching experience to make sense of complex information, solve problems and communicate effectively. In this regard, the work experience made them to understand gender disparities in citizenship education better since they have attended workshops or in-service training on gender issues. This was reflected by the responses provided by those with teaching experience.

Of the 25 students in the sample, 16 (64%) of the respondents were males and 9 (36%) of the respondents were females. 20 (80%) of the students are less than 30. This is not surprising because the College admits pre-service students. Age is also important to analyze at Temba College because youth culture involves a degree of rebellion against lecturers, which can cause conflicts between the generations. The youth put much emphasis on establishing their independence and on personal attractiveness.

Table-2 Demographic data results of Temba College (Not a real name)

		No	Percentage
Gender	Female/ male	16/9	64/36
Age	20 - 30	20	40
	(30+)	(5)	(20)
Work experience	0 - 5	0	0

Results as per the Results Questions

The results showered that perceptions regarding gender disparities in citizenship education in two colleges differ in some aspects. The findings also revealed that there are gender concerns in both colleges particularly on the causes of gender and indicators of gender disparities in citizenship education. Factors which influenced these results were that the two colleges admit students from different backgrounds in terms of age and experience. Citizenship education is therefore learned differently by different students according to the policy decisions of their college. Results and the discussion are organized around the four major themes. The first theme looks at the interpretative frameworks for the understanding of the meaning of citizenship education. The second theme relates to gender disparities in citizenship education. The third theme looks at the causes of gender disparities in citizenship education. The fourth theme focuses on various ways in which gender disparities can be addressed.

The Meaning of Citizenship Education

The results from Flora College indicated that the majority of the students preferred to define citizenship education as a process that equips students with skills and knowledge to know their rights and responsibilities. The definition has been derived from Marshall 1964 cited in Cains, Courtney, Mackinnon, Michelmann and Smity (1999). In Marshall's view, citizenship has three aspects: civil, political and social. The civic bundle includes the rights necessary for individual freedom-liberty of the person, freedom of speech, thought of faith, the right to own property and to conclude valid contracts and the right to justice. The political bundle holds the right to participate in the exercise of political power, as a member of a body.

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The social bundle comprises the whole range from the right to a modicum of economic welfare and security to the right to share to the full in the social heritage and to live the life of a civilized being according to the standards prevailing in the society. At Temba College, most of the students defined citizenship education as a process of preparing students to make sound decisions when faced with numerous problems. Citizenship education should prepare citizens to make judgmental and sound decision-making when they are faced with numerous social problems such as drug abuse, prostitution, corruption, tribalism, nepotism to name a few (Jotia, 2006). The *Kagisano* (social harmony) principle has recommended that education should be based on democracy. Democracy here implies that all people in the country should have a say in the determination of their future: to take part in decisions that affect their life, not only at political elections, but also in community, social and economic matters.

From the above results, it could be advanced that the responses indicated a general understanding of the concept of citizenship education. For example, the results at Flora College revealed that respondents preferred to relate citizenship education to the social bundle of Marshall's view where she asserts that citizenship education is about belonging to a group or community and about the rights and responsibilities associated with such membership. Citizenship is also a practice whereby people are able to participate in shaping their societies. At Temba College, respondents related the understanding of citizenship education to the civil bundle. The civil bundle includes the rights necessary for individual freedom-liberty of the person, freedom of speech, thought of faith, the right to own property and to conclude valid contracts and the right to justice. None of the responses I got linked the definition of citizenship education to the political bundle. The political bundle values the right to participate in the exercise of political power and as a member of the body.

Gender Disparities in Citizenship Education

The results at Flora College indicate that gender disparities are more visible during teaching practice where males will be allocated to teach upper classes while female students will be allocated to teach lower classes. Allocation of classes in the respective schools is done by the lecturers not students, hence the gender bias. Lower classes at primary level are associated with the private sphere which entails caring and nurturing. At Temba College, comments raised by the students such as; favouritism, popularity, intimidation and sexual harassment indicated that there are gender disparities in citizenship education at Temba College. Popularity in educational institutions is tied to sports. For females, there is pressure to find a partner and simultaneously work toward career goals. Females highlight career goals for immediate ambitions, but when thinking about motherhood, career salience decreases significantly. For male students, sports provides powerful gender identity messages; boys who cannot perform in sports can lose self-esteem and more so if they do co-educational sports. According to Stone and McKee,

cited in Lindsey (2005), more money and facilities are given to sports for males. The findings have revealed this point. For example, most of the students who are engaged in sport are males and obviously they tend to get better treatment from the college staff, both males and females.

Causes of Gender Disparities

Students at Flora College perceived the causes of gender disparities as emanating from culture and socialization. Concerning issues of culture and socialization, the female students emphasized that when they were young and now as mature adults, they expected to get married and as such career options and ambitions for educational advancement were limited and gender specific. On that note, it is relevant to point out that citizenship is learned differently by different social groups according to their assumed status in society. Even where women are not constrained by family commitments, their role and status within society may already be embedded in social structures that define men and women normatively according to their gender (Preece and Edirisingha, 2001). Other students at Flora College demonstrated that the cause of gender disparities in citizenship education emanates from the Social Studies curriculum. For example, textbooks that are used in Social Studies reveal women on the dark side. Men's roles are mentioned in history books while females' roles are invisible.

Gender bias in the curriculum is supported by Ornstein and Hunkins (1998) who assert that schools have served to marginalize the less fortunate. Patriarchal knowledge skills are still viewed in everyday practices in the discourses of higher education. Feminist scholars argue that schools and Colleges reinforce and maintain gender stereotypes through components of the curricula. For example, most Social Studies textbooks have a tendency to make women invisible by not including them in the text content. Once in a while, women are added as a supplement to the achievements of men. In this case, the reader will get the impression that males are the norm, that they are valuable and worth knowing about (Mazile, 1997).

At Temba College results have demonstrated that students view the causes of gender disparities in citizenship education as emanating from lack of involvement in decision-making and conflicts of generation gap. It should be noted that there are still challenges facing Social Studies in decision-making process. For example, the students revealed that Colleges of Education do not help students build a more democratic society. That is to say, they still socialize students to be passive observers of phenomena and the majority culture's view of reality reproduces ideology of domination.

How to Address Gender Disparities

Respondents from Flora College have suggested that teachers need to vary their teaching methods and sensitize students about gender issues. They also noted that objectives of

citizenship education need to be reviewed to address gender disparities in citizenship education. Salia Bao (2000) supports the suggestions provided by the students at Temba College and further points out that objectives of citizenship education should develop an understanding of the nature and scope of educating for active citizenship from a multicultural standpoint. They should also develop skills for planning across the curriculum experiences. Citizenship education should also develop a sympathetic appreciation of the diversity and interdependence of all members of the local community, the wider national and international community. This can be done by recognizing the potentials and capabilities among students irrespective of gender. Students must also be given inclusive alternatives.

At Temba College the majority of the participants were of the view that students need to be consulted and be involved in decision-making pertaining to problems affecting them. Lecturers should stop favouring females in marks allocation in exams and during teaching practice. In some instances the respondents reflected that at times high grades are given so as to compliment sexual favors. Popularity should also not be a factor for success. Students also indicated that potentials and capabilities must be recognized amongst students to overcome gender disparities. For their part, students were of the view that that the college treated them like children by not involving them in decision-making pertaining to issues that involves them. Colleges of education should aim at making students tolerant and also respect their individuality and diversity. Independent decision-making should be placed at the heart of the teaching of Social Studies. By so doing, the Colleges of Education will be getting closer to fulfilling the realization of democratic and equitable education in a pluralistic society.

Lecturers Perspectives on Gender
Results from the interviews showed that lecturers defined citizenship education basing on what they want to achieve from the learners at the end of the programme. Most of the lecturers defined citizenship education as that part of education that intends to impart skills and knowledge to the learners to know their rights and responsibilities.

A male lecturer at Flora College pointed out that citizenship education should be capable of instilling in the youth a very strong value system which will enable students to uphold the image of their society. He further noted that citizenship education should liberate citizens to take part in decisions that affect their life, not only during election time, but also in community, social and economic matters.
 A male respondent from Temba College herein referred to as MLTC (Male Lecturer at Temba College) helped to clarify the definition:

Citizenship education should be capable of instilling in the youth a strong value system which will enable them to uphold the image of the society they live in. These involve a

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clear knowledge about national principles, values, customs, norms and beliefs as well as emerging issues in society.

From the above definitions, it can be posited that most lecturers defined citizenship education basing on their philosophy of teaching. It should be noted that citizenship education is open to debate. There are a number of viable definitions. For example, the term is usually used to refer to an understanding of how government functions, and the acquisition of behaviour that allows citizens to participate in government and permits individuals to meet, discuss and collaborate to promote their interests within a framework of democratic principles (Putman, 2000 cited in Larson, Brown and Mortimer, 2000).

In the research's attempt to assess the existence of gender disparities in citizenship education, the results from the two colleges show that there are gender disparities in citizenship education. Respondents said that female students are still stereotyped in the selection of courses. They prefer to specialize in Languages, Home-economics and Social Sciences but not practical subjects like Arts, Physical Education and Music. Maths and Science are regarded as difficult subjects to be handled by females. Gender disparities are also visible in levels of participation in Social Studies lessons. Most women have low self-esteem and they hardly participate in classroom debates. Some lecturers believe that it is normal for female students to be passive and quiet in class and for the males to be active.

Responses from interviews also indicated that there are gender disparities in citizenship education although they try to use a variety of teaching methods; female students' lack of participation still prevails. A Female Lecturer at Temba College (FLTC) noted:

It is a pity that the teaching methods that we usually use in our college do not employ gender. As lecturers, we put more emphasis on the child centered methods to cater for individual needs.

From a different dimension, MLTC observed:
The current Social Studies books would seem to be gender biased but the lecturers are conscious and sensitive about gender related matters. It is too early to expect total eradication of gender related issues. In the final analysis, it is fair to say that there are some forms of integration.

Another respondent, MLTC added:
To some extend there are some gender disparities, to give more light on this, there are more females than males in Colleges of Education. For example, most of the head of departments are ladies. Another proof visible is in the year 2 Social Studies where there are only three male students in a class of 13.

From the above views, it should be noted that although women hold these senior posts, their presence and output are invisible because men tend to undermine their authority and in most instances do not take them serious. When asked whether the curriculum has great influence on gender and citizenship education, lecturers from Flora College commented that the officially prescribed curriculum has great influence on gender and citizenship education. The structures in Colleges of Education are still organized in terms of formal distribution of space to enable the lecturer exercise his authority. One lecturer in the same College said:

The hidden curriculum is taught by the college, not by any lecturer… something is coming across to the students which may never be spoken in social studies lessons. Students pick up an approach to living and an attitude to learning (FLFC).

The implication of the above statement is that students learn through the experience of attending school rather than the stated educational objectives of institutions. To add on that, when lecturers pay more attention to males, the situation gets better for the females. One male and female lecturer at Temba College commented that the official curriculum has great influence on gender and citizenship education. Some lecturers have developed values and manners of dealing with information that favours men over women. Many lecturers' even female lecturers favour male students and give them more time in the classroom interactions. If structures can be changed, lecturers can be innovative and employ methods that promote democracy.

One of the respondents, MLTC, denied the existence of gender disparities in citizenship education: Gender does not come into the curriculum. The curriculum is neutral because it does not discriminate against girls or favor boys. In a sense, the playing field is just level.

In an attempt to find out whether gender is integrated into the philosophies, policies and practices underlying the Colleges of Education programme, two lecturers at Flora College commented that gender is not integrated. The problem is that most lecturers do not know their philosophy of teaching or basically they seems not to have one since they still teach in a traditional way and not setting goals on what they want to achieve on the learner. In responding to whether gender is integrated into the philosophies, policies and institutional practices, some of the lecturers, FLTC interviewed had this to say:

Lecturers should set goals they want to achieve from learners because with that they can strive to be innovative in their teaching styles and produce good citizens who will be able to participate in their own country.

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Another point of observation by MLTC advanced:
As lecturers we feel that the priority is to promote the child centered methods because such methods promote individual needs not collective needs and therefore a gender sensitive teaching style is not yet a priority. Lecturers commented that gender issues in the classroom affect both male and female students in a different way. For example, those who are discriminated may feel isolated and end up not willing to try anything new. Women may experience measurable drop in self-esteem. Those who are discriminated can perform badly in their studies. Gender disparities can also cause conflicts among students. Those favoured may feel that there are more superior to the other party. Students may lose interest in their studies more especially in subjects where gender disparities prevail.

With regard to how they deal with gender disparities on their daily basis, lecturers said that they emphasize confidence among learners and display positive encouragement to any good performance. They try by all means to assign duties and responsibilities irrespective of gender. Some said they infuse gender so that learners can be aware and conscious of gender issues. They encourage females to mix with males so that they can learn from one another.

It should be noted that, the English language frequently labels women in some positions. For example, lady doctor, woman scientist to mention a few. It is reflected that it is not a norm for women to hold such positions (Mazile, 1997).When responding to how gender disparities can be addressed, the following suggestions were put forward, that Lecturers should avoid the usage of language that discriminates and use inclusive language so that the value of both women and men is reflected in the classroom, in textbooks and instructional materials. Teachers should be sensitive to the comments directed to males and females interactions. They should monitor stereotypes and biases perpetuated through jokes and comments that intend to intimidate. By so doing, lecturers would discourage insensitivity and putdowns. They further suggested that all students should be given the opportunity to respond as per their physical and mental capabilities. Students should also be exposed to a curriculum that is capable of helping individuals develop their potentials, regardless of gender. The male lecturer at Temba College supported the view of the other lecturers and added that as part of education, it should not be taken for granted that the modern generations are aware on gender issues because they enhance it. He suggested gender based workshops and seminars to be mounted to help increase the percentage of gender literate graduates.

Conclusion
From the responses given by the students, it can be concluded that the major cause of gender disparities in citizenship education is the curriculum. Curriculum texts and course outlines depict masculine narratives and discourses of male knowledge. There is also

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imbalance where issues and facts will be interpreted from a male perspective while leaving out women's opinions, views and the interpretation of issues, even if women have played a significant role than men. Lack of gender sensitivity negatively impacts on female students and such a scenario ultimately affects their performance and also perpetuates the problem of male domination in society. The findings of this study suggest that all textbooks which make use of male biased language and portray the female and male sexes only without recognizing the other, promote stereotypes and should be replaced by gender balanced texts. Colleges of Education should include gender issues in their curriculum which will ensure that education and teacher preparation programmes are equally sensitive to both sexes. Student teachers should be trained to encourage both male and female students to accept leadership roles within the school and in their respective communities. Cultural stereotypes and marginalization also perpetuates the problem of gender disparity in Colleges of Education and it is certainly high time that the Social Studies curriculum should take a shift so as to embrace a multicultural content which promotes socio-cultural pluralism.

Implications for Practice and Research
Due to the limitations of the study indicated above, this may act as a stimulus for further research on factors that contribute to gender disparities in citizenship education and how those instances can be addressed. The study have revealed that not only female students and female lecturers are discriminated but also that male students and male lecturers experience some form of gender disparities. Therefore, more research is needed to find out factors that contribute to the problem of gender disparities and social imbalances perpetrated by sexual orientation. The researchers recommend further research on gender disparities using different forms of instruments for validity as well as covering more research sites so as to get a large pool of opinions. If at all Botswana is serious about promoting democratic ideals, it is fundamentally essential that gender disparities at all levels of society should be eliminated.

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Significance of Instrumental and Integrative Motivation in Second Language Acquisition

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Abstract

The major purpose of this study was to investigate the connection of motivational factors in terms of instrumental and integrative motivation with Second language acquisition. Data were collected from a sample of 234 university students using Instrumental and Integrative Motivation Scale. Students' obtained scores on achievement test of foreign language (English) in final examination were used to categories the students as high and low achievers. Results demonstrated that high achievers have high degree of attainment and both type of motivation; instrumental and integrative. Further statistical analysis indicated that over all students' attainment is positively correlated with their instrumentality and integrativeness towards learning the foreign language. However results demonstrated that association between acquisitions and two types of motivation is higher for the high achievers than the low achievers.

Key Words: Acquisition, Instrumental and Integrative Orientation, Motivation, Hogh and LowAchievers

Introduction

Motivation and learning seem to be interrelated with each other. Formally, effective learning appears to be depending upon motivation –more the learner is motivated the more effective learning takes place. Therefore, motivation is considered to be one of the key factors contributing towards effective teaching and learning process. If this process is organized for learning a second language then importance of motivation becomes vital and central to its acquisition. It is therefore, considered to be one of remarkable and considerate variables which usually describes the relationship between individual differences and the level second language acquisition.

Learning of a language is quite natural and instinctive in human life. However, learning a second language indicates the preference and curiosity of the learner. In present times when world has become a global village for providing a competitive environment to live and work, the need of learning a second language becomes obvious. It brings culture and communities closer to each other and creates a society based on principles of peace and harmony. People can listen and understand each other and live for common good of

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multicultural community. The people who realize the need of a peaceful democratic society are always motivated to learn a second language in their respective context.

Motivation is considered to be the basic factor adding to transforming one's wish into reality. In this regard the work of Gardner is appreciated by the educationists generally and psychologists particularly. Larson-Freeman & Long (1994) described that Gardner was inspired by the work of Mowrer (1950) particularly in the area of motivation for learning the mother language. Mowrer was of the view that one's urge for being and wish to be recognized and accepted as an individual within the family and community are the motivating factors and basic reasons prompting him/her to learn a language. It facilitated the Gardner to work on motivation with a major focus to explain its effects on learning a second language.

It seems appropriate to mention that motivation is one of the most significant factors which pave for success of a learner. The socio-educational model of Gardner (1982) described different factors which are linked with one's acquisition of second language. Gardner model was restricted to structured classroom situation and it did not mean to work in free and natural environment for studying the element of motivation for learning a second language. This model basically incorporated four interconnected features of second language acquisition including learners' individual differences, the situation in which acquisition occurs (structured classroom and/or environment), language proficiency, and social and cultural milieu (Gardner 1982).

Integrative Motivation
Students' orientation in terms of motivation towards learning a second language can be considered as the most crucial element in its acquisition. It is a common observation that people who admire a target language & culture and want to assimilate them into that culture feel comfortable in acquisition of (second) language –due to the reason that they are motivated towards it. This kind of motivation is described as integrative motivation. People living and working in societies other than natives, they learn the target language for initiating and promoting social interactions. In such situations integrative motivation becomes compelling factor for successful acquisition of second language (Crookes and Schmidt 1991).

The creation of Pakistan can witness it evidently when in 1947 people migrated from Rohtak and Hasar (India) and settled in and vicinities of Bahawalpur and Multan (Pakistan); they quickly learned each others' languages: Haryanvi and Saraiki, with correct pronunciation and accent. Haryanvese were good at speaking Saraiki and same is true about the Saraiki speaking of the interior Bahawalpur and Multan who successfully acquired Haryanvi language. Pakistan is multilingual and multicultural society, where second language is learned either through integrative motivation or instrumental one. On

the other hand, Japan is a mono-cultural society, where second language acquisition would be predominantly instrumental (Benson, 1991).

Instrumental Motivation
Other type of motivation called 'instrumental motivation' in the acquisition of second language is predominantly pragmatic. The main characteristic of instrumental motivation is to achieve something from learning a second language particularly, for practical life that could be assisting individuals in their career or earnings (Hudson, 2000). Instrumental motivation is concerned with its utilitarian aspects, for instance meeting the requirements for schools or university graduates, finding jobs, higher salaries, or higher status in community. Instrumental motivation occurs in those social contexts in which learner has low desire to assimilate him/her in the culture of target language. Pakistani students learning English as second language will be instrumentally motivated. They acquire English language to get through the examination, or to get a good job, Pakistani English teachers in schools and colleges generally seem to be poor in spoken and listening skills. They generally concentrate on translation and English grammar. Therefore, it becomes instrumental for them to be proficient in these skills of English language.

Integrative versus Instrumental Motivation
Although both types of motivation are vital for the acquisition of second language, but integrative motivation is generally found to be more effective as compared to instrumental motivation in the study of second language (Ellis 1997; Crookes et al 1991). Gardner and Lambert in their studies found that integrative motivation was more significant in structured learning environments (Ellis, 1997). Not only integrative motivation was considered to be more important but some studies also affirmed the importance of instrumental motivation in learning of a second language. Nevertheless to say that only some of the studies focused and pointed out the importance of instrumental motivation and generally integrative motivation has been considered to play a major role in acquisition of second language. Likewise, some studies revealed that majority of the students in Pakistan and as well as other countries like India, Turkey and Japan, attribute it to the instrumental motivation. However, people supported the integrative approach. The people working with integrative motivation approach seem generally to be more successful in acquisition of second language. Pakistani students studying in United Kingdom and/ or United States want to settle permanently in these areas, and are likely to work with integrative motivation.

The situation that provides students no chance to utilize target language, and leaves them with no opportunity of interaction with people of target community, promotes the instrumental motivation. Lukmani (1972) found that female learners in Bombay learned English language with instrumental motivation. The cultural setting assists in determining

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two components; firstly the type of orientation which students will have, and secondly one which is more valued in language learning. Brown (2000) by citing Braj Kachru (1977) stated that although English has become as one of the most important languages of India, however, people working with second language acquisition are instrumentally motivated.

However, Brown (2000) postulated that students can work simultaneously with both forms of motivation. But at the same time instrumental and integrative motivations are not necessarily reciprocally undivided. Students seldom work under one type of motivation. In fact they use a combination of the two forms of motivation. Brown argued that international students residing in the United States and trying to achieve academic excellence as well as cultural assimilation in the society may combine both the approaches.

Motivation in the Pakistani Context
The concepts of integrative and instrumental motivational orientations and their implications in learning English as second language appear to be too simple to describe in Pakistani scenario. However, cost and benefit matter a lot in any human endeavor and same can be seen here. One can measure its effectives and efficacy in terms of cost, time spent and infrastructure used compared with outcomes –acquisition and proficiency of the language. If motivated, the learner concerns mainly and only with end product whatever the cost s/he has to pay. Various factors appear to affect the motivation and its level in learning English as second language including craze of the youth to go abroad and adopt the modern and/ or western life style. Similarly, individual differences and preferences have been observed to influence significantly on the level of motivation to learn English language.

Considering the significance of motivation in acquisition of the second language, the present study aims at exploring the role of two motivational orientations –called instrumental and integrative in learning the (English as) second language. While conducted this study, it was assumed that high achievers simultaneously were highly instrumentally and integratively motivated than the low achievers. It was also hypothesized that instrumental and integrative motivation were positively correlated with learning especially for higher achievers.

Method
Participants
Participants for this study were 234 university students enrolled in introductory course of English. In spite of being drawn from different departments of Bahauddin Zakariya University in Multan, the participants were very homogeneous in respect of age, mother

tongue, educational level, cultural background, and especially their nationality. The study made use the simple random sampling technique in selecting the sample.

Data Collection Measures
Integrative and Instrumental Motivation Scale

The Integrative and Instrumental scale originally developed by Gardner (1985) and adapted by Zahra Vaezi (2008) was used in the study to measure the students' orientations in terms of two kinds of motivation; instrumental and integrative. It consisted of 25 items with 5-point (likert) rating scale. Responses were recorded as strongly agreed to strongly disagreed and scored as strongly disagreed = 1 and strongly agreed = 5. Items 1-12 measured the level of integrative motivation/ orientation, and 13-25 measured the instrumental motivation/ orientation. A total score on the whole represented the level of motivation. The higher score showed the high level of motivation. For this study, the relevance of this scale was firstly checked by the help of a sample of 10 educationists. They were asked to examine carefully all the items, and then the analysis of the responses revealed that all the items were judged fairly and appeared to be relevant to the Pakistani culture. Finally the scale was used for present study.

Proficiency Measure

In order to determine the acquisition level of students' learning second language, the obtained scores on achievement test given at the mid-term and final-term examinations of English course were used. The two components of the achievement test equally weighted included multiple choice items and short questions about reading and writing skills. For dividing the students into two groups as high and low achievers, the mean score of combined total score (mid & final term examination scored out of 100) was used. Students scoring above the mean were considered as high achievers and those scoring below the mean were considered as low achievers.

Procedure

Participants were selected through simple random sampling technique from the population of Bahauddin Zakariya University students enrolled in the foreign language course (English). Integrative and Instrumental Scale was administered to them. The respondents were informed about the purpose of study, and were given the clear guidelines about how to fill the questionnaire. They were ensured about the confidentiality of information provided by them. Using the mean scores of the obtained scores in mid and final term examinations of the 234 respondents, 140 appeared to be high achievers and 94 low achievers. Finally, the data was coded into computer and was statistically analyzed by using SPSS.

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Results

In order to calculate the differences in the degrees of tested variables; means and standard deviations were computed (Table-1) for the scores of acquisition, instrumental motivation and integrative motivation. To analyze the relationship of acquisition with instrumental and integrative motivation, Pearson Product Moment Correlation was performed. Findings of correlation are presented in Table-2.

