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Development of a Semi Standardized Achievement Test of Education for Intermediate Level

Nasreen Akhter*
Rabia Bahoo**

Abstract

This study was an attempt to prepare an objective type semi standardized achievement test of education for intermediate level students. To prepare this test, an item bank of 300 items was evaluated by experts and best 172 items were tried out to 215 students for pilot testing. After analysis of pilot test data, 113 items meeting criteria of selected items were chosen for final try out and administered to a sample of 485 students. Results of item analysis of final try out indicated that 85 items met the criterion of selected items. Reliability of test estimated by Kuder Richardson 20 was 0.86 for form A, 0.88 for form B for pilot testing stage and 0.92 for the final try out of test stage. This explained that this test was a valid and reliable test to evaluate students' achievement in the course. It was suggested that further research on the topic may be continued and some items of this test may be included in tests for the use of boards of intermediate and secondary education in Punjab, Pakistan.

Key Words: Test construction; achievement test; standardized test; education; intermediate level

Introduction

The subject of education is taught as an elective subject at college level in Pakistan. Students intending to adopt teaching as profession in future select this subject for study from intermediate level. The subject education introduces basics of education and art of teaching to students. Basic purpose to offer this course at intermediate level is to introduce the course to students to develop interest in those who have interest in teaching and want to be teachers in future. It is one of the demanding courses in the humanities group of courses. In present, a mixture of essay and objective type tests is

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used to evaluate students' learning in the course. No doubt, essay type tests and objective type tests evaluate specific learning attributes of students.

Test construction is a field of study in the area of education. This area of study deals with the development of assessment tools for the use of educationists at different levels. Study of art of test construction explains that test construction requires knowledge and command of test developers on the field of study. Moreover, construction of essay type and objective type tests requires different techniques.

There are two types of tests by construction procedures that are teacher made tests and standardized tests. Teacher made tests are those that are constructed by teachers who teach courses. These are easy to construct in a sense that these do not require much energy, money, time, field work and approval of experts for finalizing a test. Standardized tests are difficult to construct because these are prepared by experts having knowledge about the field and following set procedures. These tests take hard labour of field experimentation, cost and time in development process. Intermediate level teachers are mostly not expert in the field of testing. Some of them, who have skill about the test construction, cannot construct standardized tests because of lack of time and non-availability of funds. So, teacher made tests are used to evaluate students' learning for internal as well as external assessments. Even boards of intermediate and secondary education do not use standardized tests for examinations. That's why results of students are mostly criticized by the parents, students, institutions and even by teachers themselves.

Mostly, validity and reliability of results is criticized by the educationists and critics at different levels. Sometimes students reports about the mistakes in test items. Sometimes they blame that paper was out of course. Educationists report that students' results in examinations do not match with their performance in talk and interviews. Infect, validity, reliability, difficulty level, discrimination power of teacher made tests is not determined before administration of these tests in examinations. That's why, validity and reliability of tests, working of educationists, accuracy and reliability of results of students is criticized by the critics. This situation asks to review the roots of problems behind the situation. As, one of the foremost reasons of the situation is quality and nature of tests used for assessment of students, situation requires to develop standardized tests. Use of standardized tests can be a helpful tool to remove the problems of assessment of students and give valid and reliable results to the system. This can help to improve the standard of education in the country.

Objectives of the Study

The present study was an attempt to develop a semi standardized achievement test for the subject of Education at intermediate level. In this study, an objective type test having multiple choice types of test items from contents related to part one of

intermediate level course referred by Punjab Text Book Board (Pakistan) was developed and processed for the standardization of test. The purpose of study was to develop a semi standardized achievement test of Education for intermediate level students following the rules for test standardization.

Significance of the Study

This study is important to remove the drawbacks of evaluation system in the country. This study provides a pool of semi standardized items that can be used to assess students' learning in Board as well as internal examinations in the country. This study can help teacher educators to improve the assessment process of prospective teachers. Subject of Education is taught to introduce profession of teaching and basics of art of teaching to students at intermediate level. Valid and reliable assessment of students at intermediate level by the use of standardized test can attract students to choose this area of study while choosing subjects for further education.

On the whole this study is valuable for the teacher educators, prospective teachers and scholars working in the field of testing to understand and apply the art of test construction in practice. Teacher educators can use this study as a source for teaching content regarding test construction and recommend it to their students as a learning source. Educational institutions can choose some of the items of this test to include in aptitude test of education that can be used for college entrance test to choose suitable candidates having interest and aptitude of teaching. Appointing authorities can select items of this test to include in tests for job entry.

Review of Related Literature

Educational process contains three steps that are planning and preparation for teaching, teaching in real situation and assessment about the accomplishment of educational goals. Assessment that is last step of teaching is foremost but difficult task in the educational process. It is easy to measure the quantity of some material with the help of some scale but difficult to estimate the learning level of a human being with a suitable assessment tool to attain objective, valid and reliable results. In education, achievement tests are used to measure and evaluate the learning achievement of students. Educationists construct different types of tests and make them able to quantify various qualities of learners using various types of test.

Achievement test

Achievement test is a measurement tool that is used to evaluate the knowledge, understanding, mastery and expertise of students on specific contents of a course. It is a way to appraise behavior of examinees in logical manners (Airasian, 2001) and help evaluators to conclude about the degree to which learners have mastered whole contents of courses during a period of study (Popham, 2001). This type of tests consist on a group of items that are planned and arranged to administer to examinees during the

stipulated time period under specific conditions (Linn & Gronlund, 2005) to diagnose learners' strengths and weaknesses in learning (Jain, 2012). Educationists use achievement tests to determine not only the accomplishment of learners in courses but also the level of success of educationists to achieve their educational targets.

Achievement tests are necessary in the field of education. These diagnose the usefulness of teaching plans of teachers and help educators to classify students according to their learning abilities, learning readiness, learning difficulties, learning needs and areas of interest (Raza, 2012). In fact, use of achievement tests is indispensable to evaluate the performance of educators, success of students and effectiveness of institutional plans. It is a way to give confidence to students about their performance in courses. On the other hand, performance of institutions, policies and staff is also judged through results of students that are attained using achievement tests. This means, quality achievement tests are necessary to attain quality results in the field of education.

Standardized tests

Normally standardized tests lacks in the field of education because preparation of standardized tests is costly, laborious job and time taking task. Use of standardized tests is admired because these tests are carefully constructed by the experts spending valuable efforts, resources and energies so, give valid and reliable results. Different experts have viewed about the concept of standardized tests in detail.

Standardized tests are constructed carefully following set procedures. These tests have consistency of procedures in administration, marking and interpretation of test results. Usually these tests are "norm-referenced tests" (Swain, Pradhan, & Khatoi, 2005). Experts have identified four conditions of standardized tests. These conditions include; uniformity in directions for administration of test, uniformity of scoring, validity and reliability and having norms (Rani, Priyadarsaini & Rao, 2013). These tests are objective oriented, constructed by experts in the field, administered in controlled conditions, have standard guidelines for administration and scoring, have norms based on representative clusters for the interpretation of test scores and are valid and reliable (Jain, 2012; Swain et al., 2005; Linn & Miller, 2013). These tests can be of different types like as; aptitude tests, intelligence tests, achievement tests and interest inventories by objectives to use Akhter (1990) or oral, written or practical by content (Jain, 2012).

Construction of standardized achievement tests

The construction of standardized achievement test is not an easy task. It needs willingness of a person to do hard job along with expertise in the field of testing. Furthermore, construction of a standardized test requires working in steps in systematic manners. Various experts have discussed procedural steps with details about each stage of the process.

Basic steps involved in the construction process of standardized tests include; definition of instructional objectives of the course, preparation of initial test items, pilot testing of items, evaluation of results of pilot testing data, preparation of final test selecting best items from the pilot tested items, final try out of the test, analysis of results, reliability determination, validity determination and establishment of norms (Khan, 1995). Experts have identified twelve steps in the process of construction of standardized tests. These steps include; preparation of overall plan about the construction of test, content definition, test specifications, item development, test design and test assembling, test production, test administration, scoring and examination of responses, establishing passing scores, sorting quality items, reporting examination results, item banking and test technical report writing (Dowing & Haladyna, 2006).

Review of steps of test construction to develop a standardized test explains that it is time consuming, expensive and hard job. It is beyond of control of a traditional teacher who needs tests for assessment of daily lessons, weekly or monthly tests and term end examinations. This is the reason because of teacher made tests are used in education. Teacher made tests are prepared by teachers who do not necessarily have broad training about the test construction. They prepare need based tests and use them to achieve their target to evaluate the accomplishment of their teaching targets and assess learning of students. In conclusion, it can be said that construction of standardized tests has set rules. Process of standardized tests construction contains criterion regarding each step. No doubt, teacher made tests can be used in the absence of standardized tests to save time and achieve target to quantify learners' achievement during educational process but validity and reliability of these tests is not ensured.

Characteristics of standardized tests

Standardized tests are considered better because of some significant characteristics that hardly other tests have. The most essential characteristics of standardized tests are; validity, reliability, objectivity, practicality, item difficulty and item discrimination (Cyrilcoscos, 2013; Yazdani, 2014). A brief explanation of each characteristic has given in followings.

Validity

Validity of a test means the test must measures what it intends to measure (Akhter, 1990). This term expresses the meaning of appropriateness, correctness, meaningfulness and usefulness of the specific inference that researchers make based on the data they collect (Fraenkel, Wallen & Hyun, 2012). Validity can be of several types like as; content validity, face validity, construct validity, concurrent validity, predictive validity and convergent validity. Each type of validity determines specific quality of a test (Cohen, Manion, & Morrison, 2011).

Reliability

Reliability of a test means consistency in results whenever it is delivered to same groups in same conditions. Reliability is the degree to which an assessment constantly measures whenever it measures (Airasian, 2001). Concept of reliability of a test demands a test maker to construct objective type items in a test because objective type items have only one correct response. Correct response cannot be marked as wrong by any one. In the same manners, no evaluator can assign marks for right response to incorrect response. Only objective type tests can be marked without affecting the biasness of evaluator on results.

Different experts have given different methods to evaluate the reliability of tests. Significant procedures include; Kuder Richardson method, equivalent forms reliability method (Fraenkel et al., 2012), test retest method (Swain et al., 2005) and split half method (Cohen et al., 2011). Each method of estimation of reliability explains that reliability of test is computed statistically after distribution of test to samples. Reliability is determined through reliability coefficient (r) that's value can be between 0−1. Higher value of reliability indicates that test is more reliable to give similar results whenever it will be administered in same conditions to a similar group of examinees. Normally, value of reliability above than 0.50 is considered acceptable. If value of r is above 0.80, the test is very good (Raza, 2012).

Objectivity

Objectivity is one of the foremost qualities of standardized tests. Objectivity of a test means, test items are of the nature that they produce same results in terms of correct or incorrect responses. This means test is objective type that's why the results of examinees by the objective type test are free from the scorer's biasness and personal prejudices (Cyrilcoscos, 2013).

Practicality

Practicality is the characteristic of a standardized test that make the test practicable in terms of simplicity of administration and marking of a test (Yazdani, 2014). To make test easy for administration, test developers add clear, simple and practicable directions for test administrators and provide information regarding time allocated to attempt the test. To make a test practicable, sufficient time is given to examinees to solve the test comfortably. This is important to attain valid and reliable results by a test.

Item Analysis

A standardized test includes items after evaluation from different aspects. Test developers finalize tests after distributing tests to different groups for pilot testing. Pilot testing results are evaluated and item analysis is done to evaluate each item of the test on criterion. Item analysis of test includes evaluation of three aspects of each item that

are difficulty level, discrimination level and distractor effect. Explanation of these terms has given in below.

Difficulty Level (P)

Standardized tests have suitable difficulty level. These have a mixture of easy, average and difficulty level items. Difficulty level of an item is the characteristic of the item that explains the degree of difficulty of item for the whole group of examinees who answered the item correctly. In other words, item difficulty means the percentage of respondents who answered it correctly. Experts have given a criterion to select items according to difficulty level. The range of difficulty level of item exists between 0−100. Item difficulty is showed through p value. High p value means, item is easy and low p value of an item means, item is difficult for examinees to attempt. An items having difficulty level within 20% to 80% is considered ideal (Withers, 2005; Shakil, 2008).

Item Discrimination (D)

Item discrimination is the quality of an item that explains its ability to differentiate between high achievers and low achievers. The discrimination level of an item can lies within the range of ─ 01 to +1 (Akhter, 1990; Shakil, 2008). Experts have a view that majority of high achievers should respond the item correctly as compared to the low achievers. So, if the majority of high achievers answer the item correctly than the low achievers of whole group in a distribution, the value of discrimination level of an item will have positive value. An item having negative value of discrimination level is recommended to be rejected to include in a test. Moreover, item having discrimination level within 0.40 and above is considered acceptable but higher value is always admired.

Distractor Effect

Distractor effect is the quality of an item that explains attraction of each distractor of an objective type item for the respondents (Akhter, 1990). It is calculated applying formulae of percentage of respondents for each option of an item. Ideally, any distractor of an item having less than 2% response is not acceptable for a quality test. Moreover, key of the item must be more attractive for respondents than the foils.

Procedure of the Study

Topic of this study was descriptive in nature and research and development by purpose. Tool of the study was an achievement test that was developed during this study. Population of study was students studying at intermediate level in Punjab Province of Pakistan who had covered whole course of the subject education (part 1). Sample of study was chosen following the procedure of multi stage sampling procedure. At first stage, nine districts of Punjab were selected randomly from the total districts of Punjab Province of Pakistan. On second stage, district headquarter was decided to include in sample. On third stage, one male and one female college were

chosen randomly from each district. At fourth and last stage, all students present at the date of data collection were included in the sample. Total 700 students were taken as sample. Two hundred and fifteen (215) students were involved at pilot testing stage and 485 were involved at final stage of data collection. For data analysis, MS Excel and SPSS software were used. Detailed procedure adopted for development and standardization of test has given below.

By following the process of standardized test construction, a table of specifications was developed. It was decided that all items in the test will be of objective type and contain multiple choice type of test items. Decision to include multiple choice test items in the test was done keeping in view the characteristic of items that these provide less chances of guessing to respondents for selection of right answer among choices provided along with the stem part of items. Text book proposed by Punjab text book board (Urdu version) was consulted to define the contents included in the universe of test. While preparing test items same book was consulted to ensure preparing items from the syllabus recommended for students.

Validity of test items was determined by expert opinion method involving six experts. They were working on teaching, evaluation and research positions at college or university level from 15 to 23 years. Three of them were teaching the subject education to intermediate level students. They spent three months to evaluate 300 items on a scale. As result, 193 test items were rated excellent. Others were rated as good or average items. As, excellent items were sufficient in number, 172 items rated best by experts according to requirement of table of specifications were finalized for pilot testing.

One hundred and seventy two items were difficult to try out in one administration. So, these were divided into two forms. While distributing items in two formats, equal number of items from each chapter and related to each level of evaluation were placed in both forms. A sample of 215 students from one district of Punjab, Pakistan was taken to try out the test at pilot testing stage. While conducting test in examination conditions, open time was given to students to attempt the test. It was observed that students take 60 to 80 minutes to complete each form of the test (86 items).

Analysis of Pilot Testing Data

After marking the test booklets filled by examinees at pilot testing stage, item analysis of the test was done. It was decided that items having at least 0.30 discrimination level and item showing difficulty level between 0.20 ─ 0.80 will be selected for final try out of the test. Results of item analysis indicated that 71 items from form A and 70 items from form B (total 141) were in the range of 0.21 ─ 0.80 by difficulty level. Evaluation of discrimination level of items of the test indicated that 61 items from form A and 64 items from form B (total 125 items) met the criteria to lie in

the range of 0.30 or above. Examination of distractor effect indicated that 7 items from form A and 3 items from form B had any one distractor value less than 2%. On the whole 113 items met criterion of difficulty level (0.21 ─ 0.80), distractor effect (at least 2%) and discrimination level (0.30 or above). Analysis of reliability of the test revealed that r value calculated applying Kuder Richardson formulae 20 for form A was 0.86 and for form B was 0.88.

Results of Final Try Out Data and Discussion on Results

For final try out of the test, booklets containing 113 test items were distributed to a randomly selected sample of 485 students in eight districts of Punjab. Examinees were directed that they had open time to attempt the test. It was noted that students take 100 to 120 minutes to attempt the test. After scoring of answer scripts filled by examinees, results of final try out of data were compiled. The results of test were again evaluated following same criteria as followed at pilot testing stage. The results indicated that 85 items meet the criterion of selected items. Results of the test have discussed in the followings.

Summary statistics about the Discrimination Index of items

Table 1 and figure 1 presents view about the discrimination index of 113 items included in the test. According to results showed in table and figure, 75% of the total items fall in criteria of selected items (D ≥ 0.30). Among the selected items 17 items that was 15% of the total (113 items) were meeting the criteria of very good items (D ≥ 0.50) and 37% (n= 35) items were in the range of fair quality/ usable items among

Figure 1. *Item discrimination graph of 113 items*

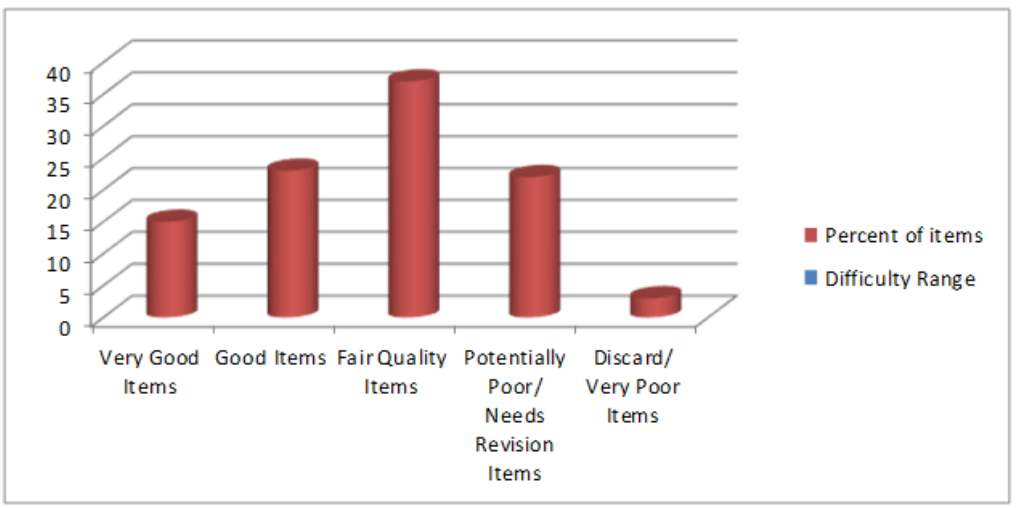


Table 1. *Summary statistics about the Discrimination Index of items*

Discrimination level	f	%	Quality of item	Item number
D ≥ 0.50	17	15	Very Good Item; Definitely Retain	29, 31, 32, 36, 37, 41, 47, 50, 73, 80, 86, 89, 92, 98, 99, 103, 112
0.40≤D ≤0.49	26	23	Good Item; Very Usable	3,9,14,21,23,25,26,27,39, 43,45,48,52,53,59,65,68,70, 74,78,79,83,91,96,97,100
0.30≤D≤0.39	42	37	Fair Quality; Usable Item	5,8, 10,11,12,13,16,17,18,19,24, 30,33,34,38,40,42,46,49,55, 57,58,60,61,62,63,64,66,67,71, 76,81,82,84,87,88,102,104, 106,109,110,113
0.20 ≤D≤0.29	25	22	Potentially Poor Item; Consider Revising	1,2,4,7,15,20,22,28,44,54,56,69, 72,75,77,85,90,93,94,95,101,105, 107,108,111
D< 0.20	3	3	Potentially Very Poor; Possibly Revise Substantially, or Discard	6,35,51

whole test (113 items). From rejected items, 25 items that were 22% of total items (113)needed revision for improvement (0.20 ≤D≤0.29) and 3 were very poor items. As these items were not meeting the criterion of accepted items, these items were rejected. But, 22 items that fall in range of 0.20 ≤D≤0.29 on the basis of discrimination level can be improved for further use.

Summary statistics about the difficulty Index of items

Table 2 and figure 2 exhibits a view about the difficulty index of 113 items distributed to 485 examinees. According to results showed in table and figure, 96% of total (n= 109) items were in the range of accepted items (0.21−0.80). Among the selected items, 24% (n=27) of total items included in the test were meeting the criterion of easy items (0.61−0.80). Thirty four percent (n= 39) of total items were in the range of middle difficulty items (0.40−0.60). Thirty eight percent (n=43) of total items fall in the criterion of difficult items (0.21−0.40). Analysis of rejected items identified that 3% of total 113 items was very difficult (0−0.19) and 1% was very easy (0.81−1) for examinees. Therefore, these 4% of total items were rejected. Table 2 identifies numbers of items rejected on the basis of difficulty level.

Figure 2. *Items' Difficulty Evaluation of Whole Test (113) Items*

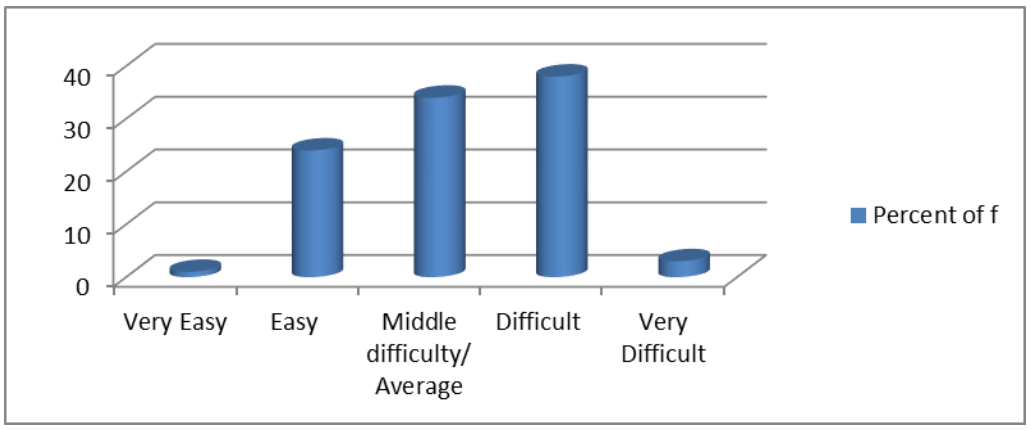


Table 2. *Summary statistics about the difficulty Index of items*

Difficulty level	f	%	Item evaluation	Item numbers
0.81−1	1	1	Very Easy	68
0.61−0.80	27	24	Easy	3,4,7,8,9,14,16,17,19,20,24,25, 27,31,32,40,59,63,66,70,73,74, 84,89,91,99,100
0.41−0.60	39	34	Middle difficulty/ Average	2,5,10,11,26,29,33,36,37,39,41, 43,45,47,48,49,50,57,58.61,62, 64,65,71,80,81,83,86,87,88,92, 96,97,98,103,108,110,112,113
0.21−0.40	43	38	Difficult	1,6,12,13,15,18,21.23,28,31,34, 35,38,42,44,46,52,53,54,55,60, 67,69,72,75,76,77,78,79,82,85, 90,93,94,95,101,102,104,105, 106,107,109.111
0.19 and below	3	3	Very Difficult	22,51,56

Summary statistics of test results

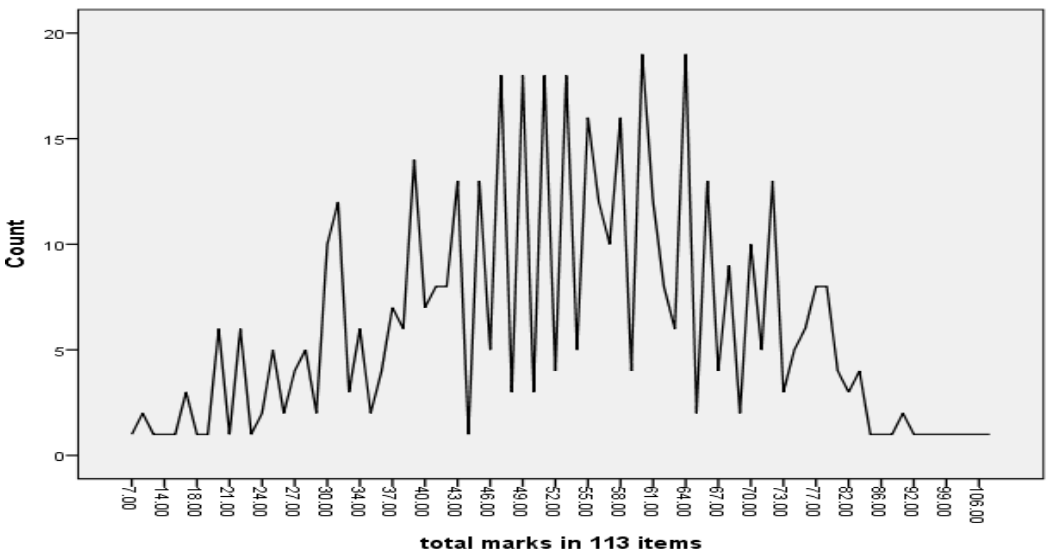
Table 3 shows summary of statistics about the results of whole test. According to table, examinees achieved marks in range of 07 to 109 out of 113. So, range was 102. This explained wide range of data in spread of scores. Mean of scores was 53, median was 54 while skewness was 0.60. These explained that test was a little bit difficult for students. Value of standard deviation (17.28) and variance (298.52) identified

difference in spread of scores of respondents on the distribution. Figure 3 gives a pictorial view about the spread of scores of examinees in the test.

Table 3. *Summary of students' scores*

n	Items	Minimum score	Maximum score	Range	Mean	Median	Mode	S.D	Variance	Skewness	Kurtosis	∑pq
485	113	07	109	102	53	54	60	17.28	298.52	0.60	0.97	25.39

Figure 3. *Spread and position of students' scores in the test*



Reliability of the test

Reliability of the test was determined applying Kuder Richardson ≠20. That was;

$$r_{xx} = \frac{n}{n-1} \times \frac{Sx2 - \sum pq}{Sx2}$$

As "n" of the test was 113, "varience" was 298.52 and sum of pq was 25.39 So, value of reliability was noted as 0.92. It indicated that test was highly reliable and

helped to predict that test was good in quality. It assured good probability of consistency in test scores for future administration of the test to similar samples of the population.

Description of examinees' scores according to their background characteristics

Results of students (final try out) were also analysed computing the mean scores of groups based on their background characteristics. Summary of results have showed in table 4. Comparisons of groups' mean scores revealed that mean score of female (55) was higher than the male (46). Urban students performed a bit well (mean 53) than the rural (mean 52). Age wise comparison explained that mean score of students belonging to age group 17 years was 56 that was higher than all. Students belonging to age group of 16 and 19 years were on second in rank (mean 52). Eighteen years old were on third in rank (mean 50). Test was administered to eight districts in the Punjab, Pakistan. District wise comparison explained that students belonging to Rawalpindi got best scores (mean 62) and students from Multan were poor than all (mean 41).

Table 4. *Comparison of scores in relation to their background characteristics*

Background variable		Mean score
Gender	Male	46
	Female	55
Area	Urban	53
	Rural	52
Age	16 years	52
	17 years	56
	18 years	50
	19 years	52
	Bahawalpur	55
	Rahim yar Khan	47
Districts	Bahawalnagar	48
	Multan	41
	Lodhran	55
	Sahiwal	58
	Lahore	52
	Rawalpindi	62

Conclusion

This test is a valid and reliable test to evaluate students' achievement in the course of education at intermediate level. Majority of items meet the criteria of selected items (item difficulty range between 0.20 to 0.80, discrimination level 0.30 and above and distractor effect of at least 2%). These items have appropriate difficulty level and

characteristic to discriminate between high achievers and low achievers. Moreover, all distractors of the items are attractive for students and functions well to evaluate students learning in the course.

Suggestions

1. Boards of intermediate and secondary education in Punjab should choose some of the items of this test in board examination.
2. As this test was administered to students who were studying in 12^{th} grade and completed the course of grade 11^{th}. In future, this test may be administered to students at the end of academic year. This test may be administered to other districts of Punjab involving large samples.
3. Further researchers should continue this study. They should improve 22 items from the rejected items that fall in the range of discrimination level $0.20 \leq D \leq 0.29$ (mentioned in table 1) and do further experimentation.
4. Objective type tests of education for grade 12 and other courses taught at intermediate level should be developed following the procedure of development of standardized tests.
5. National Testing Service in Pakistan may choose some of the items of this test to include in entry test for job appointment of teachers.

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Prospective Teachers' Experiences during Teaching Practice

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Abstract

Teaching practice (TP) is a critical component of prospective teachers' training. This study provides a detailed description of prospective teachers' experiences during TP. We collected the data in two stages. During Phase one, 59 prospective teachers, in the second year of their Master degree program, filled an open-ended reflective questionnaire based on Gibbs' model of reflection. The analysis of this data led to Phase two, in which, we conducted two focus group interviews with 12 prospective teachers. The findings have implications for teacher education programs in general, and teaching practice, in particular.

Key Words: Teaching practice; Teacher education; Qualitative research

Introduction

Teaching practice (TP) is a vital component of teacher training programs. It represents a wide array of first hand experiences to which student teachers come across as they work in real life classrooms (Akbar, 2002; Marais & Meier, 2004). It further enhances the formative training process of student teachers in a variety of situations and problems (De-Ville, 2010). Overall, it provides a sound opportunity to experience practical school based teaching.

TP has been described by Perry (2004) as: "a period of time when students are working in the relevant industry to receive specific in-service training in order to apply theory into practice" (p. 10). Marais and Meier (2004) referred to TP as a range of student teachers' experiences, as they work in classrooms and schools. This explains that it is an interaction among various stakeholders out of which student teachers are of central importance (Calderhead, 1993). Consistently, we refer to TP as the field placements of prospective teachers in order to prepare them for effective teaching in actual classrooms. Moreover, the term student or prospective teacher refers to students

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who are enrolled in Education degree programs and are required to teach in real life classrooms for a limited duration, as a part of TP, in order to fulfil the degree requirements.