Table-1: Means & Standard Deviations for the scores of Acquisition, Instrumental, & Integrative Motivation

Students	Acquisition Score M(SD)	Instrumental Motivation M(SD)	Integrative motivation M(SD)
All Students	68.82(10.52)	44.63(9.44)	37.47(10.74)
High Achievers	77.06(8.75)	58.73(8.38)	46.17(8.62)
Low Achievers	51.34(9.55)	37.61(7.83)	25.31(9.43)

Table 1 shows the differences in the mean scores of high achievers and low achievers with respect to their degrees of acquisition, instrumental motivation, and integrative motivation. The mean scores obtained for the tested three variables demonstrate that the high achievers report significantly higher degree of acquisition, instrumental and integrative motivation as compared to the low achievers.

Table-2: Correlation between Acquisition and Instrumental/Integrative Motivation

Students	Instrumental Motivation		Integrative Motivation	
	r	p	r	p
All Students	.51	.06	.47	.04
High Achievers	.72	.03	.61	.03
Low Achievers	.45	.08	.53	.08

*P<.05

Table-2 shows significant positive relationship between the attainment levels and two types of motivation for the three categories of respondents. Statistical analysis shows that the significant positive relationship exists between higher achievers' attainments and instrumental (r =.72) and integrative motivation (r =.61). However results further indicated that low achievers' attainments and two types of motivations hold positive correlation but is not significant.

Discussion

The present study aimed at exploring the differences between the instrumental and integrative performers in the second-language class. From data analysis it was evident that students with instrumental motivation learnt the second language so as to pass an

examination, to use it in their work, and or even to use it in the country where it is spoken. In this regard findings revealed that high achievers posses the higher levels of acquisitions in learning, and they learn more with instrumental and integrative orientations as compared to low achievers (Table-1). These findings are also in line with the work of Berwick and Ross (1989) who found students instrumentally oriented with the underlying reasons for studying English being successful in examination, and to find good career in future. Why the low achievers are not so motivated in terms of its instrumental and integrative aspects? The reason may be put with the support of the findings of the study conducted by Benson (1991) who noted that the students who were not motivated instrumentally exemplified the view that they did not consider and value English as crucial element for the success in their lives. The study further added that students' not accepting the instrumental orientation in learning English may designate that they perceive their mother language enough to exchange usual daily verbal communication.

Results of the present study also indicated positive correlation between learning/ acquisition and instrumental/integrative motivation (Table-2). High achievers and low achievers were found to be different in respect of their acquisitions and two types of motivation. However, this correlation is high for higher achievers in the class of second language than for low achievers. Therefore, the hypothesis was accepted and found to be consistent with the findings of the study conducted by Sadighi and Maghsudi (2000) who investigated the instrumental and integrative motivation and its impact on students' English proficiency. They reported significant differences in acquisitions between integratively and instrumentally motivated students.

Although the teaching of English in Pakistan is common but is still a complex issue for students. They are directed to learn English to pass university examinations, and to get a good job in future. So far the reasons lying behind motivation towards learning English language is mainly instrumental. Because of the poor listening and speaking skills of instructors of English course, the focus remains on understanding of grammar and vocabulary of English language. However, it was consistent with many older English teachers who were involved in this profession, many young instructors now were emphasizing on to be competent in all fields of the language. Younger teachers were also putting efforts and working hard to make practice of speaking and listening English in the classroom. This thing definitely motivate students when they were exposed the classroom environment where teachers speak English with fluency.

In Pakistan, another important factor restricting motivation of students is the structure of examination composed of speaking and listening skills of students. Due to this fact colleges appear to be having no objective of preparing learners for good linguistic/ communication skills. Certainly, a high range of learners represent the core reason for

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learning English as a requirement for successfully passing the examinations. Therefore, it has been suggested that university exams must be designed in such a way that these would become a source of motivation for students to learn English.

Conclusion

The findings of the present study confirm that students learning the second language are instrumentally motivated. They have also the integrative motivation but among the students high achievers posses the instrumental motivation high in second language acquisition. Study also provides a clear picture of association of students' acquisition with their instrumental and integrative motivation. A significant positive relationship has been found higher between the tested variables for the higher achievers.

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Proficiency and Approach of Mathematics Teachers in the Application of Computers as Instructional Tool in Pakistani Schools

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Abstract

This research intended to investigate the awareness, proficiency and approach of Pakistani mathematics teachers in the application of computers in the teaching process. As a sample, 1200 teachers are taken from four main regions and in four academic levels. Statistics was gathered with the help of a questionnaire. The outcomes are evidence for the fact that although mathematics teachers have deficiencies in computer application but they wish to apply this modern technology in their teaching process. The study also demonstrated that these teachers struggle by themselves to learn and improve their computer knowledge. Results showed that there is diversity in the computer' proficiencies and tendencies of teachers with respect to their areas and teaching academic levels but there was no significant variation with respect to sex. It was also evident through findings that most of the mathematics teachers are unaware about websites of mathematics journal or online learning centers either in Urdu or English .This was also observed that the teachers are unable to use internet search engines to get update knowledge due to their poor proficiency in the use of searching engines. It is proposed to develop the computer proficiency and knowledge of teachers, for applying in teaching process to make teaching/learning process more creative and update.

Keyword: Computer Assistance, Knowledge Proficiency, Teaching Learning Process, Mathematics Teachers, Student Motivation.

Introduction

There are different worldwide propagations about the applications of computers in schools as a mean of instruction, communication and information source. Cuban (2001) thinks to use computers as means of instruction at all academic stages by cognitive development all teachers for modifying the educational environment. Pelgrum (2001) describes the use of computers as a tool to modernize an obsolete educational system and to train the students for modern technological age that will in result plays an active role in the faster development of their country. McAllister and Mitchell (2002) say that use of computers will bring much attraction for both students and teachers in the

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teaching/learning process. Jonassen (1996) elucidates the universal popularity of computers in terms of advancing cognitive development with the use of MSO, databases, spreadsheets, multimedia, e-mail, and network search engines by the students. Literature is evident that for students use of computers has significant role in achieving their academic goals than the outmoded teaching methods (Sterling and Gray, 1991; Lewis 1995; Christensen & Knezek, 2001).

Computers are also helpful for developing the intelligent abilities in students such as decisive and inventive thinking, analyzing, searching, problem solving and making accurate decisions well in time (Johnston, 1987; Budin, 1991; Rose and Ferlund, 1997; Shavinachiina, 1997; Thomas, 2003). On the other hand, according to (McKinney, 1998; Galligan, 1995), some scholars dispute that no doubt computers are playing a key role for modification of education but without teachers' coordination their role is valueless. Vermette et al, (1986) stress that most of the teachers think computers useless in teaching process because it has negative effects on student teacher relations. Additionally, others state that computers have negligible role in education then why it should be given so much value (Healy, 1998; Stoll, 1999).

McAllister and Mitchell (2002) emphasis that computers cause the decline of social and moral values in students because of the fact that they deal with a machine instead of human beings. Consequently, the use of computers creates isolation and sometimes also violation in the students. However, in spite of all these disputations, according to Russell et al, (2003) the applications of computers in schools are constantly escalating. The main reason for this increasing demand of computer is that students think computer much better to complete their academic projects compared to outdated teaching methods (Heywood and Norman, 1988).

However, TAAP (1996) relates this fact in terms of training of the students as competitive citizens of modern technological age. The universal importance of computers is needed trained teachers (Bird and Rosaen, 2005). That resulted in the demand of improving the quality of computer technology. The key target of this demand is to train the teachers in basic computer knowledge and to make them expert in the use of computers in teaching process as instructional tool. A UK Department of Education (DFE, 1995) observed a less use of computers in mathematics means on average only 15.6 minutes per week are spent for teaching. In the United States the condition was similar to UK. A US Department of Education (2000) also make a study on teacher' expertise in the use of computers and reported that only one third of teachers are ready to use the computers as instructional tool in the schools.

Handler (1993) studies also show the similar results that one fourth of teachers qualified from some US institutions are willing for the application of computers in the classrooms.

Additionally, Becker (2000a) reported a national US survey of over 4000 teachers, that most of teachers are unable to use computers in teaching process. However, a few of them utilize the computers, who have sound knowledge of computer and significant number of computers in the classrooms. Oliver (1993) came across the fact that primary teachers in Western Australian think themselves inefficient for the use of computers compared to their qualified colleagues. According to (Ruthvenand and Hennessey, 2002) although there is raise in the use of computers but this rate is still very low. There are many reasons for the less use of computers in teaching mathematics, in which the main reason is that teachers not 1believe in the real value of computers in teaching process. Robert's and Albion's (1997) results also point out the lack of teachers' proficiencies in the use of computer as approximately only 40% of Australian teachers use the computers in schools.

All these findings demanded the more efforts and resources for improving the teachers' knowledge and proficiency so that they are able to use the computers efficiently in the teaching process. Training of teachers is not sufficient in the use of computers but their approach towards the use of computers is also very important. The major issues for concentration are teachers' thinking and approaches towards computer (Albion, 2001). According to Watson (1998) improving the teachers' positive approaches is not only important for the use of computer in schools but also to avoid the hesitation of teachers in the application of computers in classroom.

This idea was propped up by the findings of a few researchers who established a strong link between teachers' attitudes and the beneficial use of computers (Keiffer et al, 1998; Bullock, 2004). Some researchers also describe that teachers' preparation and classroom activities are mostly affected by the teachers' thinking and approaches which consequently manipulate their performance in teaching process (Marankiewicz, 1994). Latest research also proves that the flourishing use of computer in classroom is sturdily affected with teachers' approach towards the application and benefits of the computers. Al-Oteawi (2002) illustrates that those teachers who have little knowledge and proficiency in the computer use, show the most pessimistic approach to the use of computers in classrooms. According to (Pelton and Pelton 1996) teachers' deficiencies in awareness and skills cause hesitation in the use of computers as teaching tool. Nonetheless, the variations in approaches occur also due to gender differences. Wilder et al, (1985); Masssoud, (1991); Moon et al, (1994); Shashanni, (1996); Makrakis and Sawada, (1996); Durndell and Thomson, (1997) state that generally male teachers have the most buoyant approach for the use of computers compared to female teachers, whereas (Allen, 1995) explains that females are more expert in the use of computers and also like to use them in teaching than males.

Nonetheless, there is no variation in the attitude of male and female in the studies of computers (Galanouli et al, 2004). However, in broad-spectrum, males have more positive approach for the computer than females. In Pakistan, both education systems recognize the importance of computer in teaching/learning process but the more fruitful efforts are evident in Private education system. However, government has also realized the value of computer as a best instructional tool. Therefore, government is trying to facilitate the Public school with modern technology. For that purpose sufficient number of computers is provided to schools and computer labs are also constructed along with IT teachers and technicians. Literature reveals the positive outcomes of teachers' awareness, understanding, proficiencies and approaches about the teaching/learning process in other perspective. Thus the current study intends to explore the awareness, proficiency and approach of mathematics teachers about computers in the Pakistani perspective.

Area of Research
The availability of the experimental data about the area of mathematics teachers' computer' proficiencies, approaches and uses in the schools is quite less in Pakistan. As mathematics teachers make an extensive use of computers as an instructional tool in Pakistani schools, it is very important to explore the computer acquaintance, proficiency and approach of mathematics teachers to make certain the proper application of the computers in mathematics classroom. It can also be observed from the above mentioned literature that teachers' computer skills still have not reached the estimated level. So due to the discriminating shortage of studies of the Pakistan perspective it is a serious need to get the knowledge of the level of Pakistani mathematics teachers' attitudes and skills in the use of computers in the classroom.

Methodology
Research questions
Our study focuses on the following questions:
Question 1: How do mathematics teachers pace themselves as regards the basic knowledge of computer?

Question 2: How do mathematics teachers pace their proficiency in the use of software programming, utilization of the internet services and use of computer in teaching process?

Question 3: Do the mathematics teachers think that their proficiencies in software programming, utilization of internet services and use of computers in teaching are different in accordance with the change in their gender, their areas and their teaching academic level?

Question 4: Do the mathematics teachers know about the journal and centers of mathematics websites on the internet?

Question 5: Are the mathematics websites on the internet are beneficial for the mathematics teachers?

Aims of the study
- To explore the computer awareness and proficiency of Pakistani's math teachers
- To know the interest of math teachers' in using computers for teaching
- To investigate how much the internet facilities are beneficial in teaching of math.

Education Systems
Education in Pakistan is divided into two systems; the one is public system while the other one is private system. For that reason the sample of the study has been taken from the both systems. Public Education: consists of four stages: Primary stage from Grade 1–5, Middle stage from Grade 6 - 8 , Secondary stage from Grade 9 – 10 and Intermediate stage from 11-12.Private system has the same four stages, only the primary stage is different because it starts from kinder garden level rather than grade1.

Population and Sample
The population consists of all mathematics teachers in Pakistan (3978 male and female teachers). However, as there is a problem of ambiguity in case of a larger population, four main cities are selected to direct the questionnaire, which are: Islamabad, Peshawar, Abbott bad and Lahore. The total number of math teachers in these cities was 1200.Total of 1200 questionnaires were delivered 1to these teachers, in which some questionnaires were personally given to teachers, whereas others were mailed to them and some were sent through math supervisors. The questionnaires that teacher sent back were 965 (80.41%). However a few of returned questionnaires were rejected because they were not complete. The absolute number was 920(76.66%) of total population. The allocation of the sample with respect to provinces and sex is illustrated in Table1.

Table1: Division of the taken sample

Variable		Number	Total
Sex	Men	235	920
	Women	685	
Provinces	Islamabad	365	920
	Lahore	221	
	Quetta	197	
	Peshawar	137	

Academic Teaching Levels	Primary Stage	126	920
	Middle Stage	199	
	Secondary Stage	240	
	Intermediate Stage	345	

Limitations of Selected Samples

Middle and Secondary stages in Public education systems were taken into account for this study. The Primary stage was ignored because government has not provided the facility of computers at this stage yet. While from the Private education system; Primary, Middle and secondary school teachers were taken as samples because the study made a comparison of teachers' attitude to computer use at equal level.

Data Gathering

The researchers prepared a comprehensive questionnaire for gathering the data. It contains seven parts: the first part consists of two sections (i-e (yes, no) and rating questions) intended to collect general information. The second part checks whether the teachers are expert in the use of software programs. The third part looks at the fact that internet facilities assist the teachers or not. The fourth part observes the use of computers in teaching. The fifth part examines the attitude of teachers for using computers to teach the students. The sixth part checks the awareness of math teachers about their subject internet websites. The seventh part determines the extent of benefits to teachers by using math internet websites. (See appendix A).

Findings and Analysis

Questions1: How do mathematics teachers pace themselves as regards the basic knowledge of computer?

The collected data regarding this question was alienated into two parts: Part (1) explores the knowledge about the teachers' training in the computer field and whether they possess personal computers whereas Part (2) intended to examine the proficiency of teachers in the use of computer.

Part-1

Table (2) shows that how much the teachers consider themselves aware about the basic knowledge of computers.

In Table (2) point 1confirms that most of the mathematics teachers have their personal computers. Roughly 26% of them have no computers, may be due to financial problems or the lack of interest. However, possession of personal computers by a large number of

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teachers is a positive sign which show the positive approach of teachers and realization of the importance of computers in actual life and in teaching/learning process.

Table 2: Percentages of teachers' response for basic knowledge of computer

	General information	Yes (%)	No (%)
1.	Do you have your personal computer?	74.3	25.7
2.	Do you ever have a chance to join computer courses?	30.4	69.6
3.	Do you want to join computer courses to get basic knowledge?	85.6	14.4
4.	Do you want to join the 10course to learn how to use computer in teaching process?	87.3	12.7
5.	Are you familiar with the use of internet at home?	52.6	47.4
6.	Does the internet is used by you to enhance your knowledge for teaching?	54.6	45.4

The findings of point 2 also illustrates that most of the mathematics teachers did not have any opportunity to join any computer course, it means that they improve their proficiency by their own efforts. These findings show that government is not taking keen interest to enhance the teachers' proficiencies and provision of computers is less than the needed number in Pakistani schools. Weaknesses in pre-service teacher training courses to develop computer proficiency are revealed in earlier findings. The result of this study matches the results of earlier studies that revealed deficiencies in computer proficiency of (US Department of Education, 2000; Handler, 1993: Oliver, 1993, Abdal-Haqq, 1995). So the earlier studies and also this study emphasis to concentrate on enhancing the teachers' computer proficiency because the knowledge and skill of teachers is more valuable rather only to increase the number of computers in the schools, as only trained teachers will be able to use the computer in classroom.

The results of point 3 shows that most of the mathematics teachers want to attend computer training courses to polish their abilities in computer area. These findings prove the plus point that mathematics teachers know the value of computer training and they wanted to avail all the opportunities if they are provided the facilities of courses. The finding contrast the result of (Al-Oteawi, 2002) that explain that little knowledge and less proficiency of teachers in the use of computers causes make negative approach of teachers in the use of computers. Furthermore, the findings of point 4 shows that 87.3% teachers want to attend the computer courses to learn about it because their proficiency in this area is very low.

This fact illustrate that teachers accept the importance of computer in teaching process and they are also aware of their deficiencies which consequently they want to improve

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them. So these findings show that teachers wish for the application of computer in teaching but they are unable to do so due to the lack of required proficiency. The findings of points 5 and 6 illustrate that more than 50% of mathematics teachers are familiar with the use of internet.

This shows that Pakistani teachers do not utilize the internet facilities .The finding points to the issue of current education policy that considers internet as a source of information jointly with textbooks, so if about half of the mathematics teachers are not familiar with the use of computer then to what extent internet facilities will be beneficial for our teachers.

Part-2
Table (3) demonstrates the level of teachers' proficiency, use of computer in classroom and the extent of time which they spent on the internet.

Analysis of Mean: from 1 - 1. 75 (low), 1. 877 - 2. 32 (fair), 2. 422 – 3. 422 (high)
The findings of point 7 explain that about a third of mathematics teachers possess low proficiency in computer, have poor computer skills, whereas more than 50% are better in computer skill. The findings stress on the training of the teachers in computers' applications due to the reason that still many teachers in Pakistan are not aware of the use of computers. The ratio may possibly be high if the strength of mathematics teachers in Pakistan is taken into account. These findings indicate the lack of pre-service teacher training courses and in- service training courses.

Table 3: Percentage of teachers' computer proficiency, use of computer in classroom and amount of time they pay out for internet

General information	Scoring (%)			Mean
	Best	Better	Weak	
7. How much are you expert in the use of computer?	12.5%	59.4%	28.1%	1.922
	Always	Rare	None	
8. How much do you make use of computer in teaching process?	17.6%	54.7%	27.7%	1.957
	1 - 7 hr	7 -12 hr	above 12 hr	
9. How much time you spent in the use of internet per week?	36.7%	12.6%	51.7%	2.2204

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As results of point 8 illustrate that one third of teachers are not in habit of using computers while half of them use the computer rarely, so this also effect the attitude of mathematics teachers' towards the use of computers. These results point to a problem that if so many teachers are not trained in computer use, then what will be the benefits of the provision of computers and internet services in schools. No doubt few teachers use computers in teaching process; however it is a hopeful sign that some teachers use computers with zeal that resembles to the results of Eteokleous' 2008 study, which indicates the computers' use by a few teachers.

 The findings of point 9 reveal that less proficiency in computer use influences the time of mathematics teacher which they spent in the use of the internet, where about below than 40% use internet just 1–7 hours a week while about 50% of them spend over 12 hours a week.

Question 2: How do mathematics teachers pace their proficiency in the use of software programming, utilization of the internet services and use of computer in teaching process?

Table (4) describes means and standard deviations of teacher pacing: proficiency in the use of programming software, utilization of internet services and use of computers in teaching process.

Table 4: Proficiency in the use of software programming, utilization of internet and use of computers in teaching process

Fields	N	MEAN	SD
10. Proficiency in the use of software programming	920	2.23	.78
11. Utilization of the internet services	920	2.01	.96
12. Use of computer in teaching process	920	2.02	.84

Analysis of Mean: from 1 - 1. 835 (low), 1. 835 - 2. 67 (fair), 2. 670 – 3. 281 (high), 3. 281 – 4. 5 (very high)

Result of field (1) illustrates that teachers' proficiency in the use of software programming such as MSWord, Adobe Acrobat, PowerPoint, Flash, Excel, and SPSS were fair, even though they are much valuable in teaching process, especially for teaching some issues in mathematics such as: solution of equations, graphic representation, algebraic steps and so on. The finding enlightens the fact that one third of teachers are unable to use the computers in teaching process (notice point 8 in table 3). Bakar & Mohamed, (1998) results are favored by these findings which illustrate that teachers have low proficiency and awareness in software programming.

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The findings of field (2) illustrate that internet is not more beneficial for the teachers which means that teachers do not use the internet such as instant messaging, download material, you tube, search engines (Mozilla Firefox etc), because they do not know the use of these services. It also show that they cannot take benefit from search engines which provide a lot of update knowledge and information, consequently the students in our schools have no update knowledge that what is happening in the world.

According to the results of field (3), mathematics teachers cannot make the good use of computers in classroom such as slides presentation, evaluation process, videos show etc because they have normal proficiency in programming software. So these findings invite the consideration of the education reformers to change the condition of Pakistani education system as regard the use of computers in schools.

Question 3: : Do the mathematics teachers think that their proficiencies in software programming, utilization of internet services and use of computers in teaching are different in accordance with the change in their sex, their areas and their teaching academic level?

Sex
Table (5) illustrates the grand mean of mathematics teachers' approach and the average of their response with regard to their sex.

Table5: Findings of T-Test

Sex		Approaches	Grand mean
Male	Mean	3.02	3.0123
	SD	.31	
Female	Mean	3.01	
	SD	.40	
T-test		.750	

Description of Mean: from 1 - 1.61 (low), 1.72 - 2.310 (fair), 2.441 – 3.5 (high)

The findings reveal that the mathematics teachers have significant approach for the use of computers in teaching process (3.0123). The fact is much hopeful as most of the teachers are untrained. This challenges the views of (Al-Oteawi, 2002; Pelton and Pelton, 1996), who says that untrained teachers have negative approach for the use of computers in teaching process. The variations between the results of our study and prior research propose that Pakistani teachers' awareness of the value of computers persuade them to enhance more positive approach to the use of computer, although they have less proficiency and awareness. The findings of Tondeur et al (2008) favor our study reveal that teachers have optimistic approach for the use of computer in the teaching process.

The findings also prove that there are no considerable differences between male and females teachers. This result contrast a few prior findings which demonstrate that males have more optimistic approach compare to females (Wilder et al, 1985; Masssoud, 1991; Moon et al, 1994; Shashanni, 1996; Makrakis and Sawada, 1996; Durndell and Thomson, 1997) and other studies which reveal that computers are more preferable by women and they also posses much knowledge of computer (Allen,1995).Different factors are responsible for the disparities between the findings of our study and the prior studies for example variations in cultures, graduating courses, and academics schemes.

Stage and Region
Table (6) demonstrates the findings of One Way ANOVA that evaluate the differences of teachers' approach with regard to their teaching level and area.

Stage
The findings reveal that there are considerable variations in teachers' approach for the use of computers in teaching process because of the teaching level and area. A test was applied to prove the reason of variations. It was found that the secondary level teachers have high optimistic approach than the primary and middle level teachers. This optimistic approach shows the great awareness of the secondary level teachers about the importance of computer in education although they have lack of proficiency and knowledge.

Area
The findings also reveal that teachers in Islamabad have much optimistic approach compared to the teachers in Peshawar. This outcome may be due to role of pre/during service training programs, teachers' efforts to enhance their computer efficiency, and guidance /incentives from teacher supervisor in this area.

Table 6: Findings of one way ANOVA for the two autonomous variables: teaching level and area

Variable		Sum of Square	df	Mean square	F	Sig.
Academic Teaching Level	Between Groups	3.012	4	1.002	6.425	.001
	Within Groups	91.04	915	0.206		
	Total	94.05	919			
Region	Between Groups	1.702	4	0.560	3.801	.010
	Within Groups	92.02	915	0.147		
	Total	93.72	919			

Question 4: Do the mathematics teachers know about the websites of journals and centers of mathematics?

The findings reveal that most of the mathematics teachers' i-e around 80% is totally unaware about any English website and journals of mathematics, whereas about 57% have no knowledge even about Urdu journals and websites. Most of the teachers have less awareness about websites of mathematics centers on internet in English language while around 42% have no knowledge about Urdu websites of mathematics centers. The reasons of these findings are lack of computer proficiency and no awareness of using the internet as informative tool. The other factor could be the scarcity of workshops that can help to introduce the teachers about these websites and their beneficial use. So these findings illustrate that majority of our mathematics teachers have no knowledge about these journals' and centers' websites. Now this is the keen responsibility of government to provide all these facilities to reform the educational structure in Pakistan.