A number of different formats are in practice for providing field experiences to student teachers. For example, serial school experiences run parallel to the college teachers' training. The plan is to spend one or two days per week in the practicing school. In this way, student teachers attend both practicing school and training institution/college during the whole duration of teacher training program (Munawar & Munir, 2007). In contrast, block teaching practice refers to a period of teaching which involves placement for two to four weeks. Student teachers are expected to stay in the school during school hours and perform duties that are assigned by head teachers (Khan, 1993).

The different procedures adopted by different institutions and countries lead to different practices. For example, some institutions conduct TP over a semester (e.g., in Sweden), while others conduct it over a ten-to-twelve weeks block (e.g., in Malaysia) (see Murtaza, 2005).

In Australia, student teachers begin by observing experienced teachers, followed by small group teaching. As they develop confidence and basic skills, they teach under the supervision of cooperating teachers (Bloomfield, Taylor & Maxwell, 2004). However, in Pakistan, generally student teachers are expected to teach independently on the first or second day of their TP. Prospective teachers enrolled in a two year Master degree program in public sector universities, for instance, are required to plan and teach 60-80 lessons over a period of four-to-six weeks block.

Prospective teachers observe, practice and engage with a range of teaching duties during TP. They not only apply the pedagogical knowledge of teaching methods, strategies, and principles to different activities of school life; but also deal with complex student behaviors and context in which teaching takes place. In effect, they experience various challenges such as anxieties, complexities, and adjusting to the teacher's role. Regan (1989) mentioned that the maintenance of discipline and class control, knowledge of teaching methods and curriculum content, and nature of relationship with the supervisor are major factors which cause anxiety among student teachers. Furthermore, student teachers' experiences are negatively influenced in contexts which do not respond to their developmental needs (Richards & Crookes, 1988).

While a number of studies have examined student teachers' experiences during TP by using quantitative measures (e.g., Gujjar, Ramzan, & Bajwa, 2011; Ngidi & Sibaya, 2003; Nwankezi, Okoli, & Mezieobi, 2011), we examine the issue in greater

detail by employing qualitative methods to highlight their positive and negative experiences. Consistently, we framed our study within the these research questions: What are the prospective teachers' experiences during TP? What are the positive and negative experiences associated to TP? What are the reasons behind the positive/negative experiences during TP? We employed Gibbs' model of reflection (1988) to allow student teachers describe and reflect on their experiences related to TP.

Gibbs' model of reflection

Reflection is a threefold procedure. It comprises direct experiences, analysis of beliefs and knowledge about those experiences, and the direction of future action (Whitton, Sindair, Barker, Nanlohy, & Nosworthy, 2004). Reflective practice has become a critical component of education in the last few decades (Loughran, 2000). It allows student teachers to develop professional identity. Walkington (2005) argues that "reflection on one's own perceptions, beliefs, experiences and practices is a core activity for all teachers - pre-service and in-service, in schools and universities" (p.59).

Various reflective models have been in use within different disciplines; however, one of the commonly employed models in education is Gibbs' reflective model (1988). It employs different stages as a means to facilitate reflective practice. It allows for description, analysis and evaluation of the teaching experiences, thus, helping the reflective practitioner to create a framework of experiences to examine their practices. It consists of six stages as shown in Figure

At the first stage, the respondent is asked to describe different aspects of the event/experience in detail. The second stage deals with respondents' feelings about the experiences. The third stage invites reflections on the good and bad aspects related to experiences. The respondents think about the situation and reaction of other people to describe what was difficult and why? It is considered an important aspect of reflective process (Gibbs, 1988).

The respondents describe the sense they derive out of their experiences in the analysis stage. The final stage warrants conclusion, in which the respondents explore their concerns from different angles. It is like an action plan which sums up the whole experience. It encourages respondents to think about ways to improve future practice (Gibbs, 1988). We used this model to help prospective teachers describe their experiences related to TP. While we could not observe prospective teachers during TP due to lack of time, Gibbs' model (1988) allowed us to re-construct their experiences and let them reflect and devise an action plan for future teaching. Consequently, we developed an open-ended reflective questionnaire about their experiences, feelings, conclusions, evaluations, and action plans regarding TP.

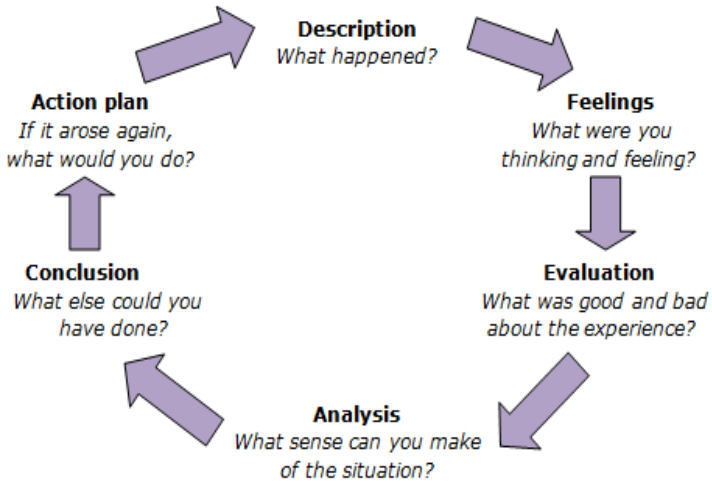

Figure 1. Gibbs' reflective cycle. Adapted from "Learning by doing: A guide to teaching and learning methods," by G. Gibbs, 1988, Copyright 1988 by Oxford Further Education Unit.

Methodology

Descriptive research attempts to describe "a naturally occurring phenomenon which cannot readily be ascribed an objective value" (Duffy, 2009, p. 180). It deals with different questions and describes the relationship between things, however, it does not predict associations between variables. Since our aim was to understand and describe student teachers' experiences during TP in greater detail, we employed a qualitative, descriptive research design.

We established thick descriptions of prospective teachers' perspectives and experiences since it was an important source of knowledge for our study (Hesse-Biber & Leavy, 2011). In doing so, we attended to the *whats* from their perspectives. As we attended to and described their views and experiences, we interacted and constructed meaning within a social set up (e.g., focus group interviews). This interaction led to various interpretations based on their experiences. However, we believe that their views may change in varying circumstances. Consequently, the knowledge generated through this study can be reinterpreted when examined in different times, contexts, and perspectives.

Methods and procedures

We employed two different methods, in two different phases, to collect the data for this study. These include: open-ended reflective questionnaire based on Gibbs' model of reflection (1988) (Phase 1); and focus group interviews (Phase 2). Informed

by the interpretive approach, the latter method allowed us to closely interact with the prospective teachers. Consequently, they shared their experiences related to TP which allowed us to develop deep insights into the phenomenon.

Open-ended reflective questionnaire - Phase 1

Based on Gibbs' (1988) model of reflection, we developed an open-ended reflective questionnaire to help student teachers describe, reconstruct and reflect on TP. The questionnaire comprised all six stages of Gibbs' reflective model including: description, feelings, evaluation, analysis, conclusion, and action plan. A total of 59 prospective teachers, who were enrolled in a two year Master degree program, in a well-reputed public sector university of Pakistan filled these questionnaires. We collected the data immediately a week after they returned from TP The data generated in this phase provided basis for structuring and organizing focus group interviews during Phase two of data collection.

Focus group interviews - Phase 2

The second phase of data collection was conducted 12 weeks after the first one. This time interval allowed us to analyze the data generated through reflective questionnaire. The themes that emerged as a result of this analysis provided bases for conducting focus group interviews with prospective teachers during Phase 2. We conducted two focus groups and each group had six prospective teachers who participated in Phase one of data collection (Krueger & Casey, 2000). Group one comprised six female, whereas group two comprised four female and two male participants. The groups were homogenous in essential dimensions related to the research questions of the study, for example, the participants were related to similar age, were enrolled in the same degree program and discipline in a public sector university, and also participated in Phase 1 of data collection (Flick, 2009). This homogeneity encouraged student teachers to share their experiences related to TP and engage in mindful conversations by linking ideas and experiences.

The focus group interviews were digitally recorded and later transcribed for meaning. During the conduct of focus group interviews, we remained neutral and tried not to force our judgments on the respondents. While we encouraged participants to share their experiences, we marked and returned to any disagreements or change of opinion for further clarification, elaboration or questioning.

Selection of the participants for focus group interviews

The participants for focus group interviews were selected from the pool of student teachers who participated in Phase one of data collection. We employed a purposive sampling procedure and invited those participants who revealed significant information and unique issues during Phase one (Hesse-Biber & Leavy, 2011). The

average age of student teachers who participated in our study was approximately 21 years. We developed a coding reference to identify the participants while reporting finding. For example, (Tuba, F) refers to a prospective teacher, Tuba (pseudonym), who is a female.

Focus group interview questions

A number of issues were identified through the analysis of data collected during Phase 1, which needed further investigation. Some of these include: student teachers' reflections about the labeling system, issues with lesson planning, student teachers' strategies to cope with challenges, and classroom management techniques. Although student teachers' awareness of these issues was indicated by the data, we felt a need to further explore their experiences. Consequently, we probed patterns that emerged in the analysis of data generated through reflective questionnaires during the focus group interviews. For example, some of the student teachers indicated that they developed *confidence* during TP. Consistently, we asked: "We noticed in the data collected through reflective questionnaire that some of you mentioned that you have developed confidence during teaching practice. How did this happen? How is it useful for teaching?"

Data analysis

Data analysis was conducted separately for each phase of data collection. We attended to emerging issues by identifying themes through "careful reading and re-reading of the data" generated through reflective questionnaire (Rice & Ezzy, 1999, p. 258). As we repeatedly read through the data, we further highlighted important issues, concepts or experiences, assigned codes, categorized the data under different codes, revised the codes and categories, and interpreted meaning. We began by employing a deductive approach to data analysis and used the stages of Gibbs' model as the broad concepts to start with. These included: description, feeling, evaluation, analysis, conclusion, and action plan. These served as a coding manual which was developed a priori based on the theoretical concept (Schutz, 1967). At first, we organized the prospective teachers' responses according to this predetermined code pattern. However, we kept the categories open to re-categorization with the emergence of new patterns, and codes within the data.

After several rounds of coding and categorizing, we identified the initial themes that emerged. This was done by summarizing and documenting information under major categories and checking for duplicates and overlapping. Although, this initial list of themes was not mutually exclusive, they represented different topics of interest. As we examined repetitions and conflicts, we merged the themes that were similar and compressed the list. Consistently, we organized the data around three major themes which include: TP as a source of professional development, TP as an enriching

experience, and challenges involved in TP. As we prepared the focus group interview transcripts in order to conduct an in-depth analysis (Stewart, 2006), we read and re-read them along with the notes taken during interviews to assign codes and form categories. Later, we separated the individual responses and organized and elaborated the information generated through the analysis of data during Phase one. Finally, we derived meaning and developed summaries to extend the knowledge and understanding about prospective teachers' experiences related to TP.

Results and Discussion

This section presents a detailed description and discussion of prospective teachers' experiences during TP. The findings are organized around the following themes:

TP as a source of practical knowledge and professional development

It is important for beginning teachers to develop professional knowledge for effective teaching (Shulman, 1986). TP is a practical means to enhance professional knowledge (Ohi, 2007). Prospective teachers' comments generated through reflective questionnaire (see Table 1) suggested that TP facilitated their professional development.

Prospective teachers' comments presented in Table 1 suggest that TP helped them to develop professional knowledge. They utilized different teaching methods and techniques during this activity. They were able to apply some theoretical ideas into actual classrooms (e.g., use of AV AIDS, reward system, extracurricular and social activities). Moreover, they attempted to bridge the theory practice gap by drawing professional knowledge about teaching and learning. These findings are consistent with the claims that TP enhances the practical and professional knowledge of student teachers (e.g., Guven, Kurum, & Saglam, 2012). We further explored the prospective teachers' ideas during focus group interviews by asking them questions about their teaching methods and techniques, awareness of the education system etc. This helped us to develop a better understanding of how did they develop this professional knowledge? What is the significance of this knowledge for them? etc. Table 2 extends on ideas presented in Table 1.

Student teachers' views presented in Table 2 demonstrate the nature of professional knowledge they developed during TP. While they implemented different activities such as group activities and prompts; they also devised their own methods of teaching (e.g., switched to Urdu language). In this way, TP allowed them to conduct various teaching activities among which teaching methods and pedagogy are significant. The data presented in Table 2 further illustrate that student teachers were able to bridge the theory practice gap. For example, Fiza identified labeling system as

prevalent in classrooms and worked to eliminate it. Woolfolk (2004) has viewed labeling as a controversial issue that can either stigmatize or help students. While Fiza did not appear to be aware of different aspects associated with labeling, she devised strategies to deal with it during TP. This demonstrates her capability to relate theoretical ideas with actual practice which is critical for developing teaching enrichment.

Table 1. *TP as a Source of Professional Development*

Sub-themes	**Evidences**
Student-teacher interaction	"I will write the diary for the student, so that their parents check it when they go to their home. So that their studies/ home assignments could be completed in a good way" (Adila, F).
Social development	"I used more and more extracurricular activities related to the subject with the students, so that they become more social as well as educated" (Yashfa, F).
Rewards	"I used rewards for good performance, so that, they could be motivated and read in a perfect way" (Bisma, F).
Applying theoretical knowledge	"I used my studies [at university] during teaching practice, like philosophy, methods of teaching" (Kiran, F).
Teaching methods	"I give students lecture using concept maps as well as drawing diagrams. Students were very happy" (Neha, F). "We made lesson plans and used different A.V. Aids. We used different techniques. We have learnt educational psychology and methods of teaching" (Ayesha, F).
Awareness of the system	"We were able to see the good and bad aspects of the education system of our country which could help us in improving ourselves [as teachers]" (Aina, F).

Another domain of professional knowledge identified through student teachers' comments presented in Table 2 is developing an awareness of the education system. They identified context specific issues (e.g. lack of pedagogical knowledge of in-service teachers) and suggested remedies as well (e.g., teacher training workshops). While classroom management is an important component for effective teaching (Clement, 2000), it continues to be a concern for the prospective as well as experienced

teachers. Table 3 presents essential evidence to document student teachers' experiences related to classroom management.

Table 2. *TP as a Source of Professional Knowledge- Theme Revisited*

Central themes	Extended themes	Evidences
Engaging students	Using AV aids/ prompts	"For engaging the student in classroom, I used the different charts and activities" (Taha, M).
	Group activities	"We organized the activities in the classroom. I divided the student in groups and organized the activities" (Merab, F).
	Adjusting strategies	"The content was in English, and students did not understand the lecture, so I switched to Urdu [language] and provided examples, and students' learning improved" (Aroosa, F).
Awareness of education system	Teaching methods	"The teachers [at school] had knowledge and experiences, but they were not aware of new teaching methods" (Fiza, F).
	Teacher training/ workshop	"There is a labeling system in the classrooms. When I asked the students to read the lesson, student told that their class teacher did not provide the opportunity for reading. Only, the first benchers read the lesson. So, I gave an equal opportunity to all students in the class" (Fiza, F)
	Proper facilities for teaching	"Teachers should be trained and [teaching] should be facilitated with proper equipment" (Fiza, F).
	Time duration of TP	"There was no furniture in the classroom. They [school administration] should provide a relaxing environment and proper facilities" (Adel, M).
		"The duration of teaching practice was not enough. As we adjusted [ourselves] in the classroom, it [teaching practice] was over." (Arifa, F).

Table 3 indicates that student teachers related to classroom management as an important yet challenging aspect of TP. The data revealed that there was little or no mentioning about the classroom management techniques employed by prospective

teachers, which in turn, prompted us to interrogate further during the focus group interviews.

Table 3. *Classroom Management*

Theme	Evidences
	" . . . it was difficult to control and teach students in classroom" (Fiza, F). "First of all, I will limit the number of students in classrooms, so that teachers face no problem in teaching as well as students in learning" (Miada, F).

Table 4 represents student teachers' classroom management strategies in further detail. They used different strategies during TP (e.g., games, jokes, group reprimands). While they appeared to understand students' expressions and body language, they further realized that their personal motivation and behaviour has a reciprocal effect on students' behaviour in the classroom. Overall, the findings presented in this section illustrate that student teachers acquired a repertoire of practical knowledge during TP which contributed towards their professional development.

Table 4. *Classroom Management - Theme Revisited*

Central theme	Extended theme	Evidence
Classroom management	Disciplining techniques	"We involved the students in different activities and gave them examples from the daily life. We motivated them and gave prizes" (Urwa, F). "When I observed that students do not give attention to the lesson, I would ask some questions and then student would become active" (Merab, F).
	Developing a positive body language	"Students note the gesture of teachers. Good behaviours create good environment. When our behaviour with students is harsh, they also behave rudely" (Tuba, F).
	Friendly teacher-student interaction	"When students were bored during the class, I exchanged some jokes and they really enjoyed" (Urwa, F). "To deal with students' [behavior], I divided them in three group like a, b,

Group reprimands	c. I told them that if anyone made a noise, the whole group will lose one mark" (Yashfa, F).

TP as an enriching experience

TP not only positively influences the professional development of student teachers (as demonstrated in Section 5.1), but it also shape up their personalities. The data from our study revealed that most of the student teachers relate to TP as an enriching experience. They argued that TP not only enhanced their practical knowledge but also assisted them in developing positive personality traits such as respect for teachers. For example Zeemal (Zeemal, F), stated: "*I learned many things during teaching practice. The respect for the teachers and their value increases for me*". Other positive traits mentioned by student teachers include tolerance, confidence and improved social, professional and communication skills. The evidence for this claim was documented at a number of places within student teachers' quotes. We categorized their views regarding TP as an enriching experience into a number of sub-themes (see Table 5).

Table 5. *Teaching Practice as an Enriching Experience*

Sub-themes	**Evidence**
Positive experiences	"It was overall, a good experience for me. . . I also enjoyed teaching" (Neha, F).
	". . . I feel more happy and confident [after TP]" (Fiza, F).
	". . . I really enjoyed [TP]" (Urwa, F)
Personality development	"The personality of teachers is very important. . . So, I will improve my behavior during teaching [in future]" (Ali, M).
	"I experienced many positive changes [during TP]. It helped me to understand others" (Aroba, F).
Unique experiences	"I understand that what are their [students'] views about life and get a chance to know about them. Perhaps, I will never get another chance to learn this" (Arooba, F).
Complex nature	"Teaching is more difficult than studying" (Anila, F).
	"I learned that teaching is a very difficult task" (Amna, F).
Continuous learning	"During teaching practice, I learned that the knowledge we gain in life, is not enough. We should learn something [new] every [day]" (Hafsa, F).

Student teachers' comments presented in Table 5 show that TP has been a source of enriching experience for them. They enjoyed teaching and positively related to it as a pleasurable experience and source of motivation. As they reflected on their experiences, they also devised action plans for future teaching [e.g. "I will improve my behavior during teaching [in future]" and "I will improve my communication skills so that …"]. This finding is consistent with the researchers' claims that TP builds student teachers' confidence and capabilities which are needed for professional and positive development (Pinder, 2008). Overall, our data suggest that TP is a source of enriching experiences for student teachers. The data further suggest that prospective teachers were apprehended by the complexities involved in teaching and considered it a difficult task (See Table 5). However, they didn't clarify the underlying reasons. We decided to follow up on this issue during the focus group interviews. Table 6 extends on the subthemes identified in Table 5.

Table 6: *Teaching Practice as a Source of Enriching Experience – Theme Revisited*

Central themes	Extended themes	Evidences
Personality development	Overcoming fears and anxieties	"I felt a fear of teaching. Teaching practice gave me a lot of confidence. If I teach again, I will not feel afraid, because my level of confidence is increased" (Ayesha, F).
	Developing tolerance	"I used to lose temper when students didn't listen [to me]. But later, I learned to tolerate their behavior." (Hira, F).
Continuous learning	Refreshing previous knowledge and constructing new knowledge	"We gain new knowledge from teaching the new syllabus, and we prepared the lesson plans and lectures. So, it refreshed our previous knowledge" (Fiza, F).
		"The things are changed and different from the times when we studied [at school]" (Halima, F).
	Learning from students	"During teaching, student asked questions and we gave answers. This is the process of learning and we learned a lot of things" (Amna, F).

Further investigation about student teachers' experiences (as presented in Table 6) strengthened our interpretation that TP turned out to be an enriching experience for them. Since they were engaged in practical teaching within real life settings, they

experienced opportunities to discover and advance knowledge for themselves. Consequently, they developed new ideas, positive personality traits, and motivation needed for effective teaching.

Challenges involved in TP

A number of problems encountered by student teachers during TP have been documented in the research literature. These include, for example, lack of necessary equipment and materials, less conducive environment of the school, rejection by the school staff, lack of transportation and unwillingness of student teachers to report at their duty post (Okobia, Augustine, & Osagie, 2013). The student teachers who participated in our study also reported several difficulties which are documented in Table 7.

Table 7. *Challenges Faced by Student Teachers*

Theme	**Evidence**
Lack of teaching knowledge	"We faced difficulty in lesson planning" (Shafaq, F).
Anxiety	"First, I was a bit confused and stressed . . . (Nida, F).
Problems with the school staff and teachers	"Teachers [at school] did not cooperate. Some teachers used bad language with students" (Kiran, F).
	"The school staff did not want pupil teachers . . . they rejected us" (Saba, F).
Lack of facilities	"In government schools, there are less facilitates such as electricity and cold water, . . . water was dirty" (Saba, F).
Overall environment	"There was no clean and cold water for drinking. The food in cafeteria was cheap and rotten . . ." (Iqra, F).
	"The atmosphere of the school was not good. There was a lack of discipline in school. In the beginning, we faced difficulties. Students were naughty" (Isha, F).
	". . . I was shocked to see a huge number of students [in classrooms]. The students were not disciplined" (Aliza, F).

Student teachers' comment presented in Table 7 highlight some of the challenges faced by them during TP. These include lack of cooperation from the school staff and administration, lack of facilities, anxiety etc. They felt rejected from the

school on the very first day (See Table 7). This finding is consistent with the findings from other researchers (e.g., Okobia, et al., 2013). As the data uncovered the difficulties faced by prospective teachers during TP, we were keen to learn about the ways they dealt with these issues. Consequently, we explored the reasons behind the challenges faced by student teachers and the coping strategies they employed during the focus group interviews. The data trends are presented in Table 8.

Table 8: *Challenges Faced by Student Teachers- Theme Revisited*

Central themes	**Extended themes**	**Evidences**
Lack of teaching knowledge	Lack of instruction for lesson planning	"We have no information about lesson planning because we were not guided by teachers" (Lubna, F).
Anxiety	School timing	"Teaching practice was tough because of it's schedule. We are enrolled in the evening classes and we have to come in the morning [for teaching practice]." (Lubna, F).
	Stressful experiences	"Teaching practice was a stressful experience because it is difficult to handle the whole class" (Urwa, F).
Problems with the school staff and teachers	Interruption	"When I was teaching the students, they [the school teachers] interrupted . . . (Adel, M)
	Over burdened	"We were supposed to take three classes/subjects [in a day], but the class teacher asked us to teach all the subjects, she didn't teach herself [during our presence]" (Taha, M).
	Behavioral issues	"My class teacher's behavior was unfriendly, because she gave me her personal work but I refused" (Merab, F).
Lack of facilities	Class size	"There were small classrooms in the school" (Fiza, F).
Overall environment	Lack of discipline	"In government school, there is no discipline among the student; teachers do not give appropriate attention to students" (Aina, F).

Prospective teachers' comments presented in Table 8 suggest that they faced problems in lesson planning due to lack of instruction and guidance. Shahid and Hussain (2011) also reported that student teachers lack knowledge and understanding about lesson planning. Another significant challenge faced by student teachers during TP was lack of co-operation from the school staff and teachers. School teachers not only interrupted them during teaching but also burdened them with extra work. This situation is disappointing given the fact that school teachers have a significant role in the professional and personal development of student teachers (Wagenaar, 2003).

Conclusion

This study documented prospective teachers' experiences during TP in greater detail. The findings revealed that student teachers experience both, positive and negative influences during TP. While TP provided them with a platform where they could combine theory and practice, and develop professional and practical knowledge; they also experienced a number of challenges. Overall, prospective teachers positively related to TP since it has been an enriching experience which helped them with their professional and personality development. As a result, they developed positive personality traits and effective teaching practices. Since they were directly involved in practical teaching within real life settings, they were able to discover and advance knowledge for themselves. Consequently, they learned new ideas and skills, related theory to practice, reflected on the education system and developed personal passion needed for effective teaching.

The study also demonstrated that student teachers faced a number of challenges during TP. In particular, the school staff was not cooperative and the host teachers' behavior was not friendly. The student teachers not only faced unnecessary criticism but were also burdened with extra work. This situation is particularly disappointing due to the fact that the host teacher can play a significant role in the professional development of student teachers. Although we used different methods to gather rich information about student teachers' experiences, participant observation would have been an effective way to systematically document the events, behaviors, and experiences. However, we could not conduct observations of students teachers due to lack of time and resources. Besides, the study would have benefitted more if more focus group interviews were conducted. Moreover, the selection of participants for focus group interview was itself challenging. Although we identified some student teachers as potential informants for the Phase two of data collection activity, we had to replace two potential informants due to their unavailability.

Nevertheless, the in-depth understanding generated through this study is particularly valuable for the teacher training institutions. Gibbs' cycle of reflection allowed student teachers to re-capture their experiences related to TP, understand what they did well, and reflect upon where and how can they improve. These insights can be

used to improve teacher education programs in general, and TP, in particular. The working knowledge regarding the problems faced by student teachers during TP can be utilized in improving the quality of their experiences by attending to these problems.

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Gender Mainstreaming Strategies at University

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Abstract

Gender equality is considered as the core of heart for a sustainable world. The main purposes of the study were to investigate the gender mainstreaming practices in the universities, and to compare the views of male and female teachers as well as administrative officers about gender mainstreaming strategies. The study was descriptive in nature. For the collection of data survey strategy was used. The sample of eighty eight university teachers as well as gazetted administrative staff was selected by using convenient sampling technique. Third tool (1st checklist) in the toolkit of International Labour Organization named GEMS was used. To adapt and contextualise, the questionnaire was worked out and further modified before pilot testing. The results showed high reliability with alpha coefficient and the value is found as 0.816. The obtained data were tabulated, analysed and interpreted by using descriptive as well as inferential statistics. There was gender mainstreaming practices in the institutional structure. Analyses on the basis of comparison showed that teaching and administrative staff had same views. Hence it is concluded that there was gender mainstreaming strategies found at universities in Punjab.

Keywords: Gender mainstreaming strategies, Administrative staff, Academic staff

Introduction

Universities over the world being high seat of learning are deemed more responsible for promoting their innate nobility among men and women for their honour. Therefore, equality, fair treatment for all, and social justice are central considerations of

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all universities. These requirements have a significant impact on the beauty and attraction of a university; it is now a phenomenon of global scope that men and women have assumed an important position in the university. Gender mainstreaming is very crucial (Stevens & Lamoen, 2001) in every organisation in general and university in particular. Gender biased situation may prevail in any culture, any organisation, and any university. Social standards, official structure, situational and dispositional factors as well as erratic thoughts about group members' attribute are one of the most important factors that are responsible for gender biased situation. Some studies revealed that women have still under-representative place in academic staff, especially in the position of management (Tahiraj, 2010; Hoyt, 2012) including technologically advanced countries; since it is very complicated to have an open dialogue on fair opportunity, authority and discrimination (Henze, Lucas & Scott, 1998).

Different studies exposed that gender identifies a moot fact (Eveline, Bacchi, 2005; Rees 2005). Now gender segregation is dominated in higher education. Jacobs (1996) found three aspects: entrance, experience and outcome are separate in educational inequalities, because they are distinct to each other. Various researchers like (Walby, 1997; Lindsey, 2011) studied that in government or non-government world of work, women suffered because of the characteristics of their occupations. According to them, in the world of work gender segregation existed in its peak if compared to the period during their academic life.

Many strategies have intended to cope with gender unfairness. Sandler and Rao (2012) determined that work on gender related issues helps to reduce improper environment of both male and female. Gender mainstreaming is a method to progress that seems more broadly at the dealings between women and men in their "access to and control over resources", decision making, remuneration and rewards in culture (Masilungan, 2001). Gender mainstreaming is a recent progress in feminist procedure with the intention of regulating policies for gender fairness. It is basically to tackle with 'mainstream' along with 'gender equality'. There are numerous diverse kinds of gender mainstreaming as there are various perceptions as well as theories of gender equality. The social and political systems also set up directions to this objective. Gender mainstreaming in particular demands women in the legislative body, the progress of the particular gender arrangement in administration, as well as gender proficiency in social civilization from universities to workers' organizations (Walby, 2005).

Gender mainstreaming as defined by the Council of Europe is given in the following words. "Gender mainstreaming is the (re) organization, improvement, development and evaluation of policy processes, so that a gender equality perspective is incorporated in all policies at all levels and at all stages, by the players normally involved in policy-making" (Blickhäuser & Bargen, 2007, p.1). Gender mainstreaming

as defined by the United Nations is "the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated" (Habib, 2008, p. 12).

It is very unfortunate that there is no proper implementation of gender mainstreaming policies (Moser & Moser, 2005). While gender mainstreaming is a powerful tool to achieve the goal of gender equality; therefore, it is considered the core of polices (Rees, 2005). Gender mainstreaming is a foremost frame for globalization (Walby, 2005). Neimanis (2005) explained that gender mainstreaming is different from "women in development" (WID). It is not the only concern with women's rights, but is also concerned with man's right at all levels (policies and programs). Gender issues are changed due to state, area, actual circumstances as well as gender-responsive analysis. These factors always show that gender-differentiated requirements, priorities, or gender inequalities are occurring in terms of occasions. Gender mainstreaming like a political approach entails a sound focal point on the background state of affairs with the intention of a medium for social renovation (Silfver, 2010).