Awareness of mathematics teachers about their subject websites is shown in Table (7).

Table 7: Percentage of teachers' awareness about mathematics websites

Points	Yes (%)	No (%)
1. Do you have the knowledge about English websites of mathematics journals?	20.3	79.7
2. Do you have the knowledge about Urdu websites of mathematics journals?	43.4	56.6
3. Are you aware about any special English websites or center of mathematics?	19.6	80.4
4. Are you aware about any special Urdu websites or centers of mathematics?	46.7	53.3

The findings reveal that most of the mathematics teachers' i-e around 80% is totally unaware about any English website and journals of mathematics, whereas about 57% have no knowledge even about Urdu journals and websites. Most of the teachers have less awareness about websites of mathematics centers on internet in English language while around 42% have no knowledge about Urdu websites of mathematics centers. The reasons of these findings are lack of computer proficiency and no awareness of using the internet as informative tool. The other factor could be the scarcity of workshops that can help to introduce the teachers about these websites and their beneficial use. So these findings illustrate that majority of our mathematics teachers have no knowledge about these journals' and centers' websites. Now this is the keen responsibility of government to provide all these facilities to reform the educational structure in Pakistan.

Question 5: Do the mathematics websites in the internet are useful for mathematics teachers?

The percentage of teachers' responses is shown in Table (8).

Table 8: Teachers' response in percentage

	Points	Yes (%)	No (%)
1.	Do you use the internet to learn more about mathematics?	68.4	31.6
2.	Have you find the internet beneficial to make you expert in mathematics textbooks?	54.8	45.2
3.	Have you ever used the internet beneficially as audio visual aid in teaching process?	44.3	55.7
4.	Do you find the internet beneficial for learning update teaching methods?	43.4	56.6
5.	Have you ever used the internet to learn new evaluation techniques in mathematics?	30.2	69.8
6.	Have you ever hold a meeting or discussion with some mathematics experts through the internet?	28.6	71.4

It is obvious from the response of point 1 that although of mathematics teachers make use of the internet to develop their knowledge about mathematics curriculum, that is a hopeful sign, however, the websites use by the teachers for developing knowledge are still Urdu websites. For modernization and escalation of data in mathematics curriculum and application of internet in classroom activities, about 65% teachers (point 2, 3) benefit from internet. Such findings show a gap in the application of computers as informative tool in Pakistani schools. The main cause of this finding is the poor efficiency of mathematics teachers in the English language for which they are unable to use the English websites. The other reason may be the shortage of Urdu educational websites, especially in mathematics. Findings of points 4 and 5 reveal that most of the mathematics teachers are not utilizing the internet in improving their understanding about instructional and evaluation methods in mathematics teaching. It is a fact that there are many websites in the internet, which are helpful for the mathematics teachers for active and progressive teaching because that contain latest knowledge about algebra, geometry, practical activities and so on. These finding points to the need of workshops for in-service teachers training by the Ministry of Education for developing their proficiency and approach to take benefit from these websites. The finding of point 6 shows that because of the low proficiency in computer and weakness in English language, most of the mathematics teachers do not discuss the problems of their subject matter with specialists or experts.

Conclusion and Implications

It is clear from the above mentioned results that mathematics teachers in Pakistan have a positive attitude for the use of computers in teaching procedure. Teachers are aware of the key importance of computers in teaching and they desire to learn more about computer and strengthen their IT knowledge. For that reason they want to join the computer courses and training sessions. On the other hand, there are some negative factors which propose that the Pakistan' Ministry of Education should pay more consideration to improve teacher' proficiency in the use of computer software programming, use of the internet, application of computers in teaching and widening their knowledge about mathematics internet websites both in Urdu and English language. Generally, most of the mathematics teachers in Pakistan have little know how about computer and their proficiency is not satisfactory that have discouraging effects on the use of computers in teaching process.

The study proposes to carry out more research in this area to know the ideas of human resources development department in the Ministry of Education about the teachers' proficiency level in computer, and most important is the teachers' opinion for in-service training course which they should be provided in this field. It is also proposed that the basic knowledge of internet, application of computers in teaching and the training programs or classes for software programming should be offered. The study recommends that for polishing the skills of graduates in computer knowledge, pre-service teacher-training programs are very necessary. It is also recommended that the Ministry of Education should arrange workshops and refresher courses to train the teachers in the use of computers before providing a lot number of computers and internet facilities in schools. The faults that occur in the system due to the lack of teachers' proficiency cannot be found by a technician also.

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Effects of Demographic Factors and Teachers' Competencies on the Achievement of Secondary School Students in Punjab

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Abstract

The present study focused to analyze the effects of demographic factors of the students (male/female, urban/rural, family size and income level) on their achievement and to find out the effect of teachers' competencies (planning, teaching process, classroom management, experience and evaluation) on the achievement of secondary school students. The population of this study comprised: (i) Heads of public secondary schools (ii) all the secondary school teachers (SSTs) and students studying in 10th class (who have passed the 9th class examination from their Boards). For choosing the sample, stratified convenient sampling technique was used. The sample consisted of 60 Heads, 300 secondary school teachers and 1500 students from 60 secondary schools. Three questionnaires were used and data were analyzed statistically. The major conclusions of the study indicated that Female students were better than the male students; students of urban secondary schools secured more positions in S.S.C examination 2007 than rural secondary schools in the Punjab; family size affected the achievement of the students; and financial pressure left disappointing effects on the performance of hard up learners. It was recommended that competent teachers may be provided in the rural areas also; refresher courses especially in Math and Science may be ensured to keep the teachers abreast of modern developments; and family planning campaign may be increased in the villages effectively.

Keywords: Demographic Factors, Teachers' Competencies, Family Size, Classroom Management, Teaching Process

Introduction

According to Cosio-Zavala (1999) demography is the scientific study of characteristics and dynamics pertaining to the human population. Demography requires the study of specific information that may be gathered from a population census or vital statistic records. Demography is the statistical study of all populations. It can be a general science that can be applied to any kind of dynamic population, that is, one that changes over time or space. It encompasses the study of the size, structure and distribution of populations, and spatial and/or temporal changes in them in response to birth, death, migration and aging. Chesnais (1999) says that demographics are the physical characteristics of a population such as age, sex, marital status, family size, education, geographic location, and occupation. Demographic, therefore, is concerned with the size and characteristics of

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human population, how they were attained, and how they are changing. Nicole Bella (2003) describes that there is vast amount of literature on the link between education and the population patterns. Education has been shown, for example, to have an influence on the mortality level. He observes that indeed more educated people have a greater chance of survival and, hence, longer life expectancy. They are more aware of the rules of hygiene and less fatalistic in the face of disease.

Review of Related Literature
There is a plethora of research showing the importance of school climate for achievement, there is also some research that supports its importance for other factors. Bulach and Malone (1995) investigated the relationship between school climate and how effectively two reforms (school-based decision making and/or the non-graded primary) were being implemented in Kentucky schools. They found significant positive relationships (+.50 and +.40, p<.001) between school climate and how effectively school faculty perceived the reforms to be implemented.

Other researches linked school climate to job satisfaction, levels of work, efficacy, and teacher autonomy. Gunnel (2000) found that teachers who were satisfied with their jobs had more positive views about school climate than those who were not satisfied; Hirase's (2000) research found that teachers have a greater sense of work, efficacy in schools where there is a good climate. Erpelding (1999) found a strong relationship between teacher autonomy and school climate. Sergiovanni and Starratt (1998) and Lunenburg and Ornstein (2000) are the leading authors of leadership training textbooks for educational administrators. They both devote a chapter to school climate and its importance for the effective operation of a school. In summary, there is a great deal of support for school climate as an important factor that can directly and indirectly affect student achievement. Pollard, (2005) stated that we want to encourage teachers as reflective practitioners, to think about what they do well, to reflect on what they could share with colleagues, as well as identifying their own learning needs. Lindsky, (1993) described that improving teachers and their teaching is a continuous effort that must take into account the interactive effect among multiple variables. According to Pani, (1987) the important task of a teacher in present era is to give new dimensions to the thinking of student and raise the standard of qualification in all professions. As a result of educators effort students get stimulation and steady supersede the traditional standard. The term "competence" is frequently used when we talk about any profession or work that expresses one's quality of being competent, possessing, adequate professional skill, knowledge, qualification or capacity.

Methodology
Population of the study were 4443 Heads and Principals of secondary schools, 18103 Secondary school teachers and 901183 students of 10th class (who have already passed

9th class) in the Punjab. Sample of the study comprised on 60 secondary schools, 60 heads/headmistresses, 300 SSTs and 1500 students of class 10th. The sample was selected through convenient sampling technique. Three questionnaires were developed; one for the Heads, one for the Secondary School Teachers and one for the students of 10th class.

Data Analysis
Data collected through the above mentioned research instruments were tabulated, analyzed and interpreted. Independent 't-Test' was used to determine the significance difference between the student's achievement of urban and rural area, for male and female students.

To find out the relationship between family size and student's performance, secondly between income level and student's achievement, thirdly between teacher's experience and student's achievement. Pearson correlation coefficient was used through SPSS version 16.0. Chi-square (χ^2) was applied to find the association between the attributes.

Table-1: Income Level and Student Achievement

Parameters	Correlation	p-value
Income level Vs total students achievement	0.394*	0.018

Significance level ($p \leq 0.05$)

The Pearson's r values of 0.394* indicate that there is a significant correlation between income and total students achievement.

Table 2: Comparison of Results of Boys Students

Category	N	Mean	SD	t-value	p-value
Urban Boys Secondary Schools	375	0.61	0.488		
Rural Boys Secondary Schools	375	0.48	0.500	3.694*	0.008

df = 748   Significant at p < 0.05

The above table shows that t-value (2.503) was found to be significant at 0.05 level and there is a significant difference between students' achievement of urban and rural areas of boys secondary schools.

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Table 3: Comparison of Results of Girls Students

Category	N	Mean	SD	t-value	p-value
Urban Girls Secondary Schools	375	0.69	0.463		
Rural Girls Secondary Schools	375	0.49	0.501	5.681*	0.009

df = 748   Signficant at p < 0.05

The above table indicates that t-value (2.808) was found to be significant at 0.05 levels and there is a significant difference between students' achievement of urban and rural areas of girls secondary schools.

Table 4: Teachers' Competencies and Students' Achievement

Grade	Competent Teacher Result	Non-Competent Teacher Result	Total Result
A	119	32	151
B	124	80	204
C	163	76	239
D	153	104	257
F	109	540	649
Total	668	832	1500

Table 5: Analysis of Results

Chi-Square Tests

	Value	df	Tabulated value
Pearson Chi-Square	373.3871	16	26.29

Table 5 indicates that the calculated value of χ^2 was found to be 427.1395, which is greater than table value (26.29) which indicates that there is association between teachers' competencies and students' achievement. And also there is high proportion of getting good grades of competent teachers who used teaching competencies while teaching those who do not use teaching competencies show poor results.

Findings on Demographic Factors

- The success of 54.2 % male students and 59.2% female students indicated that female students showed better performance than the male students in the S.S.C examination Boards of intermediate and secondary education.
- Urban male students showed better results (t-value = 3.694 at 0.05 level of significant) than rural male students at secondary level.
- Urban female students showed better results (t-value = 5.681 at 0.05 level of significant) in the achievement of rural and urban female students at secondary level.
- Majority of students (78.06%) having smaller family (family size 2-4) passed whereas students with larger family (family size 11+) showed poor results. It indicated that family size inversely proportional to the achievement of students.
- The Pearson's r values of 0.394* indicated that there is a significant correlation between income and total students' achievement.

Findings on Teachers' Competencies

- Calculated value of χ^2 (357.172) indicated that there was association between teacher planning and students' achievement.
- Calculated value of χ^2 (419.157) revealed that there was association between teaching process and students' achievement. Those teachers who used blackboard during teaching effectively and made the teaching process pleasant showed good results.
- Calculated value of χ^2 (323.06) showed that there was association between classroom management and students' achievement. Competent teachers who managed their classes on psychological principles instead of: corporal punishment, showed good results.
- Calculated value of χ^2 (427.1395) indicated that there was association between experienced teachers and students' achievement. Experienced teachers showed good results as compared to non experienced teachers.
- Calculated value of χ^2 (321.928) showed that there is association between evaluating techniques of teachers and students' achievement. The teacher who used evaluation in teaching learning process showed good results.
- Calculated value of χ^2 (73.27) indicated that Heads often encourage the teachers on their achievement.
- Calculated value of χ^2 (55.53) revealed that the Head of the institution did not guide the teachers in teaching complexity.
- Calculated value of χ^2 (73.27) showed that the Head is not supposed to evaluate and categorized the teachers.

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Conclusions
On the basis of findings, the following conclusions were drawn:

Demographic Factors
The girls excelled in securing Board positions. The pass percentage of the girls was generally on the increased; in matriculation examination, the statistics 2007 of performance was high in case of city dwellers; one reason for that in the cities, very expert and competent teachers undertook the teaching responsibilities while in villages, new comers and green hands did the same things; the family size was closely related with the overall academic results; and financial pressure left disappointing effects on the performance of hard up learners.

Teachers' Competencies
An important factor of teaching was that the teacher generally attached due importance to the universal values and planned the lessons accordingly; the teachers did not use co-operative and supportive techniques and equipment in their activities such as A.V aids but used black boards during teaching effectively; the experienced teachers satisfied the students and showed good results. On the other hand, the green hand teachers could not recognize the exact problems of the students and their results suffered; the disadvantage of living in village was also shifted to the learners with the reason that they were not coached in an environment where equal facilities were available to them. Science students could not take experimentation not having the proper facilities of laboratories; formative evaluation, especially in village schools was not being carried out; politicization on ethnic and sectarian grounds among the teachers polluted the teaching environment in school; the schools where, the Heads boosted confidence in teachers on their encouraging performance displayed good results; some Heads could not succeed in categorize, guide and evaluate the respective teachers; and all the hypotheses of the study were rejected showing that the demographic factors like (gender: male/female, urban/rural, family size and income) and teachers' competencies like (planning, teaching process, classroom management, teaching experience and evaluation) have significant relationship with the students' achievement.

Recommendations
1. The achievement of the students of urban areas at secondary level is directly linked with the performance of efficient teachers. Such competent teachers may be appointed in the rural areas as well.
2. Refresher courses especially in Math and Science subjects may be ensured to keep the teachers abreast of modern developments.
3. To control birth rate, the government is accountable extending their awareness programs in rural areas where the superstitious people justify the new-born on religious grounds. New awareness programs may change their bent of mind.

4. Hard up students may be accommodated so that they may continue their education. It is positively the duty of the respective Government to pay proper attention to poverty reduction and initiate short term measures to allow the poor students to get on their education.

5. Heads may be given residential accommodation in rural secondary schools so that the rest of the staff must be ensured to be there in time.

6. Progress reports may be updated. The system of progress report is suggested to be modernized in keeping with the changing time to keep the parents abreast of the current academic condition of their children.

7. The collaboration between the parents and teachers may be strengthened for better growth of the students.

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Student Support Services of Eastern & Western Institutes of Distance Education

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Abstract

Distance education implies education being imparted to study by teacher despite physical distance. In distance education learning take place in separation of teacher and student through uses of print based materials, mechanical and electrical media and occasional interactions between tutor and student. Student support services for distance education implies for those services that make learning possible for a distance learner. Support services are planned and arranged by distance education institution. Prominent student support services for distance education include printed media like course books and study guides, electronic media, broadcasting media, tutorials, workshops, assignments, self-study opportunities etc. Student support services are necessary component of distance education system. Most of services in all DE institutions are same but implementation differs most of time due to availability of resources and difference of distance learners' characteristics. This paper explains and distance student support services of eastern and western institutions of distance education.

Keywords: Student Support Services, Distance Education, Tutorials, Media Support, Correspondence Material

Introduction

Distance education is widely accepted in the developing countries. New institutions are being created whose sole responsibilities are to provide education through distance education. Institutions which previously took no interest in this form of education are entering the field. Those which are recognized providers are seeking to increase their share of market. Distance education materials in print are being supplemented and complemented by audio and visual programs. Even telephone tutorials are being used. Counseling and advising procedures are being extended and refined. Regional networks of study centers are being established.

Despite technological changes, the basis of distance education has always been the printed word. The twentieth century, however, has been new technologies used, some instances quite extensively. Both radio and television circuit broadcasts have been supplemented by audio and video reply devices with reduced time and place restrictions and have often proved useful adjuncts to the printed words. The telephone in some

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developing countries added the possibility of immediate interaction that had been lacking in distance education.

Referring to the Open University's system, Sewart (1983) notes that the conventional tutorial has been replaced by the use of television, radio and written correspondence; direct reading has been replaced by specially designed course units; and the study centers has become a base for student interaction. There is one other significant and more important change in distance education, which should be pointed out here, that the increasing emphasis on the student learning at a distance, rather than the institution teaching at a distance, because of this, individual support services has become an integral part of an effective distance education system.

While discussing the student support and the Open University, David Sewart (1984) commented, "it is no coincidence that the growth of research into the support needs of distance education students parallels the development of the UKOU (United Kingdom Open University). With its charter to provide opportunities for those who could not gain entry to traditional tertiary education, the Open University began with a student-centered view. It was not, at first, concerned to produce cost effective courses for the large numbers of students, but rather, to assist those with little previous formal education to succeed at tertiary distance learning system of the UKOU has proved its success both in retaining students and in being cost-effective.

The success of UKOU has led to an acceptance and legitimating of support services integrated with the provision of study materials.

The main purpose of this contact is to help students both academically and personally. Correspondence units and broadcast provide the student both with information and guidance in a standard package. It is through the tutorials and counseling system, that this student package (BASTA) is interpreted according to the student's individual needs.

There are Eastern and Western models of distance education in the world. Among the important eastern institutes are Allama Iqbal Open University, Pakistan, University of New England, Australia, Indira Gandhi National Open University, India, Sukhothai Thammantirat Open University, Thailand and Open University of Sri Lanka.

Eastern Institutions (Allama Iqbal Open University)
The idea of establishing an open university was first conceived during the discussion which led to the formulation of the new education policy in 1972. Education policy 1972, stated that:

"Open universities are being used in several countries to provide education and training to people who can not leave their homes and is for full-time studies. A People's Open University will, therefore, be established to provide part-time educational facilities through correspondence courses, tutorial seminars, workshops, laboratories, television, radio broadcasts and other mass communication media".

Student Support Services at (AIOU)
AIOU, the first Open University in Pakistan has laid down sound grounds for distance education system in the country. The Virtual University, Pakistan established far latter, has strengthened the system too. Some other institutions in private sector are also working by following the distance education form. Review of all distance educational institutions in Pakistan; indicate use of following student support services:

1. Print media.
2. Audio-visual aids.
3. Radio and Television.
4. Computer aided instruction.
5. Independent study (assignments).
6. Tutorials workshops (Yadav, 2002, pp.216-17).

Allama Iqbal Open University has above 36 regional offices all over the country especially in big cities like Peshawar, Gilgit, Faisalabad, Quetta, Mirpur, Rawalpindi, Lahore, Multan, Hyderabad, Karachi, Quetta, D. G. Khan, Dera Ismail Khan, Chakwal, Sukkur, Mithi, Larkana, Turbet, Sialkot, Gujranwala, Abbottabad, Muzaffarabad, Skardu, Thatta, Dadu, Bahawlpur, Mianwali, Sargodha, Rahim Yar Khan, Jhang, Saidu-Sharif, Chitral, Qalat, Dera Murad Jamali and Zhob.

Nominations for teachers' courses and functional courses are made through the regional offices and they also receive many of the applications for the general education courses. Examinations are also arranged by regional offices locally. Additionally, the regional directors are important channels for student and tutor feedback and for liaison with local authorities and agencies and other institutions. Their task is very difficult one, however, given the enormous areas of some regions and their geographical nature. They have no supporting full time academic or counseling staff and tend either to be office bound or to spend many hours driving to distance parts of their regions. Proposals for the appointment of part-time senior teachers and for the further development of regional services have yet to be implemented (Rashid, 2010).

The university has more than 250 study centers which are located in local colleges and schools. For PTOC and PTC, some centers change from cycle to cycle, according to the distribution of students. For most general education courses, the centers are regular ones

even in towns and cities. Rural areas are generally poorly served, mainly because of scattered student populations at transport difficulties.

In the general education program, separate tutorials groups sometimes are provided for women, partly because of sex segregation, but partly because of some women are not permitted or encouraged to be away from their homes after dark, meaning that mid afternoon tutorial sessions have to be arranged.

An attempt is being made to solve some of rural problems by the establishment, through specific projects of model study centers, each equipped with a range of audio-visual equipment, including a television set. At the same time, such projects using part-time staff, will to evolve local student support system with a particular emphasis on the study needs of women. This aspect of regional development is directly related to the increased emphasis on social need programs. These aspects, study centre equipment and tutorial support, have implications only for AIOU development programs, but for those of other local agencies and for community self-help initiatives in education and training.

Tutors are appointed by regional directors, who also set-up study centers and arrange the tutorials. Tutors are usually college lecturers, experts in their subject areas. Their training or guidance consists of briefing sessions at the beginning of each semester and tutor guides to their course, plus a general booklet on teaching by correspondence. There is a schedule for monitoring tutor's work although it is only barely implemented, and their making is not always checked either for grading or teaching comments (Rashid, 1998). To conclude, distance education in Pakistan provides reading material to distance learners through study guides, additional materials, TV, and radio programs CDs. Moreover, workshops are also essentials after attempting assignments and before examination. Trend to use computer is also growing. Virtual University offer most of services to students by using computer technology.

Students Support Services at (Sri Lanka's Open University)
In 1978, the Sri Lanka's Open University (SLOU) was established. Initially, this institute concentrated on certificate and diploma courses and courses of a vocational nature. Later on, it was planned to incorporate the Sri Lanka Institute of Distance Education (SLIDE) into the SLOU. Courses are planned in management studies, science, mathematics, education studies, languages, technical and vocational studies. Since then, the SLOU is functioning effectively. Student support services include:

1.   Printed material.
2.   Audio and visual tapes.
3.   Computers
4.   Fact to face teaching

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5.   Two way communications
6.   Regional services
7.   Ancillary services, etc.

Printed Material
The main medium of instruction is the printed course material. This material is prepared by the specially selected course teams from both within and without, and every effort is made to follow the principals of instruction technology for distance study in the preparation of course material.

Audio and Visual Tapes
Audio cassettes are used to some extent to supplement printed material, and video very much useful in this connection. The radio and television are not used as direct medium of instruction, even through the SLOU broadcast some general educational material. Preliminary steps have been taken from production of audio and video cassettes on large scale in the future. The academic staff has been trained in conventional universities, efforts are being made to keep the writers informed and instructed in the appropriate use of print and electronic media through workshops, seminars and hand outs.

Computers
At present, computers are not being used in the instruction and are as yet at an experimental stage of a medium of instruction.

Face to Face Teachings
Face to face teaching is an important component of instruction. This is done through workshops, seminars and laboratory work, and needs of a program of study. (e.g. fact to face instruction is most frequent in the professional English program as language teaching requires a large element of interaction with the teacher.

Two Way Communications
Assignment is an important element in the teaching process. They are marked and returned to students with comments. Assignments carry weightage of marks in the final examination grade.

Regional Services
A system of regional and study centers helps to serve the students in distant areas. They serve both as resource centers and as places where fact to face instruction is provided.

To conclude, Sri Lanka's Open University is also providing student services to distance learners as similar to Pakistan's' AIOU.

Ancillary Services
The SLOU is presently being provided with a fully equipped press, a publishing unit to handle the publishing aspects of instructional and an audio visual unit to produce audio, video and other related material.

To conclude, Sri Lanka's Open University is also providing student services to distance learners as similar to Pakistan's AIOU.

Support services of STOU (Sukhothai Thammathirat Open University, Thailand)
The Thai government had put great stress on the provision of education to the masses at large because it was considered as means for national development. The goods of Thai education provide, Thai individual, schooling that has been a major revenue of social mobility. Reflecting the education reform movement in 1974, in the 1977 National Education Scheme, the goals of education where further broadened to include the relationships between education, life and society. In addition to regular academic sills in the old curriculum, the new scheme placed special emphasis on installing non cognitive learning and moral values.

On the other hand, Thai government also gave priority to an alternate approach to non-formal education. In this regard several projects were launched to upgrade the competencies of unqualified teachers and provision of general education through distance education, including print, radio, correspondence programs and educational TV programs. Much of the role is being played by Sukhothai Thammathirat Open University. The University's tenants one lifelong education, improvement of the quality of Thai citizenry, and expanding educational opportunities for those with secondary school diplomas. Its approach is correspondence, radio, television and other technological devices which enable students to study independently. The university is providing theses services to its students.

Main Media
The University mails all self instructional course material to its students as soon as they register.