Gender mainstreaming basically relied on organization concentration (Eerdewijk & Dubel, 2012). But in the field of education, work on gender mainstreaming is not usually familiar (Karlsson, 2010). Gender mainstreaming is like a procedure in an institutional assessment that accommodates work place to endorse gender parity (Tiessen, 2007).Gender mainstreaming is the encouragement of gender equality through its organized accumulation into all procedures of organizing an institution (Rees, 2005). So the entire phenomenon leads to evaluate the gender participation and gender mainstreaming capacity at university.

Since capacity can be observed through practices at universities therefore gender mainstreaming capacity here means gender mainstreaming practices. In gender perception, mainstreaming is focussed on the procedures reviewing the practices of men and women of any designed act, law, plan and field of life. It is basically concerned with a plan for measuring practices of male and female. Developing countries have special concerns over this strategy (Karega, & Bunwaree, 2010; Shaw, 2002). Several socioeconomic and political changes are taking place all over Asia especially in underdeveloped countries. These modifications are bringing about many transformations in organizations (Knodel, Loi, Jayakody, & Huy, 2005).

Institutional structure and capacity

It is crucial to take into account the invisibility of gender responsibility modify like not unchangeable, although it is possibly needed to consider a different perception to consider revolutions in the family and occupation areas (Crespi, 2009). The women team up with the company of democrats in country administration, to attain their considering gender justice problems located on government policy memorandum (Taylor, 2001). Perception of gender equity is modifying along with the requirement of actively increasing a fairer gender stability is currently enshrined in the Gender Equality administration applied in 2007 that requisite public organizations to completely support equality in Scotland (Riddell, 2009). In stakeholder processes, the women's issues are marginalized. This perhaps explained as a function of authority from an NGO viewpoint or of recognition and relevance from a business point of view (Grosser & Moon, 2005).

Great concentration desired toward the affairs between women along with men, specifically by means of in the division of labour, get hold of and control over resources, and potential for decision-making. There was better recognition of the value of looking for male associates and in functioning with men to mutually redefine gender responsibilities and relations. Consequently, here was a requirement to retreat 'women' as a target group, toward gender equality like a development goal (Crespi, 2009). In Africa, feeble institutional capacity, inappropriate linkages between the government as well as nongovernmental sections, lack of sufficient incentives, diversity, duplicity and disconnectedness of sectorial performer among others (Chuku, 2010).

In Pakistan, Women's importance and identical involvement in decision making is very essential for sound governance, poverty reduction and even for a feasible human resource improvement in a realm. Recognize the requirement, the local governance system of Pakistan (2001) offered for 33% representation of women at all three levels, i.e. District, Tehsil (Sub District) and Union Council through the acceptance of positive action. But this major enhancement in women's representation, their contribution still marginalized. Several cultural, political, financial and demographic features are accountable for women's low contribution in administration (Jabeen & Iqbal, 2010).

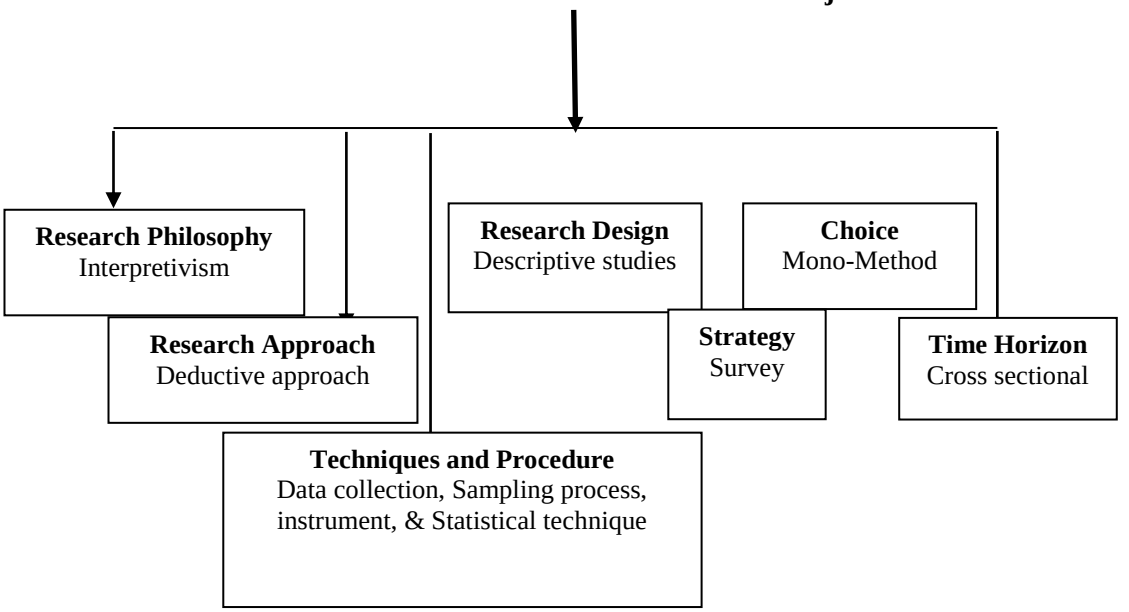
Purpose of the study

1. To investigate the gender mainstreaming practices in the universities.
2. To compare the views of male and female about gender mainstreaming strategies.
3. To compare the views of teachers and administrative officers about gender mainstreaming strategies.

Methodology

The main purpose of the study was to review gender mainstreaming strategies at university level. Following procedure was adopted for this study. According to Sitko (2013) theoretical framework is defined as "the system of concepts, assumptions, expectations, beliefs, and theories that support and inform your research" (p. 3). Miles and Huberman (1994) discussed (as cited in Sitko, 2013) that it is what "explains either graphically or in narrative form the main things to be studied, the key factors, concepts or variable, and the presumed relationships between them" (p. 3). Theoretical framework of the study was based on what Saunders, Lewis, & Thornhill (2009) had proposed. Following is the snapshot of theoretical framework for present research project.

Theoretical Framework for Present Research Project



Research design

As the researcher intended to explain a specified condition in its entirety at university level and as cautiously as feasible (Fraenkel, Wallen,& Hyun, 2012) therefore the study was descriptive in nature. In this design the researcher administered a survey through an adapted questionnaire to a small group of people (called the sample) to recognize the tendency in attitudes, opinions, behaviours, or characteristics of a large group of people (Creswell, 2012).

Population and sample

Due to financial constraints and time limitation, this research was delimited to University of Sargodha and Bahauddin Zakariya University Multan. The population of the study comprised all the teachers as well as administrative officer (grade 17 and above) of all public general universities in Punjab. All the teachers as well as administrative officer of University of Sargodha and Bahauddin Zakariya University Multan were the accessible population. At University of Sargodha total number of teachers was 770 (565 men and 205 women), whereas total number of administrative officer was 1500 (1410 men and 90 women). At Bahauddin Zakariya University Multan total number of teachers was 533 (379 men and 154 women), whereas total number of administrative officer was 105 (103 men and 2 women).

The sample was selected from University of Sargodha and Bahauddin Zakariya University Multan. University teachers and administrative officer (gazetted officer) was the sample of the study. The researcher distributed 625 questionnaires at both universities, 114 (18.25%) questionnaires were returned and only (14.08%) 88 questionnaires had given proper response. Convenient sampling technique was used to select the sample for the study. It means that individuals conveniently available (Gay, Mills, & Airasian, n.d.) were included in the study.

Research instrument

The research instrument used in this study was a questionnaire adapted from the tool kit named as Gender mainstreaming strategies in decent work promotion: Programming tools prepared by the International Labour Organization (ILO). The original tool kit, acronym of which is GEMS Toolkit, was accessible on http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-bangkok/documents/publication/ wcms_143849.pdf (Date of Access: 2, July 2014). The GEMS Toolkit contained 12 practical tools organized under different topics. The researcher took the tool 3 (1st questionnaire) of GEMS Toolkit which addressed reviewing the gender mainstreaming strategies (GEMS) in an organization. In present study the university was taken as the organization. This tool of *GEMS toolkit* contained two checklists to assess where an organization did stand in implementing gender mainstreaming strategies. The first part of that very tool dealt with the organization's capacity of gender mainstreaming strategies which included the institutional structure (International Labour Organization, 2010. p, 5).

A panel of experts (list of experts has given in Annexure No 3) was requested to refine the questionnaire – its items, format and language, in order to make the questionnaires simple and understandable. The questionnaire was finalized in the light of feedback received from the experts. Reliability refers that scores from a tool are constant and reliable. Scores should be almost similar while researcher conducts the

tool at several times. Moreover, scores necessitate being constant. If scores are not reliable, they are not valid (Creswell, 2012; Fraenkel, Wallen, & Hyun, 2012). The instrument used for this study had shown a relatively high reliability with its alpha coefficient value 0.816.

Data analysis

Data were analysed through nonparametric descriptive (frequency, percentage and mode values) and inferential techniques (Chi-square and Mann Whitney U test) using SPSS. Categorical and ordinal data are analysed through nonparametric statistic, while interval or ratio data are to the parametric (Sheskin, 2004). When scores are measured on an ordinal scale, the median and mode is always appropriate (Healey, 2005; Gravetter & Wallnau, 2013). Therefore nonparametric (descriptive as well as inferential) statistics were thought to be suitable for analysing the data collected by the researcher for this study.

Researcher avoided applying Kolmogorov-Smirnov test for goodness-of-fit purposes, because of the uncertainty surrounding the true significance level (Pollard, 1977; Sheskin, 2004). The chi-square test is an alternative to the Anderson-Darling and Kolmogorov-Smirnov goodness-of-fit tests. The chi-square goodness-of-fit test can be applied to discrete distributions such as the binomial and the Poisson. Mann Whitney U test was applied for comparison of two independent samples i.e. male versus female and teacher versus administrative officer. As there were no specific predictions about the opinion, so the analysis was 2-tailed (Corder, & Foreman, 2009). For many nonparametric test participants are approximately 20 to 25 within subjects design, or pair of participants in a between design subjects (Clark-Carter, 2010). The size of two samples need not to be equal, both sample should be fairly large (at least >5) if we are to use Mann Whitney test" (Ireland, 2010, p. 186).

Results

The study aimed at reviewing gender mainstreaming strategies at university level. The data were collected through an adapted research questionnaire. It was tabulated, analysed and interpreted in the light of the objectives of the study. Data were analysed through descriptive as well as inferential statistics.

According to 34.1% respondents, university had a gender policy. Whereas 37.5% contradicted this view and the least percentage 28.4% perceived that they have no idea about it. The respondents believed (35.5% - yes, 27.3% - no and 37.5 % not sure) that the university had a gender strategy. Majority of the respondents 43.2% were *not sure* if there was gender specific budget. Whereas, 36.4% said categorically '*no'* compared to only 20% '*yes'*. The 20.5% respondents said that university had a gender

budget, but 36.4% professed that the university has no gender budget moreover 43.2% are not aware of it.

Institutional Structure and Capacity on GEMS

Table 1. *Frequency Table for Institutional Structure and Capacity*

Statements	Yes	No	Not sure
1.Gender policy.	30(34.1%)	33(37.5%)	25(28.4%)
2.Gender strategy.	31(35.5%)	24(27.3%)	33(37.5%)
3.Gender budget.	18(20.5%)	32(36.4%)	38(43.2%)
4.Leadership show commitment to gender equality promotion.	53(60.2%)	19(21.6%)	16(18.2%)
5.Operational staffs show commitment to gender equality promotion.	38(43.2%)	27(30.7%)	23(26.1%)
6.Gender equality commitment clearly reflects in actual implementation.	35(39.8%)	28(31.8%)	25(28.4%)
7.Proper budget to promote specific gender equality programmes.	7(8.0%)	32(36.4%)	49(55.7%)
8. Balanced representation of women and men at all levels of personnel.	33(37.5)	44(50.0%)	11(12.5%)
9. Men and women treated equally.	50(56.8%)	29(33.0%)	9(10.2%)
10. Routinely conduct gender analysis.	6(6.8%)	43(48.9%)	39(44.3%)
11.University cooperate with women's organization.	39(44.3%)	13(14.8%)	36(40.9%)
12.University have a gender unit, gender focal point system.	16(18.2%)	36(40.9%)	36(40.9%)
13.Specific gender advocates and experts within the organization	14(15.9%)	40(45.5%)	34(38.6%)
14.University have clear procedures to integrate gender into programming.	11(12.5%)	42(47.7%)	35(39.8%)
15.University have clear procedures to integrate gender into budget	10(11.4%)	33(37.5%)	45(51.1%)
16.University have clear procedures to integrate gender into staff accountability.	38(43.2%)	21(23.9%)	29(33.0%)
17.Staff in your university been provided with gender training	14(15.9%)	49(55.7%)	25(28.4%)
18.University routinely ensure that both men and women are represented in staff (meetings and training activities).	49(55.7%)	19(21.6%)	20(22.7%)
Mode value of all statements		1 and 2	

The respondents believed (60.2% - yes), that leader are committed to gender equality promotion though 21.6% contradicted it and 18.2% were not sure of it. The respondents assumed (43.2%- yes), that operational staff is committed to gender

equality promotion. Whereas 30.7% respondents indicated that it did never and 26.1% were not sure of the process.

More than 39% of the respondents said that gender equality commitment clearly reflect in actual implementation, whereas 31.8% contradict this remark in addition to 28.4% were not aware of it. Merely 8.0% respondents expressed that university had proper budget to promote specific gender equality programme; and 36.4% respondents indicated that it did never and 55.7%, were not sure of the process. More than 37% of the respondents said that there is a balanced representation of women and men at all levels of personnel, and 50.0% believed it did *nothing.* Moreover, 12.5% expressed ignorance of it. According to the respondents (56.8% expressed yes, and 33.0% no), men and women treated equally; further 10.2% respondents expressed ignorance about it.

Majority of the respondents 48.9% said categorically '*no'* routinely conducted gender analysis and compared to only 6.8% '*yes'* ; although 44.3% revealed ignorance of it. The respondents believed (44.3% - yes and 14.8% - no) that university cooperated with women's organization; while 40.9% respondents said they had no knowledge about it. The respondents (18.2% perceived yes), thought that university have a gender unit, gender focal point system while no and not sure had the same percentage (40.9%) of it. More than 15% of the respondents said that there were specific gender advocates and experts within the organization; and 45.5% believed it did *nothing.* Moreover, 38.6% respondents revealed ignorance of the process. University had (12.5% respondents) or had not (47.7%) clear procedures to integrate gender into programming and 39.8% were not aware of that action.

The respondents believed (11.4% - yes and 37.5% -no) that university had not clear procedures to integrate gender into the budget in addition 51.1% respondents had no knowledge about it. According to the respondents (43.2% expressed yes and about 23.9% expressed no), university had clear procedures to integrate gender into staff accountability and 33.0% were not sure of it. More than 15% of the respondents said that university has been provided gender training in his staff against 55.7% who thought it did never; furthermore 28.4 were not aware of it. University had (55.7% respondents) or had not (21.6% respondents) routinely ensured that both men and women are represented in staff (meetings and training activities) and disagreed with this view that the university routinely ensure that both men and women are represented in staff (meetings and training activities) and 22.7% were not sure of the process. The mode value of all statements related to Institutional structure and capacity on GEMS were 1(Yes) and 2(No). So it was concluded that there was divided opinion about Institutional Structure and Capacity.

Table 2. Hypotheses Testing for *Institutional Structure and Capacity*

Statements	Chi square	P
1.Gender policy.	1.114	0.573
2.Gender strategy.	1.523	0.467
3.Gender budget.	7.182	0.2222
4.Leadership show commitment to gender equality promotion.	28.795	0.000
5.Operational staff shows commitment to gender equality promotion.	4.114	0.128
6.Gender equality commitment clearly reflects in actual implementation.	1.795	0.407
7.Proper budget to promote specific gender equality programmes.	30.432	0.000
8.Balanced representation of women and men at all levels of personnel.	19.250	0.000
9.Men and women treated equally.	28.659	0.000
10.Routinely conduct gender analysis.	28.114	0.000
11.University cooperate with women's organization.	13.795	0.001
12.University have a gender unit, gender focal point system.	9.091	0.011
13.Specific gender advocates and experts within the organization	12.636	0.002
14.University have clear procedures to integrate gender into programming.	18.023	0.000
15.University have clear procedures to integrate gender into budget	21.568	0.000
16.University have clear procedures to integrate gender into staff accountability.	4.932	0.085
17.Staff in your university been provided with gender training	21.841	0.000
18.University routinely ensure that both men and women are represented in staff (meetings and training activities).	19.795	0.000

Values of Chi square in the table 3.2 revealed that all the statements (3, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, and 18) had same pattern except (1, 2, 5, 6, and 16) statements so the null hypotheses were rejected. Thus it was determined that institutional structure and capacity on GEMS *at universities had been established.* Chi square statistic in table 3.2 also established what frequency data in table 3.1 had revealed that university had not gender policy. Although revealed in table 3.2, it was again endorsed that university had not gender strategy. Though reflected in table 3.2, it was further confirmed here that university had not gender budget.

Table 3.2 explained the same fact what had already been observed in table 3.1, that the leadership showed commitment to gender equality promotion. The analysis of statement 5 (operational staff show commitment to gender equality promotion) and 6 (gender equality commitment clearly reflect in actual implementation) in table 3.2 provided insufficient evidence upon what had been reported on it in table 3.1. The analysis of statement 5 (operational staff show commitment to gender equality

promotion) and 6 (gender equality commitment clearly reflect in actual implementation) in table 3.2 provided insufficient evidence upon what had been reported on it in table 3.1.

The analysis of statement 7 (university had proper budget to promote specific gender equality programmes) in table 3.2 provided insufficient evidence upon what had been reported on it in table 3.1. Table 3.2 explained the dissimilar fact what had been observed in table 3.1, that there was a balanced representation of women and men at all levels of personnel. Though reflected in table 3.1, it was further confirmed here that men and women treated equally. The analysis of statement 10 (university routinely conduct gender analysis) in table 3.2provided insufficient evidence upon what had been reported on it in table 3.1. Table 3.2 explained the same fact what had already been observed in table 3.1, that university cooperated with women's organization. The analysis of statement 12 (university had a gender unit, gender focal point system) in table 3.2 provided insufficient evidence upon what had been reported on it in table 3.1.

Chi square statistic in table 3.2 did not establish what frequency data in table 3.1 had revealed that there were specific gender advocates and experts within the organization. The analysis of statement 14 (university had clear procedures to integrate gender into programming) in table 3.2 provided insufficient evidence upon what had been reported on it in table 3.1. Chi square statistic in table 3.2 did not establish what frequency data in table 3.1 had revealed that university had clear procedures to integrate gender into budget.

The analysis of statement 16 (university had clear procedures to integrate gender into staff accountability) in table 3.1 provided insufficient evidence upon what had been reported on it in table 3.2. The analysis of statement 17 (staff in your university been provided with gender training) in table 3.2 provided insufficient evidence upon what had been reported on it in table 4.1. Though reflected in table 3.1, it was further confirmed here that university routinely ensured that both men and women are represented in staff (meetings and training activities.

At $\alpha = 0.05$, all items related to institutional structure and practices on GEMS. The table 3.3 revealed that there was no statistically significant difference between the views of male and female about institutional structure and capacity (practices) on GEMS. Same pattern was observed in all statements except the statement 1, 4 and 6. So the null hypotheses were failed to be rejected. Consequently it was determined that both male and female workforce had similar response. At $\alpha = 0.05$, all items related to institutional structure and practices on GEMS.

Table 3. *Male vs female on institutional structure and capacity*

Statements	U	P
1.Gender policy.	694.500	0.025
2.Gender strategy.	800.500	0.198
3.Gender budget.	748.500	0.076
4.Leadership show commitment to gender equality promotion.	713.500	0.026
5.Operational staff show commitment to gender equality promotion.	748.500	0.078
6.Gender equality commitment clearly reflect in actual implementation.	644.500	0.007
7.Proper budget to promote specific gender equality programmes.	937.500	0.954
8.Balanced representation of women and men at all levels of personnel.	910.500	0.758
9.Men and women treated equally.	761.500	0.081
10.Routinely conduct gender analysis.	922.500	0.842
11.University cooperate with women's organization.	834.000	0.313
12.University have a gender unit, gender focal point system.	885.500	0.596
13.Specific gender advocates and experts within the organization	829.500	0.294
14.University have clear procedures to integrate gender into programming.	855.500	0.413
15.University have clear procedures to integrate gender into budget	875.500	0.524
16.University have clear procedures to integrate gender into staff accountability.	781.000	0.141
17.Staff in your university been provided with gender training	921.000	0.832
18.University routinely ensure that both men and women are represented in staff (meetings and training activities).	829.500	0.283

Values of Mann Whitney U test in the table 3.4 revealed that there was no statistically significant difference between the views of male and female about institutional structure and capacity (practices) on GEMS. Same pattern was observed in all statements except the statement 2, 3, 6 and 10. So the null hypotheses were failed to be rejected. At $\alpha = 0.05$, all items related to institutional structure and capacity on GEMS.

Table 4. *Teachers vs administration on institutional structure and capacity*

Statements	U	P
1.Gender policy.	255.000	0.059
2.Gender strategy.	243.500	0.040
3.Gender budget.	249.000	0.046
4.Leadership show commitment to gender equality promotion.	374.000	0.810
5.Operational staff show commitment to gender equality promotion.	374.500	0.827
6.Gender equality commitment clearly reflect in actual implementation.	251.000	0.052
7.Proper budget to promote specific gender equality programmes.	365.500	0.718
8.Balanced representation of women and men at all levels of personnel.	358.000	0.640
9.Men and women treated equally.	377.000	0.874
10.Routinely conduct gender analysis.	245.000	0.034
11.University cooperate with women's organization.	350.000	0.565
12.University have a gender unit, gender focal point system.	346.500	0.535
13.Specific gender advocates and experts within the organization	378.500	0.869
14.University have clear procedures to integrate gender into programming.	336.500	0.438
15.University have clear procedures to integrate gender into budget	297.000	0.177
16.University have clear procedures to integrate gender into staff accountability.	289.500	0.155
17.Staff in your university been provided with gender training	370.000	0.766
18.University routinely ensure that both men and women are represented in staff (meetings and training activities).	349.500	.584

Discussion and Conclusion

From the results it can be concluded that institutional has insufficient capacity to address the gender related issues, moreover inappropriate linkages can be seen between the government as well as nongovernmental sections. In addition to this lack of sufficient incentives, diversity, duplicity and disconnectedness of sectorial performer among others can also be observed (Chuku, 2010).

The women team up with the company of democrats in country administration, to attain their considering gender justice problems located on government policy memorandum (Taylor, 2001). The result of this study showed that there was gender mainstreaming practices in institutional structure of universities/ organization GEMS' practices. Whereas Crespi (2009) argued that a great concentration has desired towards the affairs between women along with men, specifically by means of decision-making. This is congruent to that of present study. It can thus be concluded that teacher and administrative staff had the same views about gender mainstreaming strategies. According to Stevens & Lameon (2001) they have considered that they were the participants of gender mainstreaming.

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Relationship of Organizational Climate with Teachers' Job Satisfaction

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Abstract

The current study was planned to explore the correlation between organizational climate of secondary schools and secondary school teachers' job satisfaction. All the public sector secondary school teachers and their heads working in the province of the Punjab were the population of the study. The sample was selected by using convenient sampling technique. The sample consisted of 48 head teachers and one hundred and ninety two secondary school teachers (males and females) belonging to district Okara. Pearson product moment r was applied for analysis of data. The results of the study revealed a positive and significant correlation between organizational climate and teachers' job satisfaction for both male and female teachers. However, the evidence showed that female teachers were diffident while working in open climate and male teachers are cautious of working in close climate. It is recommended that the job satisfaction level of teachers may be improved to provide a climate more suitable and close to their nature.

Key Words: Organizational Climate, Relationship, Job Satisfaction, Head Teachers, SSTs.

Introduction

The educational organizations are main pillar of all learning activities (Getzels & Guba, 1970). The members of the community (administrators, teachers and learners etc.) perform their respective roles in a certain premises called schools. All the organizational members have different tasks to perform for smooth functioning of school organization (Campell, Corbally & Nystrand, 1983). As the employees are important assets of school organization, their personal interaction matters a lot towards

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the performance in such organizations (Sergiovanni & Starratt, 1988). This collaboration of school fellows forms the working sphere of institutes is finally called climate of the school. On the basis of that climate, every school distinguishes from other education organizations that affect the work of both teachers as well as (Sergiovanni & Starratt, 1988).

School climate is the reflection of norms, values, behavior, beliefs and attitude of head teachers, teachers, and students. A study conducted by Spencer, Pelote, and Seymour (1998) indicated that school climate comprises of working atmosphere, values, norms, and policies that effect the groups as well as individuals' work. The school climate has an impact on learners' intellectual, emotional, social, and corporal development. The institutions are responsible for increasing better working relations among the workers.

In the view point of Stringer (2002), climate is the joint moods of people functioning in an organization on the basis of mutual activities and inspiration. Apparently, the term climate is common with environment and culture. They have differences among them. The organizational culture is the practical aspects of norms, morals and ideas in the operational perspective (Armstrong, 2009). Moreover, organizational environment is concerned with the working aspects of the organization. Rousseau (1990) explains the difference between climate and culture and propagated that climate is the general understanding and belief of workers about organization while culture is about manners, ethics, and expectations of employees on the basis of their dealings.

The difference between the two terms may be small and capricious. School climate is the utmost indicator of school and academic performance of students (Van-Horn, 2003). It is empirically evident across the universe that school climate is the significant indicator for real collaboration amongst the instructors and head teachers (Halpin & Craft 1963). Furthermore, researchers investigated that culture is the unpretentious condition of associations about climate (French & French (1985). It is all about the tasks and performance of organizational members. It plays a vital character in changing and developing of an organization (Tahir, Basit, Haque, Mushtaq, & Anwar, 2010).

School climate has two types, open and close climate. An open climate is concerned with its open characteristics. It utilizes the space and legitimacy of relationship of teachers, heads pupils, and other stack holders (parents) (Black, 2007). The proponents of climate claimed that open climate is helpful and friendly and perform constructive role in improving teachers' devoutness. The teachers in an open climate are assumed to be obliging, tolerant, as well as noble to the profession. They

always remain observant and helping to fulfill the students' needs with devotion (Ali & Hale, 2009). The heads and subordinates maintain positive relationships with students as well as parents. They build a team spirit that lead to guarantee of success. The literature revealed that in open school climate, the instructors show loyalty, devotion and pleasure in helping the students. It is admitted fact that open climate prefer the advancement of positive outcomes in students' academic achievement which finally stimulates better physical and mental health as well as job satisfaction among head teachers and teachers (Halphin, 1966).

The performance of teachers is significantly affected by close climate. Climate inspires the teachers to utilize their skills and full potential. The institutes having close climate inculcate dignified morality within workers. Resultantly, it leads to procedural success. Numerous studies across the universe indicated that working efficiency of teachers varies with climate type. Moreover, Raza (2010) sustained that instructor's work well in a supportive atmosphere. The institution with supportive environment inspires healthy competition among instructors and students. As a result, performance of teachers is improved. The social and psychological wellbeing of teachers is affected by organizational climate of educational institutions (Adnike, 2011). According to Panda (1995), open and controlled climate appeared to be more favorable and conducive with respect to students to secure high achievement score. The job satisfaction of teachers is directly connected with organizational climate of schools.

Job satisfaction is the confident and enjoyable mind situation with respect to one's job involvements (Akhtar, 2000). Moreover, it is stated that job satisfaction is a combined emotive and intellectual reactions (Cranny, Smith, & Stone, 1993). Similarly, Papanastasiou and Zembylas, (2004) found that workers' job satisfaction is their emotive relationship with the opinion and needs of work. In the same way, researcher identified that it is confident sensation while working, personal worth, and achievements (Wetherell, 2002). The working relations during job resulted in satisfaction, controlling way of life and success of life (Lawler, 1973 & Hart, 1999).

Keeping in view the identical situation, work satisfactions of teachers stimulates the effectiveness of learners. The researchers empirically observed that found that satisfaction during work has constructive influence on presentation of students (Silins & Murray-Harvey,1999). Roughly speaking, climate is the excellence of an institution and supports the learners to promote the performance. It is reality that satisfaction during work is *highly concerned for viable growing of an institution. In short, satisfaction during job is as important as knowledge, human resource planning and professional skills (Ololube, 2006). In the same way, Morgan and O'leary (2004) revealed that satisfied teachers make the students more satisfied towards their studies and it intern improves the academic performance of students. Brunetti (2001) examined*

that teachers are facing various problems for many decades. They are concerned with class size, diverse behavior of students, lack of facilities, and other academic resources. They are bound to teach in these circumstances. These aspects have created disappointment among the teachers. Similarly, Singh and Greenhaus (2004) indicated that employees feel it pleasure to contest their capabilities and skills to complete job necessities. It is showed that job satisfaction is linked with mind satisfaction and vice versa.

According to Shann (1998) there are some notable indicators that become the source of job pleasure and displeasure. These are intrinsic and extrinsic indicators linked with working sphere (Bogler, 2001). The intrinsic satisfaction seems from curricular activities, personal relations with learners and training challenges (Shann, 1998). Likewise, rewards, incentives, and good results also fascinate the workers towards their profession (Dinham & Scott, 1998). Moreover, Scot and Dinham (2003) showed that ecological, psychological, and demographic aspects also affect job satisfaction of workers. Work/job satisfaction has many aspects like working environment, fringe benefits, supervision, elevation, working relations, and heads conduct etc. Many researchers and experts acknowledged it internationally that these aspects have significant association with institution's climate. Arani and Abbasi (2004) pointed out strong association between organisational climate and work/job satisfaction. Additionally, Jyoti (2013) said that organisational climate has positive as well as strong relationship with work/job satisfaction of teachers. The same notion was also endorsed by Castro and Martins (2010) in his study. Keeping in view the prominence of the phenomenon, the investigators envisioned to explore the association between organizational climate and work satisfaction of teachers at the national scene.