Support Media, Radio & TV Broadcast
STOU is broadcasting radio and television programs daily, 150 Radio programs of 20 minutes duration are broadcast weekly, i.e approximately 7200 radio programs per year. As far the television programs, the university have permission from the government to broadcast three programs daily from 1800 to 1930 hours. About 1100 television programs are telecast per year.

Tutorials
Tutorials are organized to provide face to fact interaction with students. To make tutorial sessions flexible and accessible to distance learners, the university has instituted the following procedure;

a) Organize tutorials on Saturdays and Sundays.
b) Make tutorials optional to students rather than compulsory.
c) Hold tutorials at local study centers close to students, plan of residence or work; and
d) Select appropriate courses for tutorials and hold the sessions for about 10-15 hours per course per semester.

Practical Work
There are special study centers for the School of Agricultural Extension and Co-operatives' and the School of Health Science. These study centers serve as places for special tutorials and practical work. The university seeks co-operation from the Ministry of Agriculture and Co-operatives and the Ministry of Public Health to establish these centers.

Guidance & Counseling
The university uses a variety of means to provide guidance and counseling to distance learners. Staff members of local study centers who work for STOU on a part-time basis provide guidance to students who come to the centers. Group Counseling is also encouraged.

About 80 students from 31 students clubs throughout the country attended the seminar at STOU head quarters. Students clubs are expected to play active roles in guidance, counseling and pear group teaching.

Library Service
The university seeks co-operation from the department of Non formal Education, Ministry of Education, to use public libraries through out the country as STOU Centers. Educational materials produced by the university and additional reading material are deposited at STOU Corners so that students can come for additional study.

STOU students, who are scattered throughout the country, received instructional material by mail. The office of educational services is inchage of the delivery system. The university has built it own warehouse which, completed in 1986, is an important component in the infrastructure for effective management of the delivery system.

By reviewing student support services to eastern DE institutions, it is clear that print media, radio and TV broadcasts, tutorials, practical work, guidance and counseling and library services are provided. Implication of each service some-times differ as according to environment and availability of resources.

Western Institutions, British Open University
Student Support Services
The development of distance education in the British Open University and other institutions throughout the world are examples of opening up what was the privilege of the selected few to the masses. This has enabled many thousands who otherwise would not have been able to pursue higher education to do so. With reference to the Western Institutes, the author is only   confined to the British Open University (UKOU).

The Open University has covered United Kingdom through its thirteen regions to provide tutorials and counseling service to its students. Open University of United Kingdom give much importance to print based media. Broadcast media (radio and TV) are also used to support distance learners. Face to face seminars and summer schools are also used. Ratio of use of these support services indicates 80% print based material, 10% broadcasting and 10% face to face seminars and summer schools ae used as support services (Yadav, 2002, p.211). Personal contact with students is maintained by more than 5,000 part-time tutor-counselors, course tutors and associated student counselors. Over 60 study centers have been established to provide meeting places and facilities of various kinds including rooms for watching television programs and access to libraries.

Co-ordination and supervision of tuition is the responsibility of full-time staff tutors, who are members of faculties but also responsible to regional directors. Full-time senior counselor supervises counseling. The work of the regions is in turn coordinated by the director of the studies, Regional Tutorial Services, at the Open University's headquarters. Tutorials are intended to be remedial and are not compulsory. Fewer tutorials are held on higher level courses and they may be none at all on low level population courses or in study centers with low student numbers. Telephone tutorials or audio cassettes may be employed to link a tutor with a scattered group of students. Correspondence tutoring becomes all the more important where there is no fact to fact tutoring. Guidance on tutoring and on making assignments is issued to part-time staff by course teams. Post foundation counseling is maintained through individuals interviews, at the study centre, by post foundation counseling is maintained through individuals' interviews, at the study centre, by post and telephone, and on occasion by home visits. Associate students are allocated to a course tutor for each course taken, and have access to a counselor (Rashid 1998).

Regional offices are located in major cities in each of thirteen regions. Some of the large regions also have sub-offices. Regional staff appoints and supervise part-time tutor counselor and course tutors organize the use of study centers and tutorial and counseling staff.

Each region operates an advisory service to help interested persons decide whether or not they can benefit from enrolling on a university course, to inform them of the implications of embarking on part-time study, and to give further information on local and national alternatives. Applicants can also be provided with advice on preparing for study, although the university does not offer any preparatory courses.

Conclusion

Student support services to eastern and western institutions of distance education include printed media like course study guides. Library books, computer assisted learning services, broadcasting media, audio tapes and visual tapes, face to face teaching, regional services and counseling services. Many eastern DE instructions are weak for using computer effectively due to lacking resources and problems of their learners.

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Measuring the Mediating Role of Locus of Control on Stress among the Students of the Islamia University of Bahawalpur

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Abstract

This study was conducted to measure the mediating role of locus of control on stress among the students of IUB. By using convenient sampling, a sample of 200 students was selected from IUB. Research tools, Locus of control by Julian Rotter (1966) & Stress questionnaire by International Stress Management Association UK (2009) were used for data collection. The cross tabulation output results depicts that 84 male/ female students showed the mediating role of locus of control on stress at moderate level. Similarly 19 male/femle students rated at high internal locus of control in relation with low and moderate level of stress. While 32 male /female students with high external locus of control rated on high level of stress. The output results also indicated that 32 and 33 male/female students with high level of external or low level of internal locus of control rated on high level of stress. Results indicate the high locus of control determines high coping ability of stress among the students.

Keywords: Mediating Role, Locus of Control, Stressors, Personality, Coping Ability

Introduction

Stress is a hallmark or a seed of any psychological or cognitive upset if it is beyond of person's locus of control. Psychologist recognized that certain stressors are common to almost everyone. Some may interpret an event as a stressful, whereas others simply take it in stride. So it is a difficult job to predict which persons will become sick and which ones will remain healthy by controlling the overwhelming life stressors. The answer is the locus of control is a key to act as a mediator on stress and also considered to be an important aspect of personality. Most of us lose their locus of control as we confronted with life stressors, whereas others cannot. Individuals with a high internal locus of control believe that events results primarily from their own behavior and actions while the individuals with a low internal locus of control believe that powerful others, fate, or chance primarily determined events. Moreover, a particular person may react quite differently to the same stressor at different points in time**.**

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Stress isn't always bad. It can also help us to perform under pressure and motivate us to do the best (Smith, M., et al. 2009). In other words, if stress reveals the discomfort response to negative events it is known as distress. Similarly, vice-versa is eustress (Fahey, T. D., et al. 2005). The literature identifies a number of factors that have focused specifically on the relationship of stress and locus of control. The research findings of Baron, R. A., & Kalsher, M. J. (2001) concluded that the person's subsequent health and locus of control adversely affected when individual experiences the number of stressful life events for a long duration.

A research conducted in Tiawan by Chen, J. C., & Silverthorne, C. (2008) indicated that individuals with a higher internal locus of control are more likely to have lower levels of job stress and higher levels of job performance and satisfaction. As reported by Draghi & Hamlyn, (2007) high level of Stress, anxiety and depression among the parents of children with autism having significantly lower levels of internal locus of control.

A research study conducted by Bernardi, R. A. (2001) concluded that one's sense of locus of control affected by the degree of perceived stress. For dealing or coping with stress individuals with internal locus of control use solution oriented coping and external locus of control individual tends to either ignore or to give into. According to Rotter, J. B. (1966) there are two types of beliefs about locus of control External locus of control – belief that consequences of behavior are controlled by luck & fate, whereas Internal locus of control – belief consequences of behavior are controlled by our own behavior. As concluded by Abouserie, R. (1994) the students with external beliefs are more stressed than those with internal.

According to Bootzin, R. R., Bower, G. H., Crocker, J., & Hall, E. et al. (1991) predictable events are less stressful as contrast to unpredictable. The research also examined that people can learn to manage stress through programs that change their cognitive and behavioral responses. The inherent stress in some controlled environments can be reduced by restoring people's control over events. A research conducted to explore the relationship of perceived locus of control and levels of occupational stress among Devon Ambulance and founded significant positive relationship between the both (Alma, E. C., James, Peter, L. & Wright, 1993).

Methodology
Purpose of the study
The purpose of this study was to explore the relationships between locus of control and stress among the university students. This research was also aimed to measure the mediating or mentoring role of locus of control on various degree/levels of stress.

Research Objectives
1. Measuring the mediating role of locus of control on stress among the students.
2. To check the relationship of stress and locus of control among students.
3. To compare Gender wise results of the variables.

Study Population and Sample
The population of the study was the students of (Science & Arts faculty) of IUB. A sample of 200 Science and Arts faculty (Male & Female) students was selected randomly to check the relationship of research variables.

Results and discussion
The output results of locus of control and stress by SPSS represented a cross tabulation comparison in four Tables. The discussion was done on the basis of results.

Table 1: Stress Vs Locus of Control among Science Students (M)

Stress	Locus of Control					
	0-4 (High) Int. Loc	5-9 (Low Int. Loc)	10-14 (Moderate Ext/Into .Loc)	15-19 (High Ext .Loc)	20-23 (Low Ext. Loc)	Total
4 or less (Low)	3	2				5
5-13 (Moderate)	3		30	1		40
14 or more (High)		6		5		5
Total	6	8	30	6		50

Out of 50 respondents 30 were rated at the moderate level of both Ext/Int. Locus of control in relation with the same moderate level of stress that shows a significant r/s and mediating role of locus of control. As Pilisuk et al. (1993) concluded that one's sense of locus of control affects the degree of perceived stress the 30 students shows the same findings.

21 respondents rated at both moderate level of external and internal Locus of control in relation with moderate level of stress depicted the mediating role of Locus of control. As Schafer & McKenna, (1991) founded that locus of control considerably affects the level of perceived stress. The above table reveals that the respondents rated at low and high level of external locus of control also shows the high level of stress as well.

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Table 2: Stress Vs Locus of Control among Arts Students (M)

Stress	Locus of Control					Total
	0-4 (High) Int. Loc	5-9 (Low Int. Loc)	10-14 (Moderate Ext/Into. Loc)	15-19 (High Ext. Loc)	20-23 (Low Ext. Loc)	
4 or less (Low)		2				2
5-13 (Moderate)	7		21			38
14 or more (High)		10	2	6	2	10
Total	7	12	23	6	2	50

The above table portrays a cross tabulation results of Locus of control in relation with Stress among science (F) students. The results indicated that 2 respondents rated at high internal Locus of control in relation with a low stress level. Similarly, 3 students rated at high internal Loc in relation with the moderate stress level. Majority of respondents rated at the moderate level of both internal/external Loc in relation with the moderate stress level. On the other hand majority of 15 respondents rated at high external Locus of control in relation with a high level of stress.

Table 3: Stress Vs Locus of Control among Science Students (F)

Stress	Locus of Control					Total
	0-4 (High) Int. Loc	5-9 (Low Int. Loc)	10-14 (Moderate Ext/Into. Loc)	15-19 (High Ext. Loc)	20-23 (Low Ext. Loc)	
4 or less (Low)	2					2
5-13 (Moderate)	3		14			24
14 or more (High)		7	9	15		24
Total	5	7	23	15		50

The results of 14 respondents at the moderate level of internal and external Loc in relation with the moderate level of stress support the Daniels, K., & Guppy A. (1992)

sayings that internal Loc act as a stress buffer and the 15 respondent lies at high external Loc in relation with high stress supported by the Vitaliano, P. P., Russo, J. & Maiuro, R. D. (1987) research findings that externals are more likely to be threatened by stressors.

Table 4: Stress Vs Locus of Control among Arts Students (F)

Stress	Locus of Control					Total
	0-4 (High) Int. Loc	5-9 (Low Int. Loc)	10-14 (Moderate Ext/Into. Loc)	15-19 (High Ext. Loc)	20-23 (Low Ext. Loc)	
4 or less (Low)		1				1
5-13 (Moderate)	1		19			20
14 or more (High)		10	04	5	10	29
Total	1	11	23	5	10	50

The mediating role of 19 female respondents at moderate External & Internal level of Locus of control in relation with the same moderate level of stress is a significant r/s among the both variables. Similarly 10 respondents rated at low internal/external locus of control in relation with high level of stress. This shows that both low external and internal locus of control leads to stressful feelings. As Ivancevich & Matteson (1980) predicted that the type of locus of control and adaptation to stress are correlated.

Findings and Discussion
The current study sought to elucidate the relationships that exists b/w locus of control and stress. The findings of this study have accordance with research literature in the relevant area. As other studies have consistently demonstrated the r/s of stress and locus of control in diversified fields, similarly the links of the same among students is a new addition in the area. On the basis of the result obtained from the collected data majority of 84 male/female students showed mentoring and mediating role of locus of control. Maximum 19 students rated at high level of internal locus of control showed low level of stress degree. Overall the maximum low level of stress degree founded among the students with high level of internal locus of control.

On the basis of results the current study finds out that the students with high level of internal locus of control are more capable to cope with stress as compare to those with external locus of control as Bernardi, R. A. (2001) stated that Locus of control is a more significant factor when explaining stress both for males and females. The results also

founded that the male students are more internal as contrast to female students. Moreover the overall results proved that locus of control act as a mediator in relation with stress among students.

Conclusions

On the basis of the results from the collected data the current study concluded that the internal locus of control acts as a mediator on stress among students because of the evidence from 19 respondents rated at high degree of locus of control in relation with low degree of stress. Similarly the output results evidence from 84 students rated at moderate level of both external/internal locus of control showed its relation on moderate level of stress degree. The current study also support the Abouserie, R. (1994) findings on the basis of the results of 32 students with high external locus of control that externals are more stressed than those with internals. The overall results yielded that no respondent with high internal locus of control showed high level of stress as the Daniels & Guppy's sayings that internal Locus of control act as a stress buffer proved by the mediating role of internal locus of control from the current research.

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Comparison of Students' Performance between Community Model Schools and Government Girls Primary School in the Punjab

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Abstract

Comparative research may help to assess the pace of project development, and explore the impediments for adopting timely remedial measures. Performance is reality. Assessment of performance through students' result is an actuality. Performance provides reliable information on the nature and experience at primary education institutions and allows comparison between institutions whenever appropriate. This research aimed to explore the annual class fifth results of Community Model Schools and Govt. Girls Primary School in the Punjab. Community Model Schools were established under Education Project (GPEP), in 1994 and funded by Asian Development Bank (ADB). A sample of three hundred and fifty schools was taken as ten from each thirty five districts of the Punjab. Both types of schools were taken in equal numbers, five from each district. Documentary facts were used for defining the results of class fifth conducted by the Punjab Examination Commission (PEC) of community model schools and Govt. Girls Primary School in Punjab. A questionnaire was designed to investigate and collect data about the results of class fifth. Data was analyzed by using descriptive as well as inferential statistical techniques of mean, standard deviation and t-test to compare both types of schools. Results indicated that Community Model Schools shown no wide difference in percentage of the results of class fifth than Govt. Girls Primary Schools during the period 2001-2005. The research presented that the performance of Community Model Schools is better than Govt. Girls Primary School in Punjab.

Keywords: Students' Performance, Community Model Schools, Remedial Measures, Project Development, Assessment

Introduction

The situation about Primary Education in Pakistan is not better regarding girls primary education especially in rural areas. The problem within the primary education sector is both qualitative and quantitative. The role of school performance is very important in the globalization of primary education in this era. There are still not appropriate facilities to accommodate all students of school going age. According to Economic Survey of Pakistan (2005-06) attainment of Universal Primary Education (UPE) has become a

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compelling national priority. This is challenge that has been accepted at the highest level in the Federal and Provincial governments. UPE is anticipated to increase in access to education by 4% reduction in gender disparity by 10% and enhancing primary completion rate by 5% per annum. The Education Sector Reform (2001-04) also focuses on Improvement in literacy rate and Universalization of Primary Education. It is one of the main objectives of ESR. There is strong co-relation of performance of school and physical resources have a high priority.

In the past year, 2187 new primary schools were established, 1221 in the public sector and 881 in the private sector. This increase has occurred in both rural and urban areas. The public sector was able to establish only 999 new primary schools for girls in 2004-05. The responsibility of expanding the primary and middle schools for girls has been devolved to District Governments under the devolution plan. To keep up this move Government of Punjab has established Community Model Schools at union council level to cater the and support the universal primary education. This project also aimed to uplift the education of girls and diminish the gender gap. A community school is the school which has the aim not only in giving the educational services to pupils, but in developing the community, recruiting parents and residents to the solution of social and other problems typical both for school and the community.

UNESCO Press International (2004) presented the alarming situation of education in Pakistan regarding girl's education stating that official statistics released by the Federal Education Ministry of Pakistan give a desperate picture of education for all, especially for girls. The overall literacy rate is 46 percent, while only 26 percent of girls are literate. Independent sources and educational experts, however, are skeptical. They place the overall literacy rate at 26 percent and the rate for girls and women at 12 percent, contending that the higher figures include people who can handle little more than a signature. There are 163,000 primary schools in Pakistan, of which merely 40,000 cater to girls. Of these, 15,000 are in Punjab Province 13,000 in Sind, 8,000 in North-West Frontier Province (NWFP) and 4,000 in Blochistan.

Similarly, out of a total 14,000 lower secondary schools and 10,000 higher secondary schools, 5,000 and 3,000 respectively are for girls, in the same decreasing proportions as above in the four provinces. There are around 250 girl's colleges and two medical colleges for women in the public sector of 125 districts. Some 7 million girls under 10 go to primary schools, 5.4 million between 10 and 14 attend lower secondary school, and 3 million go to higher secondary schools. About 1.5 million and 0.5 million girls respectively go to higher secondary schools/colleges and universities.

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Girls Primary Education Project
The Girls Primary Education Development Project Phase–I was launched in 1991 when the GPEP was conceived, the idea was that one Community Model School (CMS) would be established at each Union Council (UC) level for the education of rural girls. Presently there are about 6000 UCs in 4 provinces, where as 880 CMSs were established under GPEP (Phase-I) and 1054 CMSs are being constructed under GPEP Phase-II. As such, the gap of about 4000 UCs/CMSs need to be filled.

In our country Educational reforms have launched not only using indigenous resource but also seeking loans from foreign agencies. The main purpose of these reforms was to improve the teaching bearing environment especially at primary level. In our country at elementary/primary level in girl's schools there are two main problems i.e. (I) high dropout rate and (ii) unable to admit 100% corresponding age group of girls. These problems are less in urban areas as compared to rural areas.

According to Bari (2004) by primary education, we explicitly mean the first five years or grades of education, where the age of the child is between 5 to 9 years. In Pakistan we will take primary education to be first five years of education for a child starting at the age of about 5 or 6 years and graduating from primary school at the age of 9 or 10 years. The Government and the Bank have gained experience from earlier projects and are favorably placed to continue supporting school access quality improvement policies for girls in rural areas. The current Community Model Schools (CMS) network covers only 25% of 4,000 union councils in Pakistan. The Government is ready to undertake its second phase (1996-2000) to expand CMS under the proposed project so that greater union council participation in education will be developed through the CMSs: to educational support to surrounding smaller schools and venues for non-formal adult literacy programmes. Girls primary schools strategically placed in each union council provide access to a full five grades of primary education with opportunities for continued schooling. Government of Punjab opened 488 Girls Community Model Schools in every Union Council of rural areas with the help of Asian Development Bank. In continuation of this project Asian Development Bank and OPEC funds started the phase II of this project in 1996 in this phase the target was fixed to open more 542 schools, including 490 existing primary schools/or primary sections of high/higher secondary schools, converted into community model schools and to open 52 community schools at new places.

Purpose of the Study
The purpose of this study was to gather and utilize documentary data and perceptual data from the headmistress and teachers in order to see the difference of the results of class fifth conducted by the Punjab Examination Commission (PEC) of community model schools and government girls' primary schools in Punjab. The study also compares teachers' performance, students' performance, school councils' role, co curricular

activities, home work, lesson plan of teachers and available facilities of government girls' primary school and government girls' community model schools in Punjab.

Research Questions
1. What is the difference between school results of class fifth conducted by the Punjab Examination Commission (PEC) of community model schools and government girls' primary schools in Punjab?

2. How do teachers of CMS and GGPS perceive the teachers' performance, students' performance, school councils' role, co curricular activities, home work and lesson plan of teachers?

Hypotheses of the Study
1. There is no significant difference between the teachers' performance of CMS and GGPS.
2. There is no significant difference between lesson plan of CMS and GGPS in Punjab.
3. There is no significant difference between student performance of CMS and GGPS in Punjab
4. There is no significant difference between homework routine of CMS and GGPS in Punjab.
5. There is no significant difference between physical facilities of CMS and GGPS in Punjab.
6. There is no significant difference between co-curricular activities of GGCMPS and GGPS in Punjab
7. There is no significant difference between role of school council of CMS and GGPS in Punjab.
8. There is no significant difference between school environment of CMS and GGPS in Punjab
9. There is no significant difference between school results of class fifth of CMS and GGPS in Punjab

Methodology
The study was a mixed qualitative and quantitative descriptive design. The data were collected through document analysis and administrating a questionnaire for the Headmistresses of CMPS and GGPS. A sample of 350 Headmistresses were taken from 350 schools from thirty five districts of the Punjab. The equal number of schools and equal number of Headmistresses were selected from CMPS and GGPS. The simple random technique was used to select the schools and Headmistresses. The answer of the

second research questions was obtained from the responses of the teachers questionnaires.

Data Collection Procedures
Data was collected by administering the questionnaire. Questionnaires were administered by the researchers personally. The response rate for the questionnaire was 100% (n = 180).

Data Analysis Procedure
All of the administered surveys that had been received from respondents were examined and incomplete surveys were removed from analysis. The data was divided into two parts. The first part was covering the answer of first research question. The statistical technique mean, standard deviation and multiple bar charts was used to describe the answer of the research question two. The second part shows the answer of the second research question and all the hypotheses of the study. The answer of the first question was discussed by the document analysis and through the observations of these schools.

Findings and Discussion
The findings of the study were discussed according to the research questions.

Research Question 1
What is the difference between school results of class fifth CMS and GGPS?
The answer of the first research question was discussed through the actual observations of the both type of primary schools and documentary analysis. The difference of the class fifth results of CMS and GGPS is as follows:

Table-1: Results Comparison of Community Model and Govt. Girls Primary Schools

Result Range	Community Model Schools		Govt. Girls Primary Schools	
	Frequency	Percentage	Frequency	Percentage
60-70	2	1.14	2	1.14
71-80	8	4.57	15	8.57
81-90	45	25.71	38	21.71
91-100	120	68.51	120	68.57
Total	175	100%	175	100%

Table No. 1 indicated that both types of schools have no difference regarding the schools have 60-70% results. 8.57% Govt. Girls primary schools have 71-80% results as compared 4.57% Community Model Schools. 25.71% community model Schools have 81-90% pass percentage as compared to 21.71% of govt. girls primary schools. Sixty eight point five percent of community model schools have 91-100 percent results. It

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means both types of schools have no difference. It can be concluded that both of schools have no wide significant difference regarding the results.
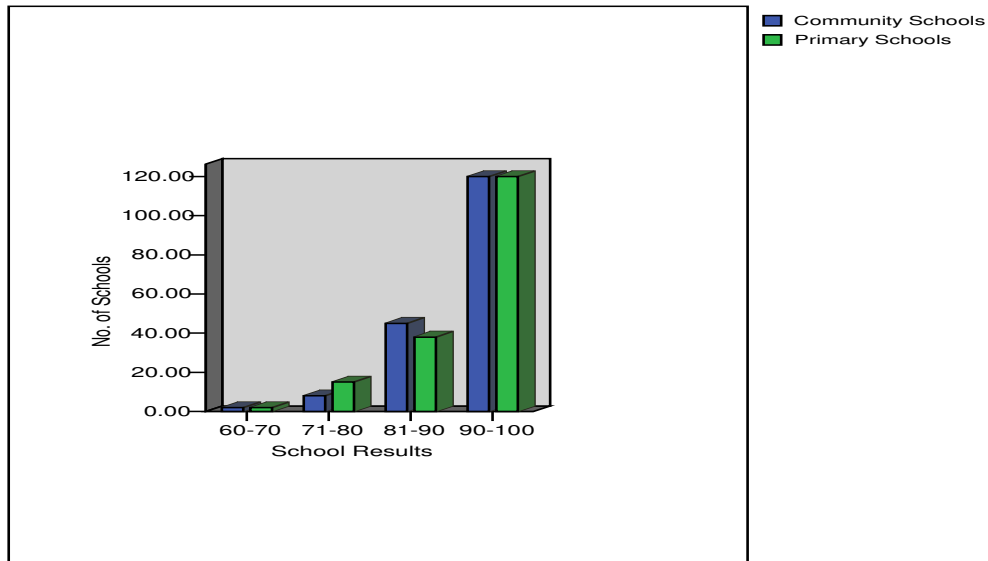
Research Question 2

How do teachers of CMS and GGPS perceive the teachers' performance, lesson plan of teachers, students' performance, home work, physical facilities, co curricular activities, role of school councils' and school environment?

Table-2: Mean Score and Standard Deviation of the Variables of GGCMPS and GGPS

Variables of	GGCMPS		GGPS	
	Mean	SD	Mean	SD
Teacher performance (TP)	83.1154	13.448	75.8187	15.76
Lesson plan of Teachers (LP)	83.3333	13.67634	76.0833	16.56088
Student performance (SP)	81.9014	13.27106	74.6190	16.43186
Homework routine (HWR)	79.5357	20.43708	73.9643	22.87335
Physical facilities (PF)	82.0714	16.44416	74.4286	20.35313
Co-curricular activities (CA)	80.3857	15.33979	75.000	17.86610
Role of school council (RSC)	64.9857	12.09145	60.1143	14.98284
School environment (SE)	82.5143	13.54050	75.2143	18.52041

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The data in Table 2 clearly show the mean score for the teacher performance and the lesson planning is higher as compared to the other variables of CMS and GGPS. The mean score of all the variables of CMS is greater than the mean score of GGPS

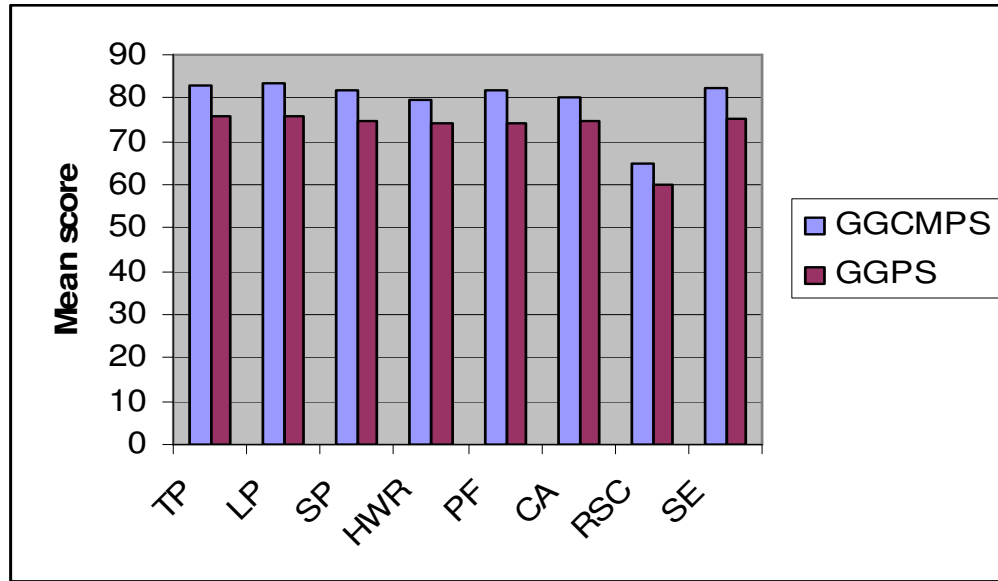Multiple Bar Graphs of the Mean Score of the Variables of CMS and GGPS

Table-3: t-test for comparison of the Variables of GGCMPS and GGPS

Variables		N	Mean	SD	t-test		
					df	t	Sig. (2-tail)
Teacher performance	GGCMS	175	83.1154	13.448	348	6.589	0.000
	GGPS	175	75.8187	15.76			
Lesson plan	GGCMS	175	83.3333	13.67634	348	6.315	.000
	GGPS	175	76.0833	16.56088			
Student performance	GGCMS	175	81.9014	13.27106	348	6.450	.000
	GGPS	175	74.6190	16.43186			
Homework routine	GGCMS	175	79.5357	20.43708	348	3.398	.001
	GGPS	175	73.9643	22.87335			
Physical facilities	GGCMS	175	82.0714	16.44416	348	5.465	.000
	GGPS	175	74.4286	20.35313			
Co-	GGCMS	175	80.3857	15.33979	348	4.279	.000

curricular activities	GGPS	175	75.000	17.86610			
Role of school council	GGCMS	175	64.9857	12.09145	348	4.734	.000
	GGPS	175	60.1143	14.98284			
School environment	GGCMS	175	82.5143	13.54050	348	5.953	.000
	GGPS	175	75.2143	18.52041			

The Table 1 shows the data analysis of eight variables of teacher performance of CMS and GGPS. The eight null hypotheses were accepted or rejected on the basis of t-test results. The detail discussion on the each null hypothesis is as follows.

H_{o1} There is no significant difference between teacher performance of CMS and GGPS in Punjab

Table 2 showed that t-value 6.589 for teacher performance is significant at $p \leq 0.05$ level of significance, so our null hypothesis is that there is no significant difference between the teachers performance of CMS and GGPS is rejected and it is concluded from the data that teachers of CMS have better performance as compared to GGPS teachers.

H_{o2} There is no significant difference between lesson plan of CMS and GGPS in Punjab

The t-value 6.315 for lesson planning is significant at $p \leq 0.05$ level of significance, so our null hypothesis is that there is no significant difference between the lesson plan of CMPS and GGPS in Punjab, is rejected and it is concluded from the above data that teachers of CMPS have more opportunities for lesson planning as compared to GGPS teachers.

H_{o3} There is no significant difference between student performance of CMPS and GGPS in Punjab

The t-value 6.315 for student performance is significant at $p \leq 0.05$ level of significance, so our null hypothesis is that there is no significant difference between the student performance of CMS and GGPS in Punjab is rejected and it is concluded from the above data that student of community model school have better performance as compared to govt. girls primary schools in Punjab having higher mean value(81.9014)

H_{o4} There is no significant difference between homework routine of GGCMPS and GGPS in Punjab

The t-value 3.398 for home work routine is significant at $p \leq 0.05$ level of significance, so our null hypothesis is that there is no significant difference between the homework routine of CMS and GGPS in Punjab is rejected and it is concluded that teachers of govt. girls community model schools have more better homework routine as compared to govt. girls primary school teachers in Punjab having higher mean value (79.5357)

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H$_{o5}$ There is no significant difference between physical facilities of community model schools and government girls' primary schools in Punjab

The t-value 5.465 for physical facilities is significant at $p \leq 0.05$ level of significance, so our null hypothesis is that there is no significant difference between the physical facilities of CMS and GGPS in Punjab is rejected and it is concluded from the mean value (82.0714) that CMS have more physical facilities as compared to GGPS in Punjab.

H$_{o6}$ There is no significant difference between co-curricular activities of CMS and GGPS in Punjab

The t-value 4.279 for co-curricular is significant at $p \leq 0.05$ level of significance, so our null hypothesis is that there is no significant difference between the co-curricular activities of CMS and GGPS in Punjab is rejected and it is concluded from the mean value (80.3857) that CMPS have more opportunities for co-curricular activities as compared to GGPS in Punjab.

H$_{o7}$ There is no significant difference between school council of CMPS and GGPS in Punjab

The t-value 4.734 for school council is significant at $p \leq 0.05$ level of significance, so our null hypothesis is that there is no significant difference between the school council of CMS and GGPS is rejected and it is concluded from the mean value (64.9857) that CMS schools have better school council as compared to GGPS in Punjab.

H$_{o8}$ There is no significant difference between school environment of CMS and GCPS in Punjab

The t-value5.953 for school environment is significant at $p \leq 0.05$ level of significance, so our null hypothesis is that there is no significant difference between the school environment of CMPS and GGPS in Punjab is rejected and it is concluded from the mean value (82.5143) that CMS have better school environment an compared to GGPS in Punjab.

H$_{o9}$ There is no significant difference between school results of class fifth of CMS and GGPS in Punjab

It is concluded that both of schools have no wide significant difference regarding the results.

Conclusion

In the light of the above discussion, it is clear that the school performance of CMS was better than GGPS with regard to teachers' performance, lesson planning, student performance, homework routine, physical facilities, role of school council and school environment. It can be concluded that both of schools have no wide significant difference regarding the results.

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On the basis of the findings of the study reported here, it is recommended that the GGPS should be funded. In other words, more funds may be provided to GGPS for better environment physical and academic facilities in these schools.

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Studying the Effects of Socio-Economic Status of Parents on Student's Academic Achievement

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Saima Kanwal[***]

Abstract

The aim of the research was to investigate the Effects of Socio-Economic Status of Parents on Student's Academic Achievement at Secondary Level. As it was a case study, one F.G Girls Secondary School of Islamabad was taken as a sample of the study. Fifty students and their respective parents were selected for the study. Two questionnaires were developed, and distributed among selected students of class 10th and their parents. To determine the socio-economic status, and identify different factors affecting student's achievement, percentage was used as a statistical tool. It was concluded that: (a) family belonging to low income status group had lower qualification as compared to middle income status and high income status group; (b) high income status group with less family members achieved better results as compared to those having more family members; and (c) students from high income status group had separate room for study. Major recommendations of the study are: (a) although education is free for secondary level; Government may take steps to facilitate lower income status parents as they can easily fulfill educational requirements of their children; (b) in-case of non-availability of separate room for study, the family members be advised to extend support and cooperation to students during study hours; and (c) parents of middle income status and low income status may appreciate their child, for performing well.

Keywords: Socio-Economic Status, Academic Achievement, Secondary Level

Introduction

Academic achievement at all levels depends on numerous factors ranging from God gifted talent, intelligence, child training, parent-child relations and child to child relationships to socio-economic status of the parents. Wholesome parental relationships characterize the home in which harmony is the key note. When discord is absent and love and sympathetic understanding prevail among all the members of the family, the home exerts a stable influence, which promotes happiness and normal adjustment. The broken home, caused by divorce or desertion, breeds insecurity and unhappiness, death of one of the parents, absence of both parents (because they are working), and the continuous presence of relatives at home are potential sources that may play their role to effect the academic achievement of the child (Ahmed, 2001).

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Parent-child relationships are fundamental to the happiness and security of the child. The love or affection of the parents may range from overprotection, over solitude, and overindulgence to one of rejection, severe punishment and complete domination. Moreover, parent's inconsistent approach, favoritism and comparison of one child unfavorably with another child may cause inferiority, resentment, problem behavior, or unhappiness amongst the child who is criticized and thus may ultimately affect his emotional statement and abilities to perform naturally and up to his potential.

Heyneman (2005) reports, that the home background effect of today is largely a product of an educational investment in a past generation. That better-educated parents raise children more creatively is not essentially a sign that the impact of the school is weak, but the opposite. Parental involvement is now considered to be a critically important component in the educational process and cognitive development of the children, whether this parental involvement comes in the form of helping with homework or visiting their school on their academic achievements. Ahmed, (2001) has appreciated human personality from different angles in search of plausible reality behavior, intelligence, innate potentials and performance under certain circumstances. Psychologists and educationists have also undertaken various studies to analyze and determine the causes of success and failure of students in the relation to different variables. The social and economic background status of the parents may result in overindulgence or overprotection by the wealthy parents, or in the neglect, rejection, and deprivation by the parents in the low economic brackets, and in each case academic performance of the child may get affected.

The term 'socio-economic status' (SES) generally refers to a person's overall social position and it is most commonly defined in terms of education, occupation, income and health, home and location and Association and Activities (Chaudary M.I,1961, Jefferies V.& Ransford 1980, Ahmad S, 2001). SES can be conceptualized narrowly (for example, education, occupation, income) or extended to encapsulate a range of factors, thought to compromise and/or consolidate it (for example, ethnicity, cultural background, gender, family structure and geographical location). Correlation between either of the above-mentioned aspects and students' achievement can be determined.

It is believed that families with high socio-economic status have success in preparing their children for school because they always have access to a wide range of resources at their disposal to promote, uplift and support their young ones. A research study by Hanes (2008), shows that limited wealth also exposes limited quality and variety of enriching experiences to which lower income status children are exposed. On the other end of the educational process, parents who are economically disadvantaged are less able to provide for further education after high school, as students may not be working to their fullest potential that would be required to enter into higher education.

Thomas and Stockton (2003), reports in a study of West Virginia districts, and schools in grades, 3, 6, 9, and 11, that a weaker level of correlation was found between SES and achievement at these levels. Additional analysis revealed that the smaller class sizes in most West Virginia schools tended to revolutionize the negative effects of poverty.

Memon (2007), reports that parental socio-economic status directly affects the academic performance of children. Families enjoying high status are capable to provide their children the best available facilities. The families with low socio-economic status are incapable to do so due to socio-economic constraints. Crinic and Lamberty (1994) believed that, segregating the nature of social economic class, ethnicity and race may well reduce the variety often enriching experiences thought to be pre-requisite for creating readiness to learn among children social class.

Ramey and Ramey (1994), described the relationship of family socio-economic status to children's readiness for school, as, across all socio-economic groups, parents face major challenges when it comes to providing optimal care and education for their children. However the changes are more acutely devastating among the poor families that are struggling to provide the basic needs necessary to sustain the family members. Jennifer (2006), affirms that smaller family size has been linked with higher academic achievement, at all levels since long. Students with fewer siblings are likely to receive more parental attention and have more access to resources than children from large families. The additional attention, encouragement and support lead to better school performance.

Objectives

- To determine the socio-economic status of the parents.
- To identify the factors affecting the academic achievement of the students.
- To study the effect of socio-economic status of parents on the academic achievement of the students.
- To suggest method of improving of academic standard of the student without taking consideration socio-economic status of parents.

Methodology

It was a case study, which is descriptive survey in nature. Using the convenient sampling technique only one Government Girl's Secondary School G-9/3 Islamabad was selected for this case study. The sample included 50 female students of secondary level education, along with their parents.

After going through the relevant literature, two sets of questionnaire were developed and used as a tool for the collection of data from the students and their patents. The researchers collected the data. The questionnaire of students consisted of 20 items. To

determine their academic achievement, last three years result was considered, which was available from the class teachers. The questionnaire for the parents, was divided into different sections, like, demographic information, which includes variables, such as occupation, and socio-economic information which included questions like level of parents education, their income, type of residence, house hold equipments, parent's supervision and time dedication for their children.

The collected data through questionnaires was analyzed to ensure whether there was any significant relationship between family income and academic achievements of the students. To determine the relationship between the income of the parents and academic achievements of the students, percentage was used as a statistical tool. The data was analyzed and interpreted in the light of objectives of the study.

Results

Table 1: Income Level of Parents

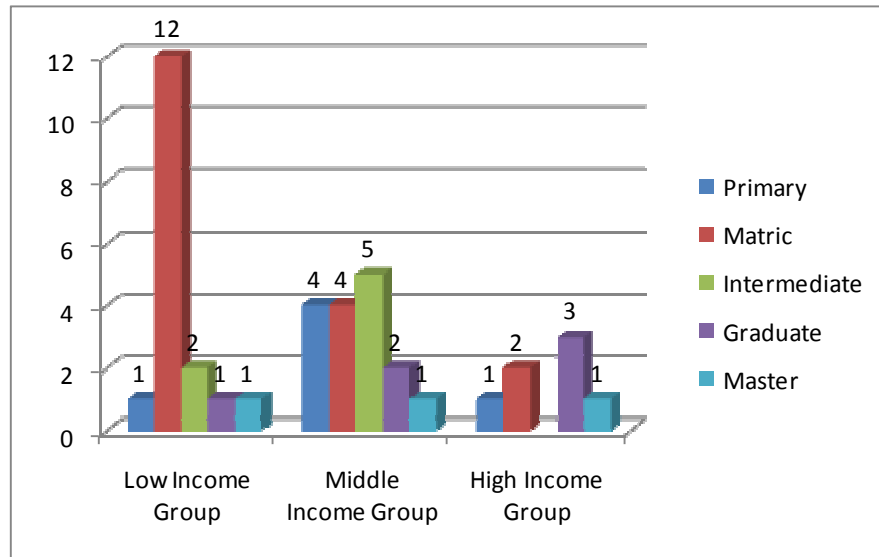|		**Income Group**			
		Low Income	Middle Income	High Income	Total
Occupation	Government	19	9	8	36
	Semi Govt	3	9	2	14
Total		22	18	10	50

Table 1 show that 22 respondents were from low income group in which 19 were working in government organization while only three were working in semi Government office. Eighteen respondents were from middle income group consisted of 9 government employees and nine semi government employees. Only ten respondents were from high income group comprised eight government employees and only 2 semi government employees

Figure 1 shows the education qualification of parents. It revealed that 27 percent of the fathers from low income status had matriculation degree, 50 percent of the fathers from middle income status had intermediate, and 50 percent of the fathers from high-income status had masters as their educational qualification. And 54 percent of the mothers from low income status had matriculation degree, 27 percent of the mothers from middle income status had intermediate and 30 percent of the mothers from high income status had graduation as their educational qualification.

Figure 2 shows the detail of family members of respondents It was revealed that 45 percent of the parents from low income status had 5-6 numbers of children, 72 percent of

the parents from middle income status had 3-4 numbers of children, and 40 percent of the parents from high income status had 3-4 numbers of children.

Figure- 1: Education Qualification of Parents

Figure- 2: Number of children
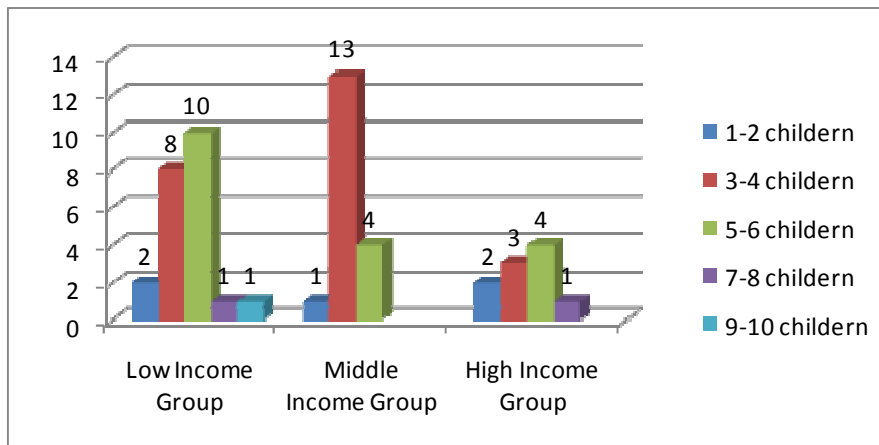
Table- 2: Factors effecting academic achievement of students

Income Group	Yes	No	To some Extent	Yes	No	To Some Extent	Yes	No	To Some Extent
	Lack of income resulted in non selection of good school effect academic performance			Lack of facilities at home effects academic performance			Monthly income fulfills requirement		
Low Income Group	16	1	5	10	12	-	8	8	5
Middle Income Group	7	4	6	7	11	-	8	3	7
High Income Group	9	-	1	7	3	-	9	-	1

It was revealed that 73 percent of the parents from low income status agreed that if their income did not allow supporting their child's education in good school/ colleges, it affected their academic performance at the end, 39 percent of the parents from middle income status agreed, and most (90 percent) of the parents from high income status also agreed. As it was discovered that 82 percent of the parents from low income status considered economical planning for their child's education, 73 percent of the parents from middle income status agreed, and most 90 percent of the parents from high income status agreed. It was exposed that 55 percent of the parents from low income status disagreed that their child had a separate study room, 65 percent of the parents from middle income status disagreed, and most (70 percent) of the parents from high income status agreed, that their child has a separate study room.
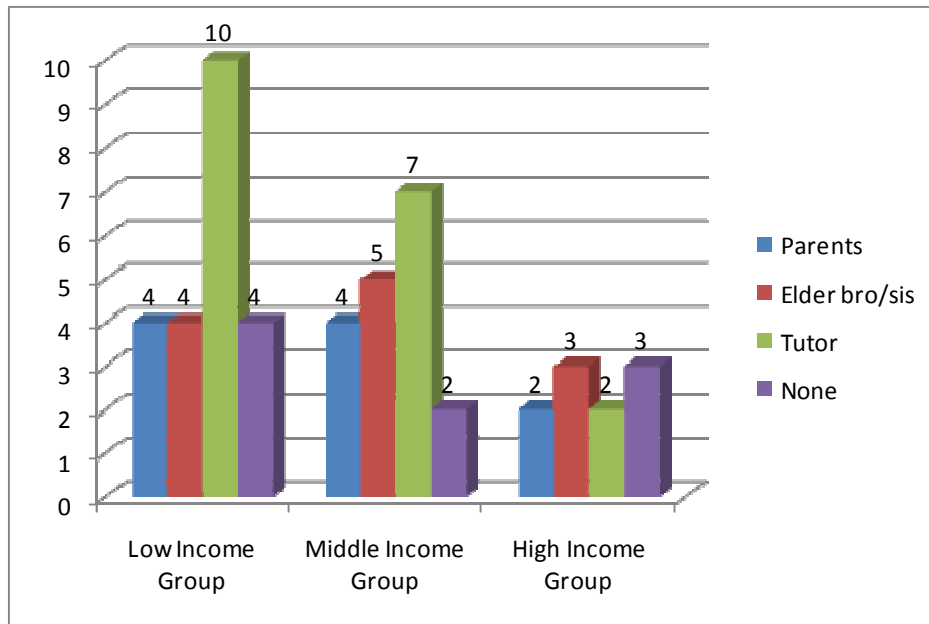
Assistance at Home
It was revealed that 45 percent of the students from low income status had the opinion that they were supervised by their tutor, 39 percent of the students from middle income status were supervised by their tutors, 30 percent of the students from high income status were supervised by none, and 30 percent were supervised by their elder brother/ sisters.

Child's Requirements Fulfilled in Time

It was revealed that 64 percent of the parents from low income status arranged the requirements of their child in time, 72 percent of the parents from middle income status agreed, and most (90 percent) of the parents from high income status also agreed.

Figure-3: Assistance provided to children at home

Parental Involvement in Studies

It was revealed that 50 percent of the parents from low income status dedicated 2-3 hours to their child, 44 percent of the parents from middle income status dedicated 2-3 hours, and 30 percent of the parents from high income status dedicated 3-4 hours. Parental involvement is in the form of assistance in academics.

Appreciation from Parents

It was revealed that 41 percent of the parents from low income status had the opinion that they gave best wishes to their child when they performed well, 56 percent of the parents from middle income status appreciated, 20 percent of the parents from high income status gave best wishes, 20 percent appreciated, and 20 percent awarded money.

Pocket Money

It was exposed that 50 percent of the students from low income status had the opinion that that they had enough pocket money, 65 percent of the students from middle income

status had enough pocket money and 80 percent of the students from high income status had enough pocket money.

Academic Performance
It was revealed that 55 percent of the students from low income status were low achievers, 56 percent of students from middle income status were high achievers, and 60 percent of the students from high income status were high achievers.

Table-3: Effect of socio economics status on Academic Performance

Independent variables	Values	Mean	Statistics	Sig.
Income Group	Low Income Group	1.45	F = .346	.709
	Middle Income Group	1.55		
	High Income Group	1.60		
Occupation	Government	1.33	F = 26.00	.000*
	Semi Govt	2.00		
	Private/non Govt	2.33		
Educational Qualification	Under Metric	1.00	F = 14.68	.000*
	Metric	1.00		
	Intermediate	1.20		
	Graduate	1.84		
	Masters	2.00		
	PhD	2.00		
	Technical Education	2.00		
Residence	Own House	1.00	F = 11.76	.000*
	Rented House	1.00		
	Official House	1.70		
	Living with Relatives	2.00		
Supervision	Parents	1.00	F= 24.00	.000*
	Elder Bro/Sis	1.16		
	Tutor	1.78		
	None	2.00		

Significance p<.005

The significance value p=.709 shows that there was a significant difference in the academic achievement of students among different income level group. While no significant difference was found among occupation, educational qualification, residence and supervision on academic performance of students.

Conclusions

From the findings of the study, following conclusions are drawn;

1. Family belonging to low income status group having lower qualification as compared to middle income status and high income status group.
2. High income status group, with less family members, achieve better results as compared to those having more family members.
3. High income status and low income status group are mostly aware of the fact that if their income does not allow them to support their child's education in good school/colleges, it affects their performance at the end.
4. Mostly high income status parents consider economical planning for their child's future education. As they realize that, it is the only way to properly manage their child's academic expenditure, which will eventually lead, towards their future academic and career success.
5. Students from high income status had separate room for study, at home. That proves to facilitate their academic performance.
6. Students from low income group rarely have assistance from their parents or elder brother or sister. Those who have any assistance that is from tutors. It has thus, been determined that those who have tuitions only, do not show better results.
7. Parents from high income status arrange the requirements of their child in time. That helped to augment their achievement.
8. High achiever students are assisted at home, as high income status parents dedicated 3-4 hours daily to guide and assist their child's studies.
9. High socio-economic status parents award their child with money, appreciation and best wishes on well performance.
10. Students from high socio-economic status receive comparatively enough pocket money from their parents. So they can fulfill their personal requirements easily.
11. Students, whose parents are educated and taken interest in their ward's education, have shown better results. As they can fully understand their child's educational requirements.
12. High achievers are found in high income status group and middle income status group, which were depicted through their result. Whereas most of the low achievers are from lower income status group.