Statement of the Problem

The main aim of the research was to explore the correlation between organizational climate and job satisfaction of teachers in Punjab Pakistan.

Research Questions

Following research questions were developed to investigate the problem:

RQ. 1. What is the correlation between the climate of school and job satisfaction of teachers?

RQ. 2. What is the correlation between the climate of school and job satisfaction of male teachers?

RQ. 3. What is the correlation between the climate of school and job satisfaction of female teachers?

RQ. 4. What is the correlation between the open climate of the school and job satisfaction of teachers?

RQ. 5. What is the correlation between the close climate of the school and job satisfaction of teachers?

RQ. 6. What is the correlation between the open climate of the school and job satisfaction of male teachers?

RQ. 7. What is the correlation between the open climate of the school and job satisfaction of female teachers?

RQ. 8. What is the correlation between the close climate of the school and job satisfaction of male teachers?

RQ. 9. What is the correlation between the close climate of the school and job satisfaction of female teachers?

Research Methodology

The present study was correlational by nature and planned to explore the correlation between organizational climate and job satisfaction of teachers in the province of Punjab Pakistan. The study was descriptive and carried out with survey technique. In the survey of secondary schools, the researchers used two questionnaires. The school climate scale (SCS) was used to measure the climate of schools. The said scale (SCS) was prior used in the doctoral study of Syed Muhammad Anees Ul Husnain Shah (2012) at IER University of the Punjab Lahore (Muhammad, 2012). Similarly, the school teachers' job satisfaction was measured through job satisfaction scale (JSST) for teachers (Iqbal, 2011). The scale was also used by the researcher in his doctoral study at IER University of the Punjab Lahore. These scales were used by the researchers with the formal permission of the owner of the instruments.

The secondary schools of public sector were the part of population. The Punjab province of Pakistan was the most populated province of the country. Moreover, it comprised of both type of population rural and urban. So the survey of whole population (secondary school) was not feasible for the researchers. Thus researchers used convenient sampling technique. In convenient sampling, the researchers selected district Okara (among the 36 district of Punjab). Moreover, researchers' selected 48 secondary schools (24 male and 24 female) were conveniently selected. In the same way, 4 secondary school teachers from each selected school become the part of sample. The head teacher responded to SCS and SSTs responded to JSST. Researchers personally visited the selected sample got the response. Moreover, researchers imparted instructions beforehand to the selected sample and assured them that there will be no physical or emotional harm to them. The collected data was tabulated and analysed by using SPSS. It is reflected from the table 1 that there was 100% response of the selected sample.

Table 1. *Sample of the study*

Sr. No.	Name of District	Head Teachers		SSTs	
1	Okara	Male	24	Male	96
		Female	24	Female	96
	Total		48		192

Results

The data were analyzed through SPSS version 20. The statistical technique Pearson *r* was applied to measure the relationship between variables.

RQ. 1. What is the correlation between the climate of school and job satisfaction of teachers?

Table 2. *Correlation between Climate of School and Job Satisfaction of Teachers*

Respondent	N	Mean	S.D	Correlation (r)	P-Value
School Climate	176	4.69	0.810	0.099*	0.035
Job Satisfaction	176	3.88	0.665		

From data analysis given in the table 2, It is found that the correlation between the climate of school and job satisfaction of teachers is 0.099* with reference of statistical analysis it is considered very low (Garrett, 1983). This value of p is small than α significance level (0.035<0.05). So this relationship is statistically significant. Hence it is concluded that there exists a significant correlation between the climate of school and job satisfaction of teachers.

RQ. 2. What is the correlation between the climate of school and job satisfaction of male teachers?

Table 3. *Correlation between Climate of School and Job Satisfaction of Male Teachers*

Respondent	N	Mean	S.D	Correlation (r)	P-Value
School Climate	102	4.69	0.810	0.102**	0.001
Job Satisfaction	102	3.88	0.665		

The table 3 calculates correlation between the climate of school and job satisfaction of male teachers. It is found as 0.102** which shows positive correlation as well as significant. This value of p is small than α significance level (0.001<0.05). Hence, it is concluded that a significant correlation is found between the climate of school and job satisfaction of male teachers.

RQ. 3. What is the correlation between the climate of school and job satisfaction of female teachers?

Table 4. *Correlation between Climate of School and Job Satisfaction of Female Teachers*

Respondent	N	Mean	S.D	Correlation (r)	P-Value
School Climate	74	4.69	0.810	0.209**	0.005
Job Satisfaction	74	3.88	0.665		

While calculating the correlation between the climate of school and job satisfaction of female teachers, it was found to be 0.209**. From this we concluded that the correlation was significant and positive, as $p < 0.005$. Thus it was concluded that significant correlation is prevailed between the climate of school and job satisfaction of female teachers.

RQ. 4. What is the correlation between the open climate of the school and job satisfaction of teachers?

Table 5. *Correlation between Open Climate of School and Job Satisfaction of Teachers*

Respondent	N	Mean	S.D	Correlation (r)	P-Value
Open Climate	176	4.69	0.810	0.l22**	0.010
Job Satisfaction	176	3.88	0.665		

The table 5 shows the correlation between the open climate of the school and job satisfaction of teachers. It was found to be 0.122** that was significant and positive. This value of p is small than α significance level ($0.010<0.05$). Hence, a significant correlation is concluded between the open climate of the school and job satisfaction of teachers.

RQ. 5. What is the correlation between the close climate of the school and job satisfaction of teachers?

Table 6. *Correlation between Close Climate of School and Job Satisfaction of Teachers*

Respondent	N	Mean	S.D	Correlation (r)	P-Value
Close Climate	176	4.69	0.810	0.177	0.256
Job Satisfaction	176	3.88	0.665		

The table 6 shows the relationship between the close climate of the school and job satisfaction of teachers. The value of r was positive 0.177 but not significant with

value of p 0.256. This value of p is greater than 0.05 hence it is concluded that there is no significant correlation between the close climate of the school and job satisfaction of teachers.

RQ. 6. What is the correlation between the open climate of the school and job satisfaction of male teachers?

Table 7. *Correlation between Open Climate of School and Job Satisfaction of Male Teachers*

Respondent	N	Mean	S.D	Correlation (r)	P-Value
Open Climate	102	4.69	0.810	0.019	0.000
Job Satisfaction	102	3.88	0.665		

It is obvious in the table 7 that the relationship of the open climate of the school with job satisfaction of male teachers (r = 0.019). It was found significant and positive with value of p < 0.000. Hence it is inferred a significant and strong correlation between the open climate of the school and job satisfaction of male teachers.

RQ. 7. What is the correlation between the open climate of the school and job satisfaction of female teachers?

Table 8. *Correlation between Open Climate of School and Job Satisfaction of Female Teachers*

Respondent	N	Mean	S.D	Correlation (r)	P-Value
Open Climate	74	4.69	0.810	0.462	0.625
Job Satisfaction	74	3.88	0.665		

In the table 8 it was inferred that the relationship between the open climate of the school and job satisfaction of female teachers found positive (0.462) but statistically non-significant. The value of p (0.625) is larger than 0.05. Hence, no significant correlation is concluded amongst the open climate of the school and job satisfaction of female teachers.

In the table 9, it shows clearly that correlations between the close climate of the school and job satisfaction of male teachers was r = 0.108. This relationship was non-significant but positive. Because the value of p = 0.090 is larger than 0.05. So it is averred a non-significant correlation between the close climate of the school and job satisfaction of male teachers.

RQ. 8. What is the correlation between the close climate of the school and job satisfaction of male teachers?

Table 9. *Correlation between Close Climate of School and Job Satisfaction of Male Teachers*

Respondent	N	Mean	S.D	Correlation (r)	P-Value
Close Climate	102	4.69	0.810	0.108	0.090
Job Satisfaction	102	3.88	0.665		

RQ. 9. What is the correlation between the close climate of the school and job satisfaction of female teachers?

Table 10. *Correlation between Close Climate of School and Job Satisfaction of Female Teachers*

Respondent	N	Mean	S.D	Correlation (r)	P-Value
School Climate	74	4.69	0.810	0.431	0.000
Job Satisfaction	74	3.88	0.665		

The table 10 for relationship and teachers' job satisfaction shows r value 0.431 that was statistically significant and positive. The calculated value of p = 0.000 is small than set value (0.05). Hence it averred a strong positive and significant correlation between the close climate of the school and job satisfaction of female teachers.

Conclusions and Discussion

1. The analysis reflects correlation of climate of school with job satisfaction of teachers (p-value 0.035<0.05).
2. The gender based analysis shows significant association between the climate of school and job satisfaction of male teachers (p-value 0.001<0.05). Similarly, significant relationship also found between the climate of school and job satisfaction of female teachers (p-value=0.005).
3. The analysis inferred significant association between open climate of school and job satisfaction of teachers (p-value=0.010). On the other hand, close school climate has no significant relationship with teachers' job satisfaction (p-value 0.256>0.05).
4. The analysis shows significant and strong association between open climate of school and job satisfaction of male teachers (p-value is 0.000) while correlation was non-significant between open climate of school and job satisfaction of female teachers (p-value 0.462 > 0.05).

5. The results found a non-significant correlation between schools' open climate and job satisfaction of male teachers (p-value 0.090 > 0.05). While a strong significant and positive correlation between school's close climate and job satisfaction of female teachers (p-value 0.000<0.05).

From the above declared results, it is inferred that climate of school had strong and positive correlation with secondary school teachers' job satisfaction. Results of the study endorsed the empirical evidences of Arani and Abbasi (2004), through this evidence it was evident that job satisfaction of teachers' and organisational climate are correlated. Similarly, at international arena the empirical evidences of Selamat, Samsu and Kamalu (2013) propagated that climate is main source of teachers' performance. Furthermore, Jyoti (2013) also presented the empirical evidences and concluded that climate strongly effects teachers' job commitment and job satisfaction. It is recommended that job satisfaction level of teachers may be improved to provide a climate more suitable and close to their nature.

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Influence of Collaborative Group Work on Students' Attitude towards Mathematics

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Abstract

The paper investigates the effect of Collaborative Group Work (CGW) on students' attitude towards mathematics at elementary level in Pakistan. It documents the results of two case studies. Evidence was collected over one teaching term in an academic year in a usual classroom context in the form of observations, audio and video recordings, interviews, questionnaires and field notes. The purpose was to collect the data in classroom conditions that were as normal as possible. The paper is part of larger study so only questionnaire and interview data were taken for this as an evidence of the shift of students' attitude developed during intervention. The analysis of the attitudes to mathematics of students at the start, during and at the end of the teaching programme shows a positive change in students' attitudes over the period of the intervention.

Key Words: Attitude; Belief; Emotion; Collaborative Group Work; Collaborative learning

The Study

A large number of studies are conducted on attitude towards mathematics but studies like teaching experiment focusing on a change in students' attitude towards mathematics are rare in the mathematics education. The purpose of this study is to explore the influence of the intervention throughout whole teaching term on students' attitude towards mathematics. The attitudes of students influence their level of engagement and learning (Eagly & Chaiken, 2005) but attitudes are not fixed. A potential benefit of Collaborative Group Work (CGW) is that attitudes are affected positively, which will inform engagements and learning. For that reason, the students' attitudes are monitored in the study for detecting change. They "can be seen as constantly in the process of being recreated and renegotiated by those who hold them - attitudes can change" (Moreira & Noss, 1995, p. 157). During CGW, the students'

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subjective and objective knowledge influence each other and can change their attitudes about mathematics either in a positive or negative way. Such change has influence on their engagement and learning. One of the challenges in this kind of research is to define the construct; what is attitude?

Literature Review

What is attitude?

Zan and Di Martino (2007, p. 621) state that despite a large number of studies about attitudes, there is no clear definition of the construct itself. They provide three definitions; a simple, a bi-dimensional and a multidimensional, which are given below:

1. *A 'simple' definition of attitude, that describes it as the positive or negative degree of affect associated with a certain subject. According to this point of view the attitude toward mathematics is just a positive or negative emotional disposition toward mathematics (McLeod, 1992; Haladyna, Shaughnessy & Shaughnessy, 1983).*
2. *A multidimensional definition, which recognizes three components in the attitude: emotional response, beliefs regarding the subject, behaviour related to the subject. From this point of view, an individual's attitude toward mathematics is defined in a more complex way by the emotions that he/she associates with mathematics (which, however, have a positive or negative value), by the individual's beliefs towards mathematics, and by how he/she behaves (Hart, 1989).*
3. A bi-dimensional definition, in which behaviours do not appear explicitly (Daskalogianni & Simpson, 2000): attitude toward mathematics is therefore seen as the pattern of beliefs and emotions associated with mathematics

The researchers preferred neither the simple nor the multidimensional definitions of attitudes. The simple definition only tells about the 'positive emotional disposition' or 'negative emotional disposition' of an individual. This ignores the role of beliefs, which seem to be important to attitude (Eagly & Chaiken, 2005). Another reason for not considering the simple definition is an issue of measurement. For example, if one says mathematics is a good subject, it shows he/she has positive views about mathematics. However in most attitude measuring questionnaires, the items used are positive but could be related to different constructs as shown in the Table1.

Table 1. *Items related to different constructs*

Items used in Questionnaire	Related to	'Positive' generally means
I like maths	Emotion	Perceived as pleasurable
Maths is useful	Beliefs	Shared by the experts
I always do homework in maths	Behaviour	Successful

The three 'positive' items in Table 1 create confusion whether 'positive' related to emotion, beliefs, or behaviour when we use in any attitudes questionnaire. Actually, three meanings are overlapping. Zan & Di Martino(2007, p. 160) argue that:

> *The differences in the use of the adjective 'positive' not only imply different choices of assessment /measurement instruments: it also triggers a different formulation of the research problem to be dealt with. For example, the problem of identifying how to push a 'positive attitude', typically encountered in this field of research, requires a completely different approach depending on whether the positive attitude refers only to the emotional component or it refers to a particular pattern of beliefs and emotions, to be assumed as a model.*

The reason for not preferring the multidimensional definition is that it can again create confusion between beliefs and behaviour as a third construct that this 'positive' attitude is because of beliefs or behaviours. The practical constraints on the study meant that the researchers could only study effect through questionnaire and interviews, and trying to access behaviour through verbal responses creates confusion between beliefs and behaviour. For that reason, researchers considered the bi-dimensional definition, which deals with two dimensions: beliefs and emotion.

Beliefs: The researchers consider beliefs as the personal thinking from which individuals make decisions about the actions they undertake. Beliefs represent one dimension to analyse the students' attitudes towards mathematics because it is assumed that beliefs develop the attitudes of the students. Beliefs are a form of knowledge and knowledge is situated and socially constructed and beliefs of people are made with their social life (De Abreu, Bishop, & Pompeu Jr, 1997). Students have beliefs, which are developed from different communities of practice (Op't Eynde, Corte & Verschaffel, 2003). An individual's beliefs are the results of different social interactions.