Discussion

The research revealed that parents of high income status were highly qualified as compared to middle income and low income group. This qualification had a positive effect on the performance of their wards. Heyneman (2005), in an article, supported by World Bank, reports, those children, who belong to more educated home backgrounds performed significantly better than children from less-educated home backgrounds in Australia. Findings of a study (2001) to investigate the effects of socioeconomic status of

parents on students' academic achievement of Chinar Army Public School and College, Murree, also supported this research that whose parents were educated and taken interest in their wards' education, had shown better results. Heyneman (2005) also reported, that parental involvement is now considered to be a critically important component in the educational process and cognitive development of the children, whether this parental involvement comes in the form of helping with homework or visiting their school on their academic achievements.

The family size also effects the academic achievement of students. In this research less family members of high and middle income groups achieved comparatively better results. Jennifer (2006), affirms that smaller family size has been linked with higher academic achievement, at all levels since long. Students with fewer siblings are likely to receive more parental attention and have more access to resources than children from large families. The additional attention, encouragement and support lead to better school performance.

The high and middle income status was more focused on the academics of their children. As a result their level of educational achievement was also high. Most of the low achievers were from low income group as parent's qualification level was low. They were striving hard to earn bread and butter for the family. The provision of family educational assistance was rare; tutors were available only. Ramey and Ramey (1994), supported that parents face major challenges when it comes to providing optimal care and education for their children. However the changes are more acutely devastating among the poor families that are struggling to provide the basic needs necessary to sustain the family members.

The socio-economic status of parents effects academic achievement of students as provision of facilities. Memon (2007), was in favor that parental socio-economic status directly affects the academic performance of children. Families enjoying high status are capable to provide their children the best available facilities. The families with low socio-economic status are incapable to do so due to socio-economic constraints.

Recommendations
Keeping in view the findings of the study following recommendations were made for Government, parents, educational planners and policy makers and the school authorities for consideration in the provision of educational facilities.

1. In case of non-availability of separate room for study, the family members may be advised to extend support and cooperation to students during study hours.
2. Parents belonging to lower income status may assist their children at home rather than rely on tutors only. They may dedicate daily some time to guide/assist their child in study.

3. Parents of middle income status and low income status may appreciate on well performance of their child and also provide extra incentive for their children in school

4. Although education is free for secondary level; Government may take steps to facilitate lower income parents as that they can easily fulfill educational requirements of their children.

5. Parents as well as institutions may have provision of recreational facilities to divert student's attention from excessive watching of television programs. For better physical and mental health of future generations welfare organizations and corporations may be approach.

6. To reduce the gap between the have and have not, the school administration may provide a conducive and encouraging atmosphere for the children to learn even from those who are opportune to have access to extra learning facilities at home.

7. Teachers as implementers of educational facilities may have a balanced view of children from various socio-economic backgrounds, as to blend their teaching, so that all will benefit equally, especially those, deprived from physical facilities.

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Educational Measurement and Testing: Historical Perspectives

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Abstract

Some milestones in the history of educational measurement and testing have been discussed in this paper. This historical perspectives of measurement and testing can be divided into four main era i.e. (1) development during Ancient and Medieval (2) Nineteenth Century development (3) First 60 years of Twentieth Century (1900-1960) and (4) From 1960-Till Date. This brief survey of the history of measurement and testing reveals that how we proceed from oral to written examination/evaluation, from limited domain (cognitive only) to comprehensive (all domains) measurement, and from Subjective measures to Objective measures. This history also covered the significant educational events and developments like Competitive Civil Service Examinations, I.Q. Test, The Medical College Admissions Test (MCAT), The Scholastic Aptitude(Assessment)Test(SAT), The GRE, The GMAT, SPSS, American Psychological Association(APA), NTS, and Educational Testing and Evaluation Agency (ETEA).

Keywords: Educational Measurement, Testing, Nineteenth Century, Subjective Measures, Objective Measures

Introduction

One of the best ways to begin a study of a subject like educational measurement is to review the history of its development. Obviously the means we use today were developed in the past. We will understand their functions and limitations better if we know something of how they came into existence (Ebel, 1972, p.3). History of measurement and testing can be divided into the following four (4) era:

1.   Ancient and Medieval
2.   Nineteenth Century
3.   First 60 years of Twentieth Century(1900-1960)
4.   From 1960-Present

Ancient and Medieval

Oral Examinations: It may be assumed that teachers have always measured or evaluated the work of their pupils, but evidence of early records indicate that this was generally don through oral questioning or personal observation e.g. Des-e-Nizami in religious Dar-ul—Ulooms. In each community there was a "School Committee" of citizens responsible for the local schools to visit the school at least once in a year for inspection to examine the pupil by asking those questions. Curtis (1967) states that "examinations were largely oral,

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even, when universities were established in Europe in the Renaissance and frequently took the form of public disputations on controversial questions" (p.64).

Chinese Civil Service Exam: China was the only country in the ancient time where an extensive system of written examinations of educational achievements formed the basis for admission and promotion in the civil service of ancient China. This system of Competitive civil service examinations was introduced by Emperor Shun in 2357 B.C.

Nineteenth Century:
In1832 English East India Co. used exam, (copied idea from Chinese exam) to select employees in Sub-Continent. In 1836, the University of London was established for external examination for degrees. It had no faculty, no students and offered no courses. This service of examining body was extended to students in all parts of British Empire, including Sub-Continent i.e. India and Pakistan.

In 1845, written vs. oral examinations controversy aroused. But due to the efforts of Horace Mann, who was the secretary of the Massachusetts Board of Education, oral examination replaced by written examination. Competitive Civil Service Examinations, for the first time were introduced in the United States and England in 1850 and 1855 respectively. In 1864, the Rev. George Fisher developed and published Scale Book that gave examples or specifications of a wide range of levels of quality in Hand writing, spelling, mathematics, knowledge of scripture and other subjects of study. In 1865 State Testing Programme was initiating, starting with high school admission test. These uniform, impartial examinations were well received, and in 1878 a similar programme of high school graduation and college admission examinations were instituted.

Test of Mental Faculties (1890): In 1890, James Mckeen Cattell undertook to measure mental ability by measuring precisely certain sensory, motor and basic mental faculties. He thought that there should be a direct relation between a persons' ability in these elemental processes and his ability to use higher mental process such as reasoning, critical thinking, and creative imagination.

AAMC (1890): The Association of American Medical Colleges (AAMC) was established by 66 medical school deans in 1890 with a purpose to elevate the standards of medical education. In the 1960s, the Association opened it door for teaching hospital executives, medical school faculty, and medical students to have a voice in the governance of the AAMC. According to Hackett J. L(November 1996) AAMC is a private, nonprofit association with its membership comprised of the 125 accredited U.S. medical schools; the 16 accredited Canadian medical schools; more than 400 major teaching hospitals; 86 academic and professional societies representing 87,000 faculty members; and the nation's 67,000 medical students and 102,000 medical residents. The

Medical College Admissions Test (MCAT) serves as the entry screening assessment for most U.S. medical schools, developed by the Association of American Medical Colleges (AAMC).

Survey testing for school Reforms-1894: In 1894, Dr. Joseph, M. Rice, a retired Physician who had become an educational reformer, used several types of spelling tests administered to thousand of school children. Dr. Rice was a skillful pioneer in test construction.

College Entrance Examination Board-1899: In United States, before 1900 higher education admission criteria was not uniform. Diverse entrance requirements of the colleges and varying quality of instruction in the secondary schools had complicated the process of transfer from schools to colleges. Charles w. Eliot, president of Harvard suggested a proposal that to supplement or replaced some of the course completion requirements with measures of course achievements. So for the purpose of reconciliation for the considerable variation in entrance procedures between colleges in the United States, the College Board was formed. On Nov. 17, 1900 Formation of the College Entrance Examination Board (CEEB) formally announced. College Entrance Examination Board has been a major factor in shifting the basis for college admission from socioeconomic status to academic aptitude over the years.

First 60 years of Twentieth Century (1900-1960):
Thorndike, R .L. & Hagen, E. (1969) divided the history of first 60 years of 20th century of Psychological and Educational Measurement into four equal parts.

I. The Pioneering Phase (From 1900-1915): This was the period of exploration and initial development of method. The first text book of Educational measurement, written by Thorndike, "father of modern educational measurement", was published in 1903. First Binet-Simon scale (1905) of mental development used to classify mentally retarded children in France. Standard Achievement Test, Buckingham's spelling Test, Trabue's language Test, Group test of Intelligence, standardized test of arithmetic(1908) and Hand writing Scale of Thorndike (1910) were developed during this period. World War I (1914) produces need in U.S. to quickly classify incoming recruits, so as consequently, Army Alpha test and Army Beta test developed.

II. Boom Period (1915-1930): Standardized tests were developed for all the content area of the school programme. This era saw emergence and development of achievement batteries, starting with Army Alpha of World War-1. Woodworth Personal Data Sheet and personality Inventories, for personality measurement came into being. In 1916, Terman developed Stanford - Binet test and the idea of Intelligence Quotient (IQ). The Scholastic Aptitude Test (SAT; renamed since 1994

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the Scholastic Assessment Test) was developed in 1926 by Carl Brigham, a young psychologist teaching at Princeton" (Powell, 2003, p.6). In June 23, 1926, First SAT, made up primarily of multiple-choice questions, was administered. To provide cooperation among the schools in the test selection, use, purchase, distribution, scoring and interpretation, the Educational Record Bureau was established in 1927. In 1929, Louis L. Turnstone developed a number of attitude scales. In 1930 AAMC first sponsored an objective test for applicants to medical school (called the Scholastic Aptitude Test for Medical School until 1946). In 1946, this test was renamed the "Professional Aptitude Test" and then finally it was renamed the MCAT in 1948. This test measures a student's knowledge of the sciences, analytical skills and the English language (Mitchell, 1987).

III. **Period of Critical Appraisal (1930-1945):** In this period the experts concentrate their efforts to broaden their approach to "Evaluating" achievement of the whole range of educational objectives instead of "Measuring" a limited range of academic skills. Testing service established in 1930. Attention was focused on measurement of such outcomes of instructions as attitude, interest, and the ability to use the scientific method. In 1935, a Michigan school teacher, Reynold B Johnson, with the help of IBM, developed an Electric scoring machine. On October 1, 1937, The first GREs, known at that time as the Cooperative Graduate Testing program, were administered to first year graduate students at Columbia, Harvard, Princeton, and Yale Universities. The use of objective test, the whole underlying philosophy of quantification and the use of number to express psychological qualities were critically attacked in this period.

IV. **Period of Test Batteries and Testing Programme (1945-1960):** During the II World War, there was no progress in this field. A large amount of research on the nature of human abilities was conducted by armed services. Guidance programme came as result of World War. Integrated Aptitude Batteries for educational and personal use multiplied during this period. The test, administered by College Entrance Examination Board expanded in size and multiplied in number in this era. In this period standardized testing were widely administered, used and accepted by the society. Educational Testing Services (ETS) was established in 1947. Jan. 1, 1948 ETS started operations in Princeton, NJ. The LSAT was administered for the first time in Feb. 1948. Since 1951, the Dental Admission Test (DAT), administered by the American Dental Association (ADA) is the basic requirement for admission to all U.S. dental schools (Kramer, G.A., 1990).

V. The GMAT (called the Admission Test for Graduate Study in Business until1976) was administered for the first time in 1954.TheTaxonomy of Educational Objectives were emerged in 1956.Benjamin S. Bloom played a major role in initiating,

developing and completing this project. Three types of objectives were identified-cognitive, affective and psychomotor. The cognitive taxonomy has become especially well known and has had considerable impact in stimulating the development of tests that "measure more than knowledge".

VI. From 1960-Till Date: The concept of Criterion-Referenced Testing (CRT) was introduced in 1965. American Psychological Association (APA) published "Standards for Educational & Psychological Testing" in 1965. In 1967, the Canadian Dental Association introduced the Dental Aptitude Test (DAT) for the selection of dental students into dental schools in Canada. This test was developed keeping in view the American Dental Admission Test (Boyd, Teteruck, & Thompson, 1980).Wechsler Intelligence Scale was developed by David Wechsler in 1968. In 1968 **SPSS** is developed by Nie, Hull & Bent .They were Stanford University graduates students. "Guidelines for computer-based tests and interpretation" were developed by APA in 1986. the Swedish Scholastic Assessment Test (SweSAT) was introduced in 1977 for selection to different types of university programmes and therefore it is intended to measure the students' general aptitude for studies(Christina, S., 1999).The Graduate Australian Medical School Admissions Test (more commonly known as the GAMSAT) was originally produced in 1995 by four Australian medical schools as a tool to select for candidates applying to study medicine.GAMSAT is designed to assess problem-solving and data interpretation in the social, physical and biological sciences, as well as critical thinking, reasoning and written communication.(Groves, Gordon,& Ryan,2007). In 1995"Guidelines for computerized- adaptive test (CAT) development and use in education" were prepared by American Council on Education. Educational Testing and Evaluation Agency (ETEA),an independent and autonomous educational body, established by the government of NWFP in November, 1998 with an objective of holding entry tests for admission to engineering and medical and dental colleges of NWFP province in a transparent, fair and academically sound manner(ETEA Ordinance,2001,p.1). American Psychological Association (APA) revised the "Standards for Educational & Psychological Testing" in 1999. APA published the 5th edition of "publication Manual of American Psychological Association" in 2001.

In Pakistan, National Testing Service (NTS) established in 2002, on the recommendation of education policies of 1992 and 1998. GAT (Graduate Assessment Test) is test conducted by NTS. GAT test has become pre-requisite for M.Phil and PhD studies in Pakistan and is also basis of merit for foreign scholarships managed by HEC. This is also called GRE type test but it is not equivalent to GRE. It is worth noting that the test which is conducted in Pakistan is not GRE in itself. Actually, it is GRE type test. GRE is official trademark of Education Testing Service (ETS), which conducts GRE for US and foreign students.

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Educational Services of Sadiq Egerton College Bahawalpur (1886- 2010)

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Abstract

Bahawalpur remained a state from 1727 to 1947. This was the first state which merges with Pakistan on October, 3rd 1947. This state has a lot of contribution to uplift the standard of Education. The Nawabs of Bahawalpur have focused on the education because they know the importance of education for a Nation. Sadiq Muhammad Khan IV (Ameer of Bahawalpur) and Robert Egerton (Governor of Punjab) made the historical institution in Bahawalpur in 1886. This was called as Govt. Sadiq Egerton College because of their names. This old and historical college served the people of the state and region from 1886 to date. In this article the educational services and history of this college has been discussed.

Keywords: Educational Management, Educational System, Mudarsah, Review Performance, Instaurations.

Introduction

According to Khan (1986) Sadiq Egerton College, Bahawalpur was established in 1886, after the establishment of Forman Christian College Lahore (1864 A.D.) and Government College Lahore (1866 A.D.) as the third educational institution in Pakistan. It is pertinent to note the marvelous academic background of Bahawalpur region before reviewing the 125 years history of S.E. College. Bahawalpur region has possessed grand academic traditions since old times and this can be witnessed by the reminiscent of the scattered seats of learning throughout the latitudes and longitude of the region. The most ancient centre of learning was the "*Buddha University*", which was established during the reign of *Raja Kanashka* (120 – 144 A.D) (The Punjab Govt. 1905), and its remnants still exist near Sui Wihar in the shape of stupa on the National Highway at a distance of 25 kilometers from Bahawalpur.

Islamic Period and Promotion of Knowledge

Similarly the present town of "Uch" has also remained the centre of promotion and propagation of religious knowledge in the Indo-Pak sub-continent. The first ever Islamic seat of learning was established by *Hazrat Sheikh Safiuddin Gazroni* (RA) in 980 A.D.,

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with about 500 students had been seeking education (Shehab, 1982). The *Sumra* dynasty of Sindh during their rule (1053-1400 A.D.) set up a *Madrassah-e-Ferozia* in Uch Sharif. When *Nasiruddin Qabacha* became a sovereign ruler of Multan, Bahawalpur, Sindh and Marwar, he declared Uch Sharif as his capital, and then he appointed Qazi Minhajuddin Siraj, the author of the "*Tabqat-e-Nasiri*" as the Superintendent of that institution (Siraj 1975).

Due to these strenuous efforts more than 2500 Muslim students of central Asia had been quenching their thirst of knowledge from this great institution. In addition to this in the adjacent town of Bahawalpur, Uch Sharif, the exalted figures and accomplished religious scholars   like, Hazrat Jalauddin Surkhposh Bukhari (RA) (Rehman 1930), Qazi Jamaluddin Uchi, Syed Hassan Kabir, Syed Muhammad Ghouse Halabi, Shaikh Jamal Khandaroo set up the private institutions. At that time Uch Sharif was popularly known as "*The City of Knowledge*" due to the presence of a group of renowned educational institutions (Imam, 1964).

The Abbasi Daudpotras established the Bahawalpur State in the 1727 A.D. which possessed a great academic and religious background. As a progeny of great *Abbasid Khilafat* they set up seminaries of *Masjid Maktab* combination in the far flung areas of the state, keeping up with the rich tradition of their ancestors. When Nawab Muhammad Bahawal Khan I (1746-1749) laid the foundation of his capital *Dar-ul-Suroor* Bahawalpur in 1748 A.D, he also constructed a *Jamia Masjid* (grand mosque) at the site of present locality of "*Machli Hatta Mohallah Bagh Mai Wal*a" and established the first-ever state sponsored school adjacent to the Jamia Masjid (Nearom, 1996). Numerous schools and seminaries were founded by Religious Scholars and ministers of the state, apart from the schools launched by the Bahawalpur State.

Among the above-mentioned seminaries in the middle of 18th century Deputy Qazi of Bahawalpur city Hafiz Gul Hassan also established one   in   Masjid Gul Hassan constructed by him in Shahi Bazaar, which was later on attributed to him and was known as "*Madrassah-e-Farsi Gul Hassan Naib Qazi Wala*" (Sadiq News Paper, 1877). During the initial period of the rule of Nawab Sadiq Muhammad Khan IV (1879-1899) in 1879 A.D. for the reward of future virtue to the departed soul of his mother, not only extended the area of Masjid, but declared it as a State seminary and appointed Maulvi Khalil Ahmed of Saharanpur (1852- 1927) as its superintendent. Afterwards the seminary was attributed to Maulvi Khalil Ahmed (Merath, P-125), But when the religious institutions of the state were re-organized, then this school was named as the *Saddar* (Principal) *Madrassah-e-Arabia*, Bahawalpur. Later on it was merged into Egerton School in 1882 A.D. and the Islamic Studies department of Egerton Collegiate School in 1886 A.D. When the school and college were separated in 1910, its previous status of *Madrassah* (religious schools) was restored. This was the same institution which later on

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gradually accomplished the phases of *Jamia-e-Abbasia* in 1925 *Jamia-e-Islamia* in the year 1964, and *Islamia University Bahawalpur* in 1975 (Tahir, 2007).

The modern education was launched in Bahawalpur in 1867 A.D. with the creation of an Anglo Vernacular Primary Mission School under the supervision of Church Missionary Society, Multan (Sadiq News Paper, 1867). Initially this mission school was situated in Shahi Bazaar adjacent to *Masjid Hafiz Gul Hassan*. After a short time this school was promoted as a middle school. The teaching of the subjects of English, Urdu, Persian, Hindi and Mathematics were imparted. The expenditure of the school were equally shared by the State and the Church Missionary Society, as the only English medium school of the state was unable to fulfill the educational needs of the entire State.

During the rule of the agency (1866-1879), which was formed to look after the affairs of the state due to the infancy of Nawab Sadiq Muhammad Khan IV, the care-taker government under the supervision of British political agent, Col, C.C.Minchin, inaugurated vernacular institutions in the eighteen important towns of the State, in 1868-69. These were also known as "*rural Madrassahs*". The teachers of these *Madaris* used to be mainly the *Imams* of the local Mosque. When the education department of the State was established in 1870 A.D., by the tutor of Nawab Sadiq Muhammad Khan IV, Mr. Doran, then the re-structuring of all the educational institutions of the State was processed and the total number of the rural Madaris was increased to 32.

At the same time, in order to get the teachers of the rural Madaris to get acquainted with the modern methods of imparting education, a *Madrassah-tul-Muallameen* (Normal School) was created on 1st August, 1871 A.D. Syed Chiragh Shah was appointed Head Master of this institution (Sadiq News Paper, 1871). As there was no building for the Madrassah, so it was established in a part of the Municipality building for the time being. This was located at Chowk Bazaar at that time. For this purpose one room, kitchen and bath room were constructed at a cost of Rs.800/= (eight hundred only) by Karim Bakhsh, a contractor from Lahore, but the responsibility of completion and supervision of this project was conferred to the *Kotwal* of the city. Academically the normal school was divided into two sections. One part of this institution was "Normal School" comprised of the training institution for the teachers, as already mentioned, while the other part was the premises of "Anglo Vernacular Middle Public School" and mostly only the children of privileged class sought education in the beginning (Tahir, 2007).

The coronation and investiture ceremony along with the conferring of powers to Nawab Sadiq Muhammad Khan IV had been executed by the Her Majesty Queen of Britain's representative Lieutenant Governor Sir Robert Egerton (1877-1882) . The Governor accompanied with his wife before relinquishing the charge of his office visited Bahawalpur on 16th February, 1882 two months before his retirement on 2nd April, 1882 and called on the Nawab for a farewell meeting. The Nawab keeping up with the rich

oriental traditions in a bid to express his practical gratitude to his benefactor, announced a monument by attributing a project of building an upper English oriental school as "Egerton School" . However he properly announced the project on 13ᵗʰ April, 1882, at his private educational institution, *Multani Kothi (Purani Kothi)* (Sadiq News Paper, 1882, P.P 5-6). With this announcement, the normal school was upgraded as a High School, but the classes were continued in the normal school building, until the completion of the project. The teachers training class was abolished. Its middle school section was merged in Egerton School. Furthermore the Principal Arabic Madrassah of Bahawalpur previously known as "Madrassah Farsi Hafiz Gul Hassan Wala" and "Madrassah-e-Arabia Maulvi Khalil Ahmed" was declared as the Islamic Studies department of the new school. The curriculum of this school was similar to Oriental College, Lahore.

A big hall size room was added to the building of old normal school to set up Egerton School immediately. However in July, 1883, on the present day location of Chah Fateh Khan Road, on the site of present *Zanana Jubilee Hospital*, the construction of the new building of Egerton School was initiated. When it was completed in A.D., 1883, then the school was shifted in this newly constructed building. This was the same building, where Egerton College was established in its beginning during the year 1886 (Khan, P.P. 39-40).

It may be mentioned here that the Egerton School was set up after only seven years of Mohammedan Anglo Oriental School in Aligarh in the 1875 A.D. This was a revolutionary step, as in the area comprising of Pakistan boundaries, the high school education facility didn't exist earlier, and Nawab Sadiq Muhammad Khan IV extended his utmost assistance in providing the facility of modern education to the public of Bahawalpur State.

With the launching of Egerton School in Bahawalpur had opened his doors up to secondary education and the Matriculation examination result had been excellent, so now the necessity of higher secondary education was being felt in the state. In this background on 25ᵗʰ April, 1886, the Educational Committee of the Bahawalpur State submitted the proposal of upgrading the status of Egerton School to launch F.A. classes in the school (Sadiq News Paper, 1886). Its final approval was sought from Nawab Sadiq Muhammad Khan IV, the ruler of the State. However, the inauguration of the college was held on 27ᵗʰ September, 1886 by the Secretary of Educational Committee, Munshi Ghulam Nabi, during the annual prize distribution of Egerton School, which was being presided over by the Nawab himself. Soon after this announcement the practical measures were being adopted for formal opening of the college in October, 1886 and furniture, rugs and blackboards were also acquired for use. A Bengali Hindu Babu Parsan Kumar Bose of Jagan Nath College Dhaka was appointed its first Principal on 17ᵗʰ October, 1886, while several senior teachers of the Egerton School were appointed as

college teachers, for example, in September, 1886, Professor Ram Rattan (1886–1902) was appointed to teach *Mathematics*, Maulana Khalil Ahmed Saharanpuri was selected o teach *Islamic Studies* who had already been the same subject in the Egerton School (Khan, P. 21). After his resignation, on 3rd October, 1889, Maulvi Noorudin was appointed in his place. Apart from him for the teaching of *Persian* and *Mathematics* Maulvi Abdul Malik and Sheikh Naseerudin, *Arabic*, Maulvi Ahmed Bakhsh Arabic and Maulvi Jamiat Ali, *Mathematics*, Maulvi Muhammad Din, *English and Philosophy* and Mirza Muhammad Ashraf Gorgani, *History and English,* were appointed as Professors. The monthly remuneration of the college Principal was two hundred and fifty rupees, *Professor of Mathematics* was drawing one hundred and twenty five rupees, *Professor of History*, one hundred rupees and *Professor of Philosophy* was getting a monthly salary of fifty rupees. Some administrative responsibilities had also been conferred to the school teachers. For example Lala Dev Ram, third master looked after the purchase of stationery, attendance registers and deposit of fee collection amount in the treasury. Similarly the second master was used to work in the office as dispatcher, while the charge of library and the fixtures of the Madrassah were in the possession of Maulvi Abdul Rehman and the duty of hostel superintendent was performed by Maulvi Jamiat Ali. Furthermore these teachers due to their immense knowledge were responsible to inspect and supervise the Sadiq School and other institutions, so Munshi Siraj Din, Maulvi Abdul Rehman and Maulvi Waheeduddin conducted the examination in Sadiq School and a professor of the college supervised the examination of the Middle Schools in Ahmedpur and Khanpur. For the lower services two peons were employed @ Rs. 21/= per month each, two water carriers @ Rs. 6/= and a sweeper @ Rs. 3/= per month (Sadiq News Paper, 3rd May, 1894 P.4).

The Egerton College comprised of the following three sections from 1886 (its inception) to 1911.

I) Inter College Section:
In the beginning of this section, consisted of two classes, 1st year and 2nd year of F.A. and teaching of the subjects of English, Arabic, Persian, History, Islamic Studies, Philosophy and Mathematics, was imparted. At the time of inception, only seven students sought admission in 1886. The total number of students has risen to 3658 in 2010.

II) Secondary Section:
Although the separate identity of Egerton School was established in 1886 after the set up of Egerton College, but the school position was determined as secondary section of the college. This is the reason that this educational institution was attributed as "Egerton Collegiate School", in official correspondence at that time.

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III) **Islamic Studies Section:**

The oriental and religious studies section was already established in the college. Its curriculum was on the style of Oriental College, Lahore. The classes of Maulvi Alam, Maulvi, Munshi Fazil, Munshi Alam and Munshi, which were known as the Oriental Languages, has been arranged in the college. The curriculum comprised of literature logic and Islamic Studies.

In the Text Books Alf Laila, Kafia, Saba'a, Muaalaqa, Shafia, Abul Fazal, Chahar Gulzar and Sarf Bahai, and the books composed on religious studies and ethics composed by the prominent teachers of the state were specially included. In fact this section was the remnant of the previous regimes of "Saddar Madrassah-e-Arabia" (Principal Arabic Seminary), which was in its beginning, was attributed as "Madrassah Hafiz Qazi Gul Hassan Wala" and "Madrassah Maulvi Khalil Ahmed". After the set up of the college, Maulvi Khalil Ahmed Saharanpuri, who was the scholar of Darul Uloom Deoband and Darul Uloom Saharanpuri, was appointed the chairman of the section. When the school and the college sections were separated and were shifted in the newly constructed buildings opposite Farid Gate, then the Islamic Studies section was granted the status of Saddar Madrassah Arabia for whole of the state in its previous building located in Mohallah Kajal Pura. This was the same institution which was elevated to "Jama-e-Abbasia" in 1925, "Jama-e-Islamia" in 1964 and "Islamia University of Bahawalpur" in 1975 (Khan).

The total of students seeking education in the three sections with their percentage can be assessed from the following table-1.

Table-1 yearwise Number of students

Year	Total No. of Students	Hindu	Muslim	Sikh	Average Attendance
1888	75	45	28	2	69%
1889	81	48	30	3	70%
1890	86	52	31	3	71%
1898	72	40	30	2	68%
1899	75	42	32	1	63%

Undoubtedly, the foundation of the college on local basis was positive advancement for the launching of higher education in the present region of Pakistan. The importance of the fact can be judged from this that soon after the inception of college. Indian Viceroy Lord Curzon (1886-1888) reached Bahawalpur from Calcutta on 31st October, 1886 (The Gazetteor of Bahawalpur State 1904, P-345). During his visit he himself visited every classroom to monitor the academic activities. He also had a meeting with the teachers and

the students, and specially paid rich tributes to Bahawalpur State rulers for their commendable academic efforts.

The institutions of the modern education in Bahawalpur can also be stated as a link between the chains of Aligarh movement. The Egerton College was established in 1886, exactly after the nine years of the set up of Muhammedan Anglo Oriental College in 1875. its main reason was that the cordial relations between Sir Syed Ahmed Khan and Aligarh movement with the Bahawalpur state rulers had been established since 1870. Sir Syed had sent a delegation to Bahawalpur for this purpose, so on this occasion the donations of Rs. 2000/= from the mother of Nawab Sadiq Muhammad Khan IV and Rs. 1000/= from the State Treasury were provided for the existence of an educational institution in Aligarh (Sadiq News Paper, 1870, P-4). Similarly the first ever financial help was provided by the Nawab of Bahawalpur. On various occasions, a total amount of Rs. 3, 00,000/= were donated to Aligarh by the Bahawalpur State, while annual donation amount of Rs. 3200/= were regularly submitted up till 1947. Furthermore wheat was also sent to Aligarh from Bahawalpur State (The Bahawalpur archives, 6th March, 1945). The set up of a college in Bahawalpur can be regarded as the consequence of the mutual cordial relation with the Aligarh educational movement.

Bahawalpur State enjoys a unique honour among the Muslims states of the Indo-Pak sub-continent that the first ever college in any state was established here, while according to antiquity it was established soon after the setting up of the Government college Lahore and the Forman Christian College Lahore in the Punjab province of Pakistan. As far as the capital of Sindh province, Karachi, is concerned, the launching of first ever intermediate college could only be possible in 1887. However in the surroundings Saint Stephen College was set up in Delhi. Contrary to this no college existed in the states of Rajputana and Punjab. However, in Patiala State, Mahinder College came into being in 1887, exactly one year after the inception of Egerton College. In a huge state of Jammu and Kashmir, SP College Srinagar and Prince of Wales College were inaugurated twenty years later, while Randhir College in Kapurthala was opened in 1896. While in the neighbouring District Multan, Emerson College was launched in 1920, 34 years after Egerton College (Khan, P.22).

It was the period when Balochistan and NWFP lacked the facility of higher educational institutions. This college of Bahawalpur was not less than a divine blessing for the students belonging to the areas out of the state, as the doors were open for everyone. Up till 1915, there were no charges of tuition fee. However an amount of Rs. 2/= was imposed as tuition fee in 1916, but fee remission remained in practice as previously (The adminstraative report of Bahawalpur State). It may be mentioned that at that time the students had to pay Rs.4/= as tuition fee in the colleges set up by the British Government (Rehman, 1940). Similarly the brilliant, deserving and intelligent students were also

awarded scholarships. The students from Multan, Muzaffargarh, Dera Ghazi Khan, Jhang, Mianwali, Sahiwal, Rawalpindi, Sialkot and Jullundhar used to get admission in this college to avail these benefits (Khan, P.22).

In 1892, this college was upgraded as Degree College, (Rehman, 1940, P. 118) but in 1900, due to the shortage of students, increase in expenses and the bad results, the degree classes were abolished after eight years, however, the degree college was launched on regular basis after twenty years in October, 1926 (The Adminstration report of Bahawalpur State). As Sadiq Muhammad Khan IV's role was very significance in the inauguration of the college, so in recognition of his great services in the field of knowledge, the name of college was changed from "Egerton College" to "Sadiq Egerton College" (Rehman, 1940, P.118).

At the time of its inauguration Egerton College was set up on Chah Fateh Khan Road in the location of present day's Jubilee Zanana Hospital in 1886, where the number of students increased within four years. The building became insufficient for them. Hence from 1890 to 1895, a very huge building was constructed in the present Giri Ganj Bazaar's north and right side on the entrance of Mohallah Kajal Pura, which comprised of 23 rooms and a middle size hall. The foundation of this building is as such that except for the gate, the rooms have been constructed all around. However, no playground or hostel was constructed adjacent to this building. This is the same building, in which the Egerton College including secondary classes and Islamic Studies section was set up, up till 1911. When the building of SE College with clock tower was completed on Baghdad road's right side, in front of Farid Gate in 1911, then the college shifted in it (The adminstration report of Bahawalpur State). The secondary section of the college was set up as Sadiq Dane High School, was set up in the old building OF Technical High School and the College's Islamic Studies Section was set up in Mohallah Kajal Pura as "Madrassah-e-Arabia" (Khan, P. 19).

The matter worth consideration was that the percentage of the local students was very discouraging and low at only 13%, while the Muslim population of the state was 93%and there were only 2 % native Muslim students in the college. Further sorry state of affairs was more serious that from 1886 to 1899 in a span of thirteen years only three successful students belonged to the State. Hence the prevailing situation was not encouraging, because three to five per cent educational budget of the State was incurred on Sadiq Egerton College after the launching of B.A. classes in the college in 1892.; but only 12 students appeared in the B.A. annual examination and only two achieved success and there was no state native student among them (Secretary Educational Committee P.4). This was the main reason that the interim government set up in 1900, after the sad demise of Nawab Sadiq Muhammad Khan IV in 1899 abolished the B.A. classes.

In brief up till the death of the founder of college Nawab Sadiq Muhammad Khan IV, the college had gained the status of degree college from an inter college. It results had been 100%. It can be reviewed from the following table:

Table-2: Results of the Sadiq Egerton College Bahawalpur

Year	1888-89	1889-90	1890-91
Hindu students	06	10	10
Muslim students	1	1	4
Total students	7	11	14
Average attendance	7	9	12
No. Of students taking examination	5	5	4
No. Of successful students	4	5	4
Result percentage	80%	100%	100%

Source: Muhammad Tahir, Riasat Bahawalpur Ka Nazm-e-Mumlakt (1866-1947), Ph D Thesis (unpublished), the Department of History, Bahauddin Zakaria University Multan, 2008, P 140.

Nawab Muhammad Bahawal Khan V (1903-1907) was an enlightened young man and old student of Aitcheson College, Lahore. He wished educational development in his state. Nawab Muhammad Bahawal Khan V launched an excellent building for S.E.College and its hostel. In 1907 the political agent of the State Colonel Ddllis laid the foundation stone of this project, which was completed after the death of Nawab Muhammad Bahawal Khan V in 1912. The hostel completed ahead of the college building in 1908 (Sadiq News Paper, 1908, P. 2), and the college premises were completed in 1911. This is the same building with domes and clock tower , now houses Sadiq Dane High School, and the hostel building , which housed female polytechnic institute up till 2009 was demolished in January,2010.

In view of the recommendations of the *"Indian University Act"* during 1905, the passed out university graduates of Punjab University, Lahore, were appointed as Professor in Govt. S.E. College Bahawalpur (The adminstration report of Bahawalpur State, 1905).

Review of College during the Regime of Council of Regency (1907-1924)
After the death of Nawab Muhammad Bahawal Khan V the administration of the state was entrusted to the council of regency for the third in 1907, time, which was headed by Maulvi Rahim Bakhsh. This interim government looked after the affairs of the state for a

span of seventeen years (Agensy ki Hakumat). In the same period the college was affiliated with the Punjab University, Lahore, and the affiliation used to be endorsed by the inspection committee of the Punjab University on annual basis.

The detail of the students enrolled in all sections of the college during the rule of Nawab Muhammad Bahawal Khan V can be reviewed with the following table:

Table-3: Number of students admitted students during the rule of Nawab Muhammad Bahawal Khan V

Year	1888-89	1889-90	1890-91
Hindu students	06	10	10
Muslim students	1	1	4
Total students	7	11	14
Average attendence	7	9	12
No. of students taking examination	5	5	4
No. Of successful students	4	5	4
Result percentage	80%	100%	100%

Source: *Muhammad Tahir, Riasat Bahawalpur Ka Nazm-e-Mumlakt (1866-1947), Ph D Thesis (unpublished), the Department of History, Bahauddin Zakaria University Multan, 2008, P 155.*

S.E.College has the unique honour that in 1911, Sir Mian Muhammad Shafi and in 1913 (The adminstration report of Bahawalpur State, 1910, 11, P.16), Sir Fazal Hussein visited this institution for inspection (The adminstration report of Bahawalpur State, 1912-13 P. 31). Similarly the most memorable day in the history of college was on 3rd February, 1915, when our national poet, Allama Muhammad Iqbal accompanied the registrar of the Punjab University, Lahore, Mr. A. C. Woolner for an inspection visit of S.E.College (The administration report of Bahawalpur State 1913-14 P. 30). This honor has only been achieved by S. E. College, Bahawalpur that three prominent leaders of Punjab, visited to monitor the academic activities of the college.

Although the affiliation committee of the Punjab University, Lahore, led by Vive-Chancellor, Dr. J.C.R. Ewing, had recommended launching the science classes in 1915, but due to the shortage staff and lack of laboratories, no immediate action was possible on this proposal (The administration report of Bahawalpur State, 1915-16, P.5). Hence in 1926 after completing the proper arrangements the class of F.Sc. , Pre –Engineering was inaugurated ((Sadiq News Paper, 3rd June, 1926, P.9).

During the First World War, the State had to face extreme economic sanctions due to being an ally of British Empire. Due to this problem tuition fee was imposed on students in 1916. However the deserving and poor students continued to take the benefit of the fee discount.

The total number of the students at the start of regency rule in 1907-08, was 24, which rose to 69 in 1924. In the meantime a positive development was observed that the number of Muslim students exceeded the number of Hindu students for the first time ever. Dui\ring this period the number of Muslim students was 55, while the Hindu students total declined to 14 in all the three disciplines of the college. But on the college level, still only 15% local students were studying, while there were 85% students from the areas not included in the state (Din, the annual administration report of the education department, 1915-16).

In the middle of the regency rule six teachers had been posted for teaching the Intermediate, Arts classes in the Sadiq Egerton College. But with the launching of F. Sc. classes there was an increase in the college teachers. At that time the education of some teachers was graduation, some of them were Master's degree holder, while for the Islamic Studies and Oriental languages, some teachers were only Munshi Fazil and Maulvi Fazil. More or less every teacher was deputed to teach at least two subjects (The administration report of Bahawalpur State 1918-19. P.18). Another fact is revealed from the detail mentioned above that almost all the college teachers possessed proficiency in English at that time.

Hence S. E. College possessed a unique position during the regency rule due to its magnificent building, furniture, faculty and other facilities. The boarding house also had adequate capacity for the students. The co-curricular activities continued on regular basis even at that time. The annual prize distribution functions were organized by the management for the encouragement of the students, and for presiding over this significant ceremony, the important personalities from within the state and outside the state were be invited. In a similar ceremony in January, 1914, young Nawab Sadiq Muhammad Khan V graced the function along with the Lieutenant Governor Punjab, Sir Michael O'Dwyer and Lady O'Dwyer and distributed prizes among the students with distinction (The administration report of Bahawalpur State, 1913-14, P.30). Furthermore literary societies had also been also set up under the direct supervision of the Principal. The tutorial system was also going on very smoothly with success. But in spite of the multi dimensional reflection of the college the results during the initial four years were very disappointing. In 1907-08 one out of ten students, while in 1910 and 1912 respectively, six students each took part in F.A. examination conducted by the Punjab University, Lahore., and only one student in each year passed in the examination,

although an annual expenditure of Rs.12, 000'- was being incurred on the college annually (The director public instructions of Bahawalpur state 1913-14, P-12).

The head of the third interim government of state council of regency, Maulvi Rahim Bakhsh, asked the director public instructions to conduct an inquiry for the disappointing performance of the students in the examinations. Furthermore it was also decided that in future the scholarships would be awarded only to those students, who had passed their matriculation examination from the local schools (Din, 1915-16, P-2). The decision was taken in the same pattern, as was in 1911, when the college administration was reconstituted after the separation of school from college. Hence the state government warned the college administration to fulfill its responsibility for improving the academic standards and examination results. Simultaneously the president of council of regency summoned the conference of the educated persons of the state to discuss the prevailing circumstances that whether the college should be abolished in view of the consistent examination result which was not up to the mark or the education in the college should be continued. It was decided in the conference that college should be remained intact, but necessary changes in its teaching staff should be made. Hence with the combined efforts of the government and the college teachers, the improvement of the results was being produced, which can be reviewed through the following table. It is being considered necessary to explain a fact that the ratio of the local students studying in this college of the state was only 15% and the prevailing situation was more perplexed that the Muslim students' ratio in this college of the state with 86% Muslim population was only 2%, while the ratio of state's Hindu population was 13%. It may also be mentioned that 85% scholars here, belong to the areas outside the state (Din, 1915-16, P-2).

In 1923, college's literary magazine, "Nakhlistan-e-Adab" was launched to promote the literary potential of the students. Its English section was named "Oasis". Ahmed Nadeem Qasmi started his literary masterpiece work through this college magazine. He was a student of B.A. in S.E.College Bahawalpur, during 1934-35 and also served as a editor of "Nakhlistan-e-Adab" published in spring 1935. Up till 2006, 49 issues of this magazine has published, which include 15 special numbers. The current special issue "125 years number" will be its 50th issue (Tamnsvi, 2006, P-29-32).

System of College during the Reign of Nawab Sadiq Muhammad Khan (V) (1924-1955)
The period of Nawab Sadiq Muhammad Khan (V) was exemplary with regards to the education development in the history of the state, as the Nawab was educated from the Aitcheson College, Lahore. He was enthroned on 9th March, 1924, by the Indian Viceroy, Lord Reading. The Viceroy, along with young Nawab inspected the college in detail, on the same evening at about 5 pm (Sadiq News Paper, 17th March 1924, P-15). He also discussed many suggestions for the development of the college. Nawab Sadiq

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Muhammad Khan (V) played a vital role in transforming the S. E. College into an excellent institution up till the merger of the state with Pakistan.

In 1926 for the first time the classes of F.Sc. (Non- Medical) were launched, while the classes of B.A. were restored with effect from October, 1926, after a lapse of 26 years, as B.A. classes were abolished in 1900 (Sadiq News Paper, 14th October, 1925, P.2). In this period special measures were taken to fulfill the shortage of the staff. In 1926, the registrar of the Zamindara Bank, Mr. Inayat Hussain, was directed by the Nawab to teach the subject of Economics to the students, as an additional responsibility (Sadiq News Paper, 14th October 1925, P.2).

On 5th June 1926 Dr. Shuja Namoos, M.Sc., was appointed as Chairman, Science Department. He was the first Muslim of Northern India to achieve the degree of M.Sc. (Physics). He also possessed the degrees of the Master's in Arabic, Persian, Pushto and Sheena. In 1938, on the advice of Allama Iqbal, he achieved PhD on his research, "Services of Muslims in Science" (Khan, P.76-99). Hence S. E. College Bahawalpur possesses the unique distinction of having the services of a Ph.D. teacher. Undoubtedly this was an honour which no college had achieved up till that time. Similarly the first ever Professor in the subject of Chemistry, Prof Chaudhary Muhammad Afzal was appointed in 1926. The academic progress in the college to the extent that the classes of B.A. (Honours) in the subject of Persian were launched (Nakhlistan Adab, 1972, P.18).

In the period of Nawab Sadiq Muhammad Khan V the college Convocation began to be held regularly. The first ever Convocation was organized under the supervision of State Education Minister, Maulvi Shamsuddin (1922- 1949), on 21st January, 1937 (Sadiq News Paper, 28th January 1937, P.2). Later on the tradition was initiated to invite dignitaries of Indo Pak sub-continent to grace the occasion. For example, the 14th March, 1940 Convention was presided over by Syed Suleman Nadvi, the renowned Muslim Scholar of the sub-continent (Nakhlistan Adab, 1st October, 1949, P. 6-11), while on the occasion of the 7th March 1943 Covention, Dr Khalifa Shujauddin; Barrister at Law was the chief guest (Nakhlistan Adab, 1943, P. 15-26). In the 1944 Convention, Registrar of the Punjab University, Lahore was invited and on the occasion of 26th April, 1946, Principal of Jamia Millia Islamia College, Delhi, Dr Zakir Hussain presided over (Nakhlistan Adab, 1947, P. 13-16). It may be recalled that Dr Zakir Hussain was appointed as the first ever Muslim President of India in 1967. All these great scholars presented their intellectual addresses on these occasions.

Apart from these convocations in the period between 1944 to 1946, on different occasions, famous Archaeologist, Sir Mark R L Stein, Dr Ziauddin, Dr Hadi Hassan and Dr Methai from Aligarh University and Professor Diwan Sharma of the Punjab University, Lahore, delivered extensive lectures (The administration report of

Bahawalpur State 1944-45, P.93).

During the rule of Nawab Sadiq Muhammad Khan V , the boundless spending of huge amount on the completion of Sutlej Valley Project (1922-1933) and the eruption of the Second World War (1939-1945) , in which total resources of Bahawalpur were ungrudgingly at the disposal of the British, due to the state being an ally of the British in the war, also greatly affected the very important education sector ,; but in spite of that Bahawalpur State possessed the superiority over other local states of British India and most of the British controlled districts (Tahir, Riasat Bahawalpur Ka Nazm-i-Mumliqat, 2007).

In 1941, one hundred students of the college were imparted the basic military training. This course was named as B.O.A.T.C. (Bahawalpur Officers Army Training Course). The main objective of the course was to prepare a group of army recruits in the state during the Second World War (The administration report of Bahawalpur State 1942-43, P. 94). Special rifles were manufactured for the training. The stock of these rifles is still lying in the previous building of S.E.College (now S.D. High School).

Educational Development from 2nd World War to Independence
In the year 1943-44, F.Sc. Pre Medical classes along with the classes of B.A. (Hons) in the subjects of English, Mathematics and Economics were introduced. In 1945 the introduction of M.A. English and M.Sc. Chemistry was planned but due to non-availability of teachers and other administrative problems, it could not be implemented (The administration report of Bahawalpur State, 1945-46 P.115).

In 1943, the college was provided the services of Prof Dilshad Kalanchavi. For the teaching of the subject of Economics in 1943, who were also a renowned critic, writer and researcher of the Saraiki language and literature (Nakhlistan-e-Adab, 1986, P. 49-63). In 1945-46, the passed out graduates of the Punjab University, Lahore, Abdul Haq, Muhammad Hayat and Anwar-ul-Haq were appointed professors. Similarly the salaries of the college teachers were also enhanced (The administration report of Bahawalpur State 1945-46, P-114). In 1942-43, the local students, whose parents' monthly income was less than Rs: 150/= were exempted from Hostel fees and College tuition fee. In this way almost all the local students took the benefit of this compensation. Furthermore an amount of Rs: 124/= per month was fixed a s scholarship for the deserving students of the college (The administration report of Bahawalpur State 1942-43, P. 94). Due to the good reputation and the facilities provided to the students, the number of students in the college rose to 376 in 1945-46. But simultaneously the college expenses also enhanced to 70% more. But the set up of Inter College in Bahawalnagar in the same year 1945-46, the number of college students declined to 281 from 376 (The administration report of Bahawalpur State 1945-46, P. 114). Similarly when in 1947, due to the partition of Indo

Pak sub-continent, the non- Muslim population migrated to India. Then, too, the total number of the students in the college faced further decline and the college became a pure and 100% Muslim institution.

The total number of the students in the college was 79 in 1924-25, which further enhanced to 281 in 1945-46. The result of Inter Arts of the college was 52%, which improved to 60% in 1938-39 and declined to 45.4% in 1945-46. Similarly the result of B.A. was 54,7% in 1938-39; which enhanced to 58.3% in 1945-46. In 1924-25, only 39 students were residing in the hostel, and the number enhanced to 75 in 1945-46. The total expenses incurred on the college were Rs.22957/=, while these expenses rose to an amount of Rs.116339/= in 1945-46 (The Bahawalpur government Bduget 1945-46, P. 34).

A Review of S. E. College Bahawalpur to the Creation of One Unit (1947-1955)
During the mentioned period the college achieved many phases of development. The building of the college's hostel was extended. The students were strictly bound to wear the uniform and keep the identity card to maintain discipline in the college. The proctorial and tutorial systems were also introduced. Furthermore the exhibitions of educational movies were also arranged. The pay scales of the teachers were revised and improved (The administration report of Bahawalpur State, 1949-50, P. 38). The college achieved success with leaps and bounds due to these measures adopted by the college management. After Pakistan's independence the military training was declared compulsory for all students (Sadiq News paper, 3rd June, 1948). For this purpose Lieutenant Aziz Watni was appointed in the college.

On 5th June, 1951, the Prime Minister of Bahawalpur State, Colonel A J C Dring laid the foundation of the present building of S. E. College. The College shifted in the existing premises in May, 1951 (Khan, P-43). The campus of the college is extended over an area of 677,500 square feet (about six and a half acre of land) (Zaidi, 1995, P. 61). It was constructed under the supervision of the Superintending Engineer of the State, Sheikh Ahmed Hassan. It may be mentioned herewith that on the architectural and construction pattern of S. E. College building, a number of educational institutions were constructed in the three districts of the state, which include, Islamia university Bahawalpur's Abbasia Campus, Government College, Bahawalnagar and Government Khawaja Farid College, Rahim Yar Khan. Initially the double storey building of S.E.College comprised of forty lecture rooms, two laboratories each of Biology, Chemistry and Physics, and one laboratory each of Education, Geography, Psychology and Statistics. Furthermore a double storey hostel, Qasim hostel, was also built in 1951 to accommodate 150 students (Kha, P.43). Actually the present building of S.E.College was constructed for S. D. High School. But due to the shortage of lecture rooms in the present S. D. High School, it was decided that the S.E. College might be shifted in the new building (Sadiq News Paper, 1952, P. 5). In 1952, an amount of Rs.150, 000/= (one lakh fifty thousand only) were

allocated for the extension in the college building. In the same year the project of residences for the professors of the college was initiated but when only eleven residences had been constructed that the project was abandoned due to the creation of one unit in 1955.

Later on, on the remaining land of this college which is located in the north of the existing colony location to the south of the existing main road and to the west between the college hostel and the Islamia University in the east was seized by the influential persons during the one unit period illegally by transferring the land as their ownership and afterwards changed into housing scheme and sell it out on nominal rates. There was no flush system or disposal of drainage in the constructed residences. The flush system facility was provided in 1973 (Nakhlistan Adab, 1984, P. 33), but the colony could not be completed. Recently in 2010, the renovation of the colony has been completed. In the meantime, the college got the services of a very capable English professor Eric Charles Dickinson to serve as principal from 1950 to 1952. He was a graduate of Oxford University, England, and was a author of several books of English literature and poetry. He started his carrier as the professor of English from Aligarh University. He also served as head of English Department, Government College Lahore, for twenty years (1927-1947) (Sadiq News Paper, 3rd January, 1952, P. 5). The decision of shifting of college in new and extensive building is bound in gratitude to him (Khan, P. 61).

Professor Dickinson had special consideration for the Archeological sites and the local cultural heritage Bahawalpur region. He collected several samples of remains of the distant past from the latitude and longitude of Bahawalpur, with his personal efforts. A room in the college was attributed to him as "Dickinson Museum" for the preservation of these specimens (Nakhlistan Adab, 1972, P. 48-49).

In 1952, S.E.College availed the services of a former Professor of Economics in Muslim University Aligarh, Professor Muhammad Anwar-ul-Hassan, who was an economist of world fame (Sadiq News paper 1952, P. 14). In March, 1952, Punjab University approved the introduction of B.Sc classes, so immediately an amount of Rs. 33, 000/= were allocated for the provision of equipments and books for the physics department and the degree classes in the subjects of physics and mathematics were also introduced in the same year (Sadiq News Paper 14th February, 1952, P. 5). Furthermore, in 1952, for the refugee students studying in the college and those refugee students who had passed out, scholarships were allocated for seeking higher education (Nakhlistan Adab, 1973, P. 5-7). The performance of college, during the rule of Nawab Sadiq Muhammad Khan V, can be reviewed from the following table.

S. E. College from the Creation and to the Abolition of one Unit (1955-1970)
On 14 October, 1955, Bahawalpur State was merged into Wets Pakistan province due to

the creation of one unit. Prior to this all the resources of the state used to be in the possession of local administration. Amir of Bahawalpur and State Prime Minister used to make every possible effort for the development of educational sector. In this regard, the period of democratic government established during the last spell of the state, 1952-1954, was unprecedented. After that, during the one unit, the development of S. E. College Bahawalpur was also effected like other sectors of Bahawalpur and all the development projects were shifted to Punjab. In 1957, extension was made in the college building. It was the same era, when the Sharif Commission constituted by Ayub Khan, submitted its report on education. As a result of this report, although no progress in the educational development was observed but it did produced various types of administrative problems. For example, after implementing these reforms, the inter and degree portions, which were situated in the same building were separated in two parts. A Review of the Performance of S. E. College during the Rule Of Nawab Sadiq Muhammad Khan (V).

Table-4: Performance of S. E. College during the Rule of Nawab Sadiq Muhammad Khan (V)

Year	1924-25	1938-39	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45	1945-46
No. Of students	69	-	357	418	418	418	428	376	281
Results percentage of inter arts	52%	58%	42%	58.1%	66.9%	38.3%	57.7%	52.8%	65.2%
Results percentage of inter science	-	60%	58.3%	59%	72.7%	46.1%	58%	38%	45.4%
Results percentage of b.a.	-	54.7%	40%	66%	87.9%	52%	47.5%	42.1%	58.8%
Boarders	39	-	-	-	-	-	110	110	75
Income from tuition fee	2017	-	-	-	-	-	-	-	-
Expenses	22957	38134 1104%	-	-	47421 12%	46951	59283	68071	116339

In 1967, the intermediate portion of the college was shifted in the new building, present Post Graduate College. In 1968, another change was made and inter college was divided into two parts and its half portion, along with the staff returned to the S. E. College building, but this staff was administratively under the inter college management, while the receipt of fee and other dues was the responsibility of S. E. College. The college was inflicted a great loss due to this double standard. During 1968, the total number of students was 1320, and there were 50 teachers. The total number of departments was 18 (Khan, P. 36).

S. E.College from 1970 to Date
When one unit was dissolved in 1970, all the provinces of West Pakistan were restored, but the separate unit of Bahawalpur State was included in Punjab province instead of restoration. Hence, S. E. College also became bound in gratitude to the civil secretariat, Lahore, for its development budget instead of the local administration.

During 1970, S. E. College Bahawalpur was granted the status of Post Graduate College for the first time and the approval was sought for the introduction of classes of M.Sc Economics and M.Sc Physics. However the Physics classes became a victim of red tapism but the classes of Economics were initiated and continued successfully up till 1977. But in the same year, this department was shifted to the Islamia University, Bahawalpur (Nakhlistan Adab, 1973, P. 8).

In 1972 the college availed the services of Prof, Munawwar Ali Khan as Principal (1972-1979), who was a very fine teacher and a great administrator. A number of development .projects were completed in his tenure, especially a "Serious Study Room" was added to the college library in 1972, and special furniture was also designed for this purpose. He also installed the board with the record of Principals in chronological order along with their pictures (Nakhlistan Adab, 1982, P.13).

On 21st May, 1979, Mr. Justice Javed Iqbal, son of our National Poet Allama Muhammad Iqbal, Presided an inter-collegiate declamation contest. On another occasion, world fame Muslim scholar, Dr. Hameedullah presented his exclusive learned address on 9th March 1980 (Nakhlistan Adab, 1986, P. 381).

As regards the academic development in the college, the five year period of Principal Professor Ghafarullah Khan (1985-1990), possess special significance. The most memorable event of his tenure is the week long centenary celebration from 1886 to 1986. These celebrations were organized from 26th April to 1st May, 1986. On 5th May, 1986, Governor Punjab, Makhdoom Muhammad Sajjad Hussain Qureshi presided over the session. On this occasion, the great grandson of the founder of college Nawab Sadiq Muhammad Khan (IV), Prince Salahuddin Abbasi, who is entitled as the preset Amir of

Bahawalpur, installed a memorable stone of the centenary of S.E.College, Bahawalpur (S.E. College Kuwaij Nama 2007, P-4).

In the tenure of Principal Professor Abdul Haq Sehmi (1990-1992), the Post Graduate Classes were reintroduced in the college and as a development, the department of M.Sc of botany was instituted in 1991 (Kuwaij Nama, 2007, P. 2).

During the tenure of Principal Professor Dr. Syed Daulat Ali Zaidi (1993-2003), many development projects were completed in the college. In 1999, the building of Statistics Department was completed in the southern part of college and the classes of M.Sc Statistics were launched. The Masjid of the college was also given extension and a permanent Imam was appointed (S.E. College Brosher, 2010). The renovation work of the entire building was completed in the financial year of 2000-2001 and the total amount about Rs. 9.9 million were incurred on the project. Nawab Salahuddin Abbasi, played a prominent role in the provision of budget.

Prof Muhammad Niaz Chaudhary served as Principal for only one year and due to his active personality made efforts to rectify the administrative irregularities. In his one year tenure, he sought the approval of the introduction of five post graduate programmes in Chemistry, Economics, English, International Relations and Islamic Studies, but the M.A. / M.Sc. classes in only the first three mentioned could be launched immediately (S.E. College Brosher, 2010).

During the tenure of Principal Dr. Rana Muhammad Siddiq a huge amount of 80 million rupees were allocated for the extension and the repair of the college building. In 2009, Post Graduate Classes were launched in Urdu, International Relations and Geography. He also possesses the honour of 125 year celebration of S. E. College Bahawalpur (S.E. College Brosher, 2010).

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Review and Improvement of Elementary Science Training Program

Alyas Qadeer Tahir[*]

Abstract

This study was designed to review and improve the components of training program of National Institute of Science and Technical Education (NISTE), Islamabad. The survey topics were administrated to one hundred and twenty three elementary science teachers undergone through a training program at NISTE before induction to actual teaching in schools of all four provinces and Islamabad. The trainees were supplied with six Likert scale responses for each component of training. The components of training programs were analyzed through Item Response Theory using the Rasch model. For analysis, an ordinal scale was converted to an interval scale, and error terms for each trainee and item were accurately calculated. The statistics of trainees and items were calibrated separately. The survey items in terms of trainees, items, logits measure and the category of respondents were displayed to give a comprehensive view of the study. The results of the study provided interesting insights regarding various components of the training program evaluated and set directions for selection of training components and improving teacher training programs in Pakistan.

Keywords: Elemtary Science Training Programme, Rasch Model, Response Theory, Teacher Training, Set Directions

Introduction

Two important aspects of elementary science education are the pedagogy and the subject area presented to teachers in training, generally such programs provide trainees with their only exposure to a variety of science teaching techniques. Usually an outline and program of training is built by the training coordinators and the offices who carefully select topics they gauge as useful for future elementary science teachers. Certainly the success of a training program, as is true for all curricula, is influenced by many factors unrelated to pedagogy and subject matter. However, this study emphasizes the gathering of basic attitudinal data to provide useful information on trainee's attitudes toward the program of training. Once collected, these types of data can be used to evaluate and improve a training program.

National Institute of Science and Technical Education (NISTE) is responsible for the provision of excellence in science and technical education through comprehensive quality assurance strategy in the country. With the development of new curriculum, teaching &

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training vision, global impact of international trends and issues on our education system, the NISTE is trying to review and improve its teacher's training programs through research based techniques. The purpose of this study was to statistically review the components of elementary science training program of NISTE and to make the program more useful to prepare elementary science teachers to meet the challenges of new science curriculum and the Education Policy 2009.

Overview of Previous Research

A number of researchers have previously developed and used attitudinal instruments to generate data for the improvement of science education in the country. Enochs and Riggs (1990) used a Likert scale to measure the science teaching efficacy beliefs of elementary science teachers. Stefanish and Kelsey (1989) utilized the Shrigley Science Attitude Scale for Pre-service Elementary Teachers (Shrigley, 1971) to measure the beliefs of pre-service elementary science teachers toward science and science teaching. Hartly et al. (1984) employed an attitudinal instrument (Shrigley and Johnson, 1974) to investigate, in part, whether differences in pre-service teachers' attitudes could be traced to differentiate between two methods courses.

In an effort to extend the research base involving the collection and evaluation of Likert scale data and to improve pedagogical skills and subject area of teaching, this study was conducted to collect and evaluate trainee's attitudes toward a training program (Thurstone, 1928). Many researchers have considered how to change trainees' attitudes toward science teaching (i.e. Morrisey, J.T., 1981), but research regarding attitudes toward topics of training presented in a science pedagogy and subject content area to be lacking. If trainees use pedagogical techniques they view as being most useful, then it certainly is important to collect these types of data.

Method

Data Collection

At the end of the four weeks training program, an attitude survey topics were administered to trainees completing a science training program at National Institute of Science & Technical Education, Islamabad. The participants were to be inducted as elementary science teachers in schools of all four Provinces and Islamabad. The instrument asked trainees to evaluate how important they believed 21 training components used for preparing them as elementary science teaching. A six level Likert scale (excellent, very good, good, fair, poor, terrible) was used for this purpose.. These 21 surveyed elements represented major segments of the training. Many other topics were covered during the training, but in order to present trainees with a manageable survey, a limited number of training components were used for survey construction. This survey was administered during the final week of training in August 2008. More than 95% of enrolled trainees furnished data for this study.

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Data Evaluation

The updated scholastic Rasch model (Rasch, 2003) was used to evaluate these data. This evaluation technique was selected because the ordinal attitudinal scale must be first converted to an interval scale. This step can best be understood by noting that a step in attitude from "excellent" to "very good" does not necessarily represent the same quantifiable change in attitude as steps from "very good" to "good" (i.e. Thurstone, 1929; Wright and Masters, 1982). This method of analysis is also well suited for these data because 1) it allows an evaluation of trainees and items when data is incomplete (i.e. each survey respondent must not respond to every item), 2) errors of each surveyed item and respondent are reported, 3) statistics which help indicate the relevance of items are provided, and 4) trainees and items are plotted on the same scale. The FACETS computer program (Linacre, J.M. and Wright, B.D., 1991) was utilized.

Results

Data Interpretation-Items

In Figure 1, the results of the trainees' training components ratings are presented. The training component with the highest logit value (Item 6: Development and use of low cost material for hands on science activities) was viewed least favourably by trainees. This item was rated, on average, as being between "fair" and "poor" by participants. Items positioned below this item (less positive logit calibration) represent activities viewed in a more favourable manner by trainees. The item 9: Developing Own Lesson Plan for Science Teaching); was viewed most positively by trainees with an average rating of approximately "very good". By noting the error present in each calibrated item, true statistical differences in items can be observed. Tables 2 and 3 display summary data for each rated item.

Table-1: Data Interpretation-Items

Item Sr. #	Measure Logit	Error Logit	Score	Count	Average	Outfit Std
6	1.46	0.11	419	118	4.6	3
7	0.54	0.10	340	121	3.8	0
1	0.13	0.10	307	123	3.5	0
3	-0.05	0.11	289	122	3.4	1
16	-0.34	0.11	261	121	3.2	-1
18	-0.34	0.11	264	122	3.2	-1
19	-0.42	0.11	256	122	3.1	-1
14	-0.49	0.11	250	122	3.0	-4
15	-0.54	0.11	246	122	3.0	-3
5	-0.55	0.11	244	120	3.0	0
20	-0.74	0.11	232	123	2.9	0
2	-0.83	0.11	224	122	2.8	3

10	-0.96	0.12	201	114	2.8	3
21	-0.96	0.12	202	115	2.8	2
8	-0.98	0.11	213	123	2.7	-2
4	-1.13	0.11	199	121	2.6	0
12	-1.34	0.12	181	121	2.5	-1
11	-1.39	0.12	175	118	2.5	0
17	-1.70	0.12	152	118	2.3	1
13	-1.76	0.12	152	122	2.2	0
9	-1.88	0.12	143	122	2.2	-1

Legend and Explanation for Table-1
Item- Survey item number described in table 1; Measure (Logits)- Item measure in logits; Error (Logits)- The standard error of the item measure in logits; Score- The raw score given by all survey respondents to a single item; Count- The number of respondents answering a survey item; Average- The average raw score made to each survey item by respondents; Outfit Std- Fit statistic indicate unexpected trainees responses. A value greater than 2 is unexpected.

The more negative a training component's logit measure, the more important a component was viewed by survey respondents. For instance, item 9 (Developing your own lesson plans for 3 field science teaching experiences) is rated as the most important part of such training. Item 6 (Development and use of low cost material for hands on science activities) is rated as the least important component of the elementary science training program.

Table-2: Summary Statistics of Item Calibrations

Summary Statistics of Item Calibrations

	Average	Measure Logit	Model Error	Outfit Std
Mean	2.0	-0.68	0.11	-0.1
SD	0.5	0.77	0.00	2.1

RMSE= .11 Adj S.D.= .76   Separation= 6.83   Reliability= .98
Fixed (all same) chi-square: 1035.32d.f.: 20   significance: .00
Random (normal distribution) chi-square: 20.01 d.f.: 19 significance: .39

Legend and Explanation for Tables 2 and 3
Measure Logits- Measure in lgits; Model Error- The standard error of the measure in logits; RMSE- Root mean square standard error; Adj S.D.- Adjusted Standard Deviation

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after removing measurement error; Separation- Adj SD/RMSE which is a measure of the spread of the data (there are roughly seven groups of items, and three groups trainees); Reliability- True Variation/Observed Variation; fixed (all same) –Tests the hypothesis that all items or people are of the same measure (rejected for both items and trainees); Random (normal distribution) chi-square- Tests the hypothesis that the set of items or trainees can be regarded as a random sample from a normal distribution (not rejected for either trainees or items).

Table-3: Summary Statistics of Trainees Calibrations

Summary Statistics of Trainees Calibrations

	Average	Measure Logit	Model Error	Outfit Std
Mean	1.9	0.00	0.27	-0.1
SD	0.6	0.84	0.02	1.4

RMSE= .27 Adj S.D.= .79 Separation= 2.91 Reliability= .89
Fixed (all same) chi-square: 1084.07d.f.: 122 significance: .00
Random (normal distribution) chi-square: 120.32 d.f.: 121 significance: .50

Data Interpretation-Persons

The ordering and spacing of individuals (Figure 1) can be interpreted in the same manner as items. Methods trainees plotted at the top (most positive logits) part of the scale were most supportive of the 21 training components. For instance, the trainees (X) at the top of the page (3 logits measure) rated each component on average between "very good" and "excellent". Trainees with lower measures rated class components less favorably. As was true for the items, even when trainee's calibration error is taken into consideration, an ordering of trainees defined by attitude emerges. Table 4 presents summary data of survey takers.

Data Interpretation-Persons and Items

The location of each trainees with respect to plotted items in Figure 1 indicates which items trainees had a high probability of viewing positively (excellent, very good, good), and which items respondents had a high probability of viewing negatively (fair, poor, terrible). For instance, persons with a calibration of 0 digits have a 50/50 probability of viewing item 3 negatively or positively. Items plotted above persons with a 0 logit measure (a more positive logit value) have a probability greater than 50% of being rated as an inadequate course component by these trainees. Items plotted below the 0 logit persons have a probability greater than 50% of being rated as a helpful course component by these trainees.

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Detecting Trainees Disagreement with Training Component Ratings

Table 1 supplies "fit" statistics which help indicate whether trainees responded in an expected manner to items. By detecting items which generate unexpected trainees responses, this statistic can greatly aid in the interpretation of these data. For these data an item with a positive fit statistic greater than 2 indicates that some trainees responded unexpectedly to an item when all of their other item responses are considered. For instance, item 6 (Development and use of low cost material for hands on science activities) had a high positive fit statistic. This means that although the average rating of this item was fair/poor, a number of individuals who, from a probabilistic standpoint, should have rated this as an inadequate training component, did not do so. Having statistics such as these are quite useful in the evaluation of training program for elementary science teachers.

Discussion
An Analysis of Selected Training Components

Item 6: Development and use of low cost material for hands on science activities (1.96 logits)

The sixth survey item was rated as being the least beneficial training component. However, fit statistics indicate that some trainees viewed this activity positively. This was probably due to the fact that some teachers considered the attendance of such science sessions potentially beneficial even though the actual presentations were too technical so as to clearly furnish practically instructional ideas to teachers. The sessions had been advised for future and active teachers.

Item 7: Classroom assessment techniques (.54 logits)
Item 1: Aims and objectives of elementary science teaching (.13 logits)
Item 3: Sessions on activity method of teaching science (-.05 logits).
Three class components viewed less negatively than the development of low cost material were 7 (Classroom assessment techniques: .54 logits), 1 (Aims and objectives of elementary science teaching:.13 digits) and 3 (Sessions on activity method of teaching science: -.05 logits).Trainees probably viewed these three activities as busy work which would not immediately prepare them for teaching.

    Item 16:   Sessions on how to write test items (-.34 logits)
    Item 14:   Sessions on cognition (Piaget's findings, how students learn) (-.49 logits)
    Item 15:   Sessions on the Scientific Method (-.54 logits)
    Item 18:   The low cost activities (-.34 logits)
    Item 19:   The paper-clip and string "pendulum" labs (-.42 logits)
    Item 20:   The electrical circuit labs with aluminum foil, light bulbs, wire and so on (-.74 logits)

The ratings of selected training sessions and activities indicated that trainees evaluated these parts of the training near the middle of the rating scale (i.e. a rating of "good"). It is interesting to note that training sessions and activities, in general, were all rated in a similar manner.

Item 2: Sessions on science process skills (-.83 logits)
Item 10:   Being supplied with an already made lesson plan for your first field science teaching (-.96 logits)

Two activities, 2 (Sessions on science process skills) and 10 (Being supplied with an already made lesson plan for your first field science teaching) were rated about the same as a large number of other items with a "good" rating. However, these two items have high positive fit statistics which indicate unpredictable responses of trainees toward these two training components. This means that some trainees thought the science process skills and being supplied with a lesson plan for one period of trainee's teaching was great idea, while others had an opposite outlook. One possible explanation for this mixture of responses may be that some trainees felt constrained by the supplied lessons. As trainees taught a variety of classes and were supplied different lessons as a function of class, this misfit might also be due to trainees disliking the lesson supplied for one or two specific grades. The mixed reaction to the writing for free materials probably resulted from the wide range of corporate replies. Some trainees were mailed a great deal of support material, while others received very little in reaction to their letter.

Item 8:   Writing the post-critique of your 4 science teaching experiences (-.98 logits)
Item 4:   Session on inquiry teaching of science (-1.13 logits)
Item 11:   Being provided with classroom time to refine and develop your 4 field science lessons (-1.39 logits)
Item 12:   Developing your own teaching tools and props for the field science lessons (-1.34 logits)
Item 17:   Your 4 field science teaching experience (-1.70 logits)
Item 13:   Developing a science game or learning center for your field science teaching (-.176 logits)
Item 9:   Developing your own lesson plans for 3 field science teaching experiences (-1.88 logits)

The surveyed class components 8, 4, 11, 12, 17, 13, and 9 were all viewed very favorably by trainees. Items 8 and 4 were rated a little less approvingly than the rest of this item set, but still in a positive manner. It is interesting to note that all these activities involved giving preservice teachers time to develop, practice and critiques their own teaching materials.

Implications for this Training Program for Elementary Science Teachers

The rated items reveal a fairly well defined ordering of training components from the least liked to the most liked. Activities that allowed trainees to develop materials for training they were required to conduct during the program were viewed favorably. Sessions which involved science topics, psychology and testing were viewed as being less beneficial. Those components viewed as least helpful were those which were probably considered least directly applicable to trainees' immediate concerns. Responses to one training component (10-Supplied Lesson Plan) suggests that some trainees liked being given an initial lesson for the program's science field teaching experience, while others disagreed- possibly feeling the supplied materials were too constraining.

Training Changes Resulting from the Trainees Survey

1. Although the development and use of low cost material (Item 6) would seem to be a good training component, required trainees attendance of future session will be determined with great care. The goal of encouraging trainees to develop and use low cost material for hand on science activities was to enhance capabilities of pr-eservice teacher's, however the presentation was so scientifically technical, pre-service teachers possibly became (or remained) skeptical toward this way of preparing of future science teaching. One future session topic might involve scientists discussing the importance of elementary science teachers.
2. Only session on activity method of teaching science is not worthwhile. It is better to put hands on the activities. Minds on interactive questioning techniques (component 5) were viewed a little more approvingly than the aims and objectives of teaching science. Session on science process skills (component 2) was rated positively. These two sessions might have been considered as busy work, and rated disapprovingly, but this was not the case. Perhaps trainees could see clear benefits for future science teaching. These two components are being retained in the present training program.
3. Sessions on i) constructing tests, ii) cognition and iii) the scientific method have been revamped so trainees must consider the specific topics they plan to teach. These three components now emphasize the "development" of activities involving the core of each topic as it relates to the topic each pre-service teacher wishes to teach.
4. Trainees will still be furnished with science supplies and a first teaching lesson for their field experience. Since fit statistics have indicated unexpected trainee ratings regarding the lessons, trainees are now being encouraged by trainers not to feel constrained by supplied lesson plans. Trainees will be invited to add or subtract from supplies as they wish.

Conclusion

One important part of science education is the topics selected for inclusion in a science teaching training program. This study shows that rating scale surveys can be easily constructed, administered, and evaluated in order to better understand trainees' views

about training components and material. An ordinal scale can be converted to an interval scale, and error terms for each trainee and item accurately calculated. In this training program, the most highly rated activities were those which involved developing, practicing, and critiquing materials for a concurrent field teaching experience. Those activities not viewed in a favorable manner were ones presumably considered by future science teachers as less relevant to immediate teaching needs. If it is true that future teachers remember and utilize training material they view as most appropriate while completing a training program, then trainer's of programs must strive to make the usefulness of topics and activities apparent to trainees.

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