Emotions: "The emotions are socially organised phenomena which are constituted in discourse, shaped by relations of power, and implicated in constructing social identity" (Evans, Morgan & Tsatsaroni, 2006, p. 209). During CGW, emotion arises during the interaction of students, shaped by their personal experiences related to social interaction and pedagogic and other practices in which they participate (Evans, et al., 2006). Emotions are taken as a second dimension that reveals the on-going behaviours of the students during intervention.

Three principles

This subsection presents three principles adopted from Moreira and Noss (1995) to be used as action guidelines in this study. Moreira are Noss (1995) treat attitude as dynamic.

Principle 1: Attitudes can be understood only as the history of attitudes

This principle says that to understand the character of students' attitudes towards mathematics, it is necessary to consider how these attitudes are formed. The focus here is that attitudes are learned and are continually evolving as a result of different experiences. It is not claimed that all the experiences contributing to students attitudes should be brought to light, but that an attempt should be made to uncover some of the factors that might explain the attitudes that students' developed in their previous classroom practices.

Principle 2: Attitude change can be understood only as the history of change

This principle argues that the study of attitude change should not limit itself to acknowledging that change did or did not occur. For example, in attempting to document eventual changes in students' attitudes towards mathematics associated with the classroom environment, it is important to try to understand the trajectories followed by the participating students. We will take an approach to the study of attitude change that takes into account not only the outcomes of the intervention but also consider how and why any change takes place.

Principle 3: Context is a main agent

This third principle says that context is an important factor, which influences students' attitudes. It is the place where students get the new ideas, feelings and experiences, specifically the classroom context which acts as a catalyst for developing students' beliefs.

Methodology

For this research, the researchers utilized the case study method in which the focus does not lie on individuals, but on the social and cultural phenomenon of student-student interaction that the individuals perform during collaborative group work (CGW). In this study, evidence was collected in two schools (the Light Campus and the new school) over one teaching term in the academic year in a usual classroom context in the form of observations, audio and video recordings, interviews, and questionnaire and field notes. Classes were videotaped with one camera. The questionnaire and interview data were taken as evidence of the shift of students' positive attitude developed during this intervention. The qualitative data, generated from the transcription of interviews, were classified into categories. Quantitative data derived from structured questionnaire were analyzed by applying statistical tools

(percentages, frequencies, and means).The focus was to provide a general view of students' attitude towards mathematics and how it changed through the interaction. Semi structured interviews were conducted before, during and after the intervention. The purpose was to analyze the change in attitudes of students if any because of intervention. The developed questionnaire contains a set of 27 items, which have been adopted and modified from earlier research. The questionnaire consists of several attitudes scales developed in accordance with the Likert scale of four points, strongly disagree to strongly agree. The instrument was given to the experts in mathematics education for validation. All the respondents participating in the study were required to choose the answer that reflects their own views. This questionnaire was given to the students to answer twice; before and after the intervention, and differences between their responses are used to measure the attitudes changes of the students. According to the definition of attitudes used in this study, attitude consists of two dimensions: beliefs and emotions. The pre- and post-intervention interviews and questionnaire data are used mostly to explore the change in students' beliefs. The interviews conducted during the intervention are used mostly to investigate students' emotions. The results are presented in two ways through (1) the attitude questionnaire; and (2) the interviews for each category. Possible analysis, interpretation and indication about the data are explained. The researchers did not use the original names of the school and participants.

Questionnaire and interview content

The questionnaire and interview had questions in three categories: (i) beliefs about mathematics as a subject; (ii) beliefs about mathematics as learning (understanding); and (iii) beliefs about social context. These categories are developed to view the students' attitudes towards mathematics and attitude changes in different settings for this study based on the emotions and beliefs that the students have. First category is emotional responses to mathematics as a subject, which are likely to affect the nature of their interaction with it. Second category deals with the issue of students' learning, what they think and feel about how they learn, others learning and what type of behaviour can be effective for learning. Third category refers to the students' views, feelings and perceptions about parents and others outside the school and also of the classroom norms and group work in mathematics because grouping is a significant part of the social context of the classroom. This category is important because collaborative learning is encouraged in mathematics is not used in Pakistan where this study is located. Asking about group learning can give insight into how students' attitudes change towards mathematics. These three categories are not, however, mutually exclusive or exhaustive. The three categories questions were included in the questionnaire. There are 11 positive and 16 negative items in total. These items are changed into one direction in analysis.

The interpretation of scores

Responses of the students are interpreted against the four point Likert scale ranging from 1- 4 with the direction of negative items reversed so that a low score specifies tendency of negative attitude and high score identifies a positive attitude for example with strong agreement with a positive item being scored as 4 but strong agreement with a negative item being scored as 1. For the sake of extraction of meaning from the data, I used the following criteria. I admit that there is no statistical ground for these boundaries. It is a kind of arbitrary common sense scale.

- The students have a very negative attitude, if the mean score is between 1 and 1.50
- The students have a fairly negative attitude, if the mean score is between 1.51 and 2.50
- The students have a fairly positive attitude, if the mean score is between 2.51 and 3.50
- The students have a very positive attitude, if the mean score is between 3.51 to 4.00.

Descriptive statistics

A computer analysis was conducted to provide simple descriptive statistics of the students' responses. It provided the means and standard deviation of each item before and after the intervention. The results are shown in Table 2. The 'negative' items 2, 5, 6, 7, 8, 9, 12, 14, 15, 18, 19, 20, 23, 26, 11, 24 have a low score if students agreed with them, all the other items have a low score if students disagreed with them.

Data Analysis

The descriptive statistics provide general information about each category. They also support the comparison of students' attitude before and after the intervention.

Figure1 shows that, after intervention, the respondents' beliefs changed in favour a positive view of mathematics as a subject. The overall mean score changed from fairly negative to fairly positive (1.90 to 3.14). This increasing trend was observed for every statement in this category. However, the increase in the mean value of each statement ranged from 0.38 to 2.08. The qualitative data presented subsequently also substantiate the above trend. *In the new school* three students were interviewed before the interview and four after and their responses are transcribed and translated. The results of interview analysis exposed that Abdul likes mathematics because of group work and considers it an interesting way of doing mathematics. He likes and is enjoying mathematics more than before *"Yes; I like it and enjoying more than before".* Larab and Mehak both do not like mathematics at the beginning of the intervention.

Table 2. *Descriptive statistics before and after intervention*

Q. No	Questionnaire Statements	Before intervention		After intervention	
		M	**SD**	**M**	**SD**
1	Mathematics is an interesting subject.	2.00	1.15	3.38	1.04
2	Mathematics is a difficult and complicated subject.	1.62	0.87	2.69	1.38
3	Mathematics is mostly about methods for getting the answer.	2.08	1.12	2.54	0.97
4	Mathematics is largely concerned with word problems.	2.69	1.11	3.08	0.86
5	In mathematics something is either right or it's wrong.	1.62	0.65	3.00	1.00
6	Mathematics has one solution so by practice I memorize it.	1.46	0.88	3.54	0.88
7	Mathematics is a boring subject.	1.69	1.32	3.38	1.04
8	I have trouble in understanding.	2.08	1.04	3.54	0.97
Cumulative Mean (Beliefs about mathematics as subject)		**1.90**	**-**	**3.14**	-
9	Mathematics problems can be done correctly in only one way.	1.77	1.30	3.54	0.66
12	The best way to do well in mathematics is to remember all the formulas.	1.46	0.78	2.92	1.12
13	I think that practising a lot is the best way to learn mathematics.	2.46	1.20	3.77	0.60
14	I have to remember all the steps.	1.92	1.26	3.54	0.78
15	Some people are good at mathematics and some just are not.	1.08	0.28	2.31	1.11
16	Teachers of mathematics teach well.	2.54	1.33	3.46	1.13
17	I accept challenge to solve the difficult sums.	2.08	1.44	2.92	1.12
18	I have a trouble to understand how teachers teach in the classroom.	2.31	1.38	2.77	1.36
19	Mathematics is not for everyone.	2.31	1.38	2.69	1.32
20	I make many errors in mathematics.	2.08	1.26	3.00	1.15
21	Hard work can increase mathematical ability.	2.46	1.05	3.31	0.95
23	To solve mathematics problems I have to be taught the right way to do it, or I can't do anything.	1.62	0.87	2.77	1.17
25	Real mathematics problems can be solved by common sense instead of the maths rules, I learn in school.	2.23	1.17	3.46	0.97
26	I will never be good at mathematics.	1.92	1.32	3.23	0.83
Cumulative Mean (Beliefs about mathematics learning)		**2.02**	**-**	**3.12**	**-**
10	I wish we did more work in groups.	2.62	1.33	3.62	0.87
11	I like to solve mathematics sums alone.	1.38	0.65	3.69	0.85
22	I like to work with others on problems.	2.46	1.20	3.85	0.38
24	It is better to work alone than group work in mathematics.	1.77	0.83	3.46	0.88
27	It's better to work in a group than on your own.	2.46	1.05	3.62	0.65
	Cumulative Mean (Beliefs about social context)	**2.14**	**-**	**3.65**	**-**

Beliefs about mathematics as subject

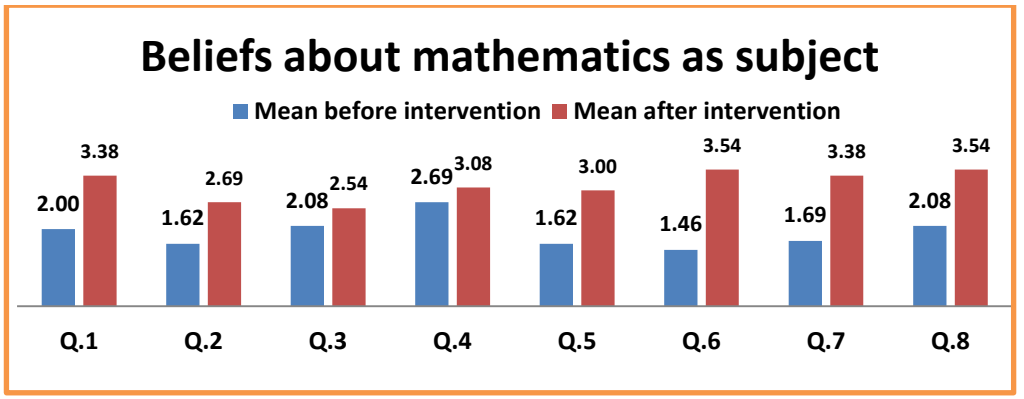

Figure 1. A comparison of beliefs about mathematics as subject

Interviewer: *Do you like mathematics?*
Larab: *No*
Mehak: *Shaking her head, (No) [no good gestures appeared on her face]*
Interviewer: *Why do you not like it?*
Larab: *Hum… there are many difficult problems.*
Interviewer: *What is the subject of mathematics like?*
Larab: *There are some problems of addition and subtraction, ascending and descending etc.*
Mehak: *(smiles and feels a bit shy), I do not know... difficult… yes it is difficult subject.*

But a shift of their attitude was noted at the end of intervention when they described their feelings "*mathematics is an interesting subject"*.Larab told the reason of liking that, "*he is working with his friend Abdul"*; and Mehak told that "*teachers are teaching well"*. She wished to work with her friend Hala.

In the light campus, before the intervention, three of the students said that they do not like mathematics, and believe that it is a difficult and boring subject with long solutions that are difficult to remember. On the other hand, Rida said she liked mathematics although she did not express beliefs about it. At the end of intervention, when the same question "*do you like mathematics"* was asked again Rida replied, "*I like it very much and like from my childhood"* because "*answers of mathematical questions are not long like Urdu, and English, I like it more now because we work in groups".* A shift observed in the attitudes of some of the other students who had not liked mathematics before the intervention. Mahnoor however, continued to feel that mathematics is a difficult subject.

Beliefs about mathematics learning

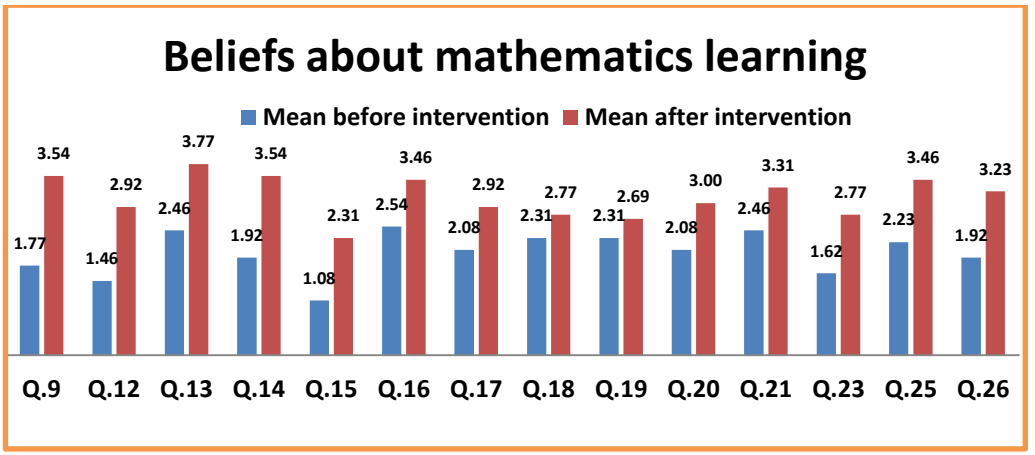

Figure 2. A comparison of beliefs about mathematics learning

Figure 2 shows that, after intervention, the respondents' beliefs changed in favour of a positive view of mathematics learning (understanding). The overall mean score changed fairly negative to very positive (2.14 to 3.65). Again this increasing trend was observed for every statement in this category. The increase in the mean value of each statement ranged from 1.00 to 1.69.

In the new school, two interviewees Abdul and Mehak think that everyone cannot learn mathematics. But the opinion of Larab is different from them he associated everyone's learning with hard work even before the beginning of the intervention.

Interviewer: *Can every student learn math if they try hard enough?*
Abdul: *No; every student cannot learn mathematics but … (after thinking some time) if one works hard then he can learn.*
Mehak: *(After thinking sometimes says)… No*

When these three students were again interviewed after the intervention, they all have the feelings that everyone can learn, if he/she works hard.

Interviewer: *Can every student learn mathematics if they try hard enough?*
Abdul: *No; every student cannot learn mathematics but … (after thinking some time he says) if one works hard, he can learn.*
Larab: *Yes, every student can learn mathematics, if he works hard*
Mehak: *No*
Interviewer: *Why?*

Mehak: *One of my friends cannot learn because she does not work hard and do not study at home.*
Interviewer: *Do you think everyone learns mathematics in the same way?*
Abdul: *We learn mathematics in different ways. Teacher solves the sum on the board by her own way… and when you give us problems to solve in the group, then we solve them in different ways but answer is same.*
Larab: *No in different way, we solve the problems from many ways … we are solving multiplication sum in more than one way.*

Before the intervention, they all think that everyone learns mathematics in the same way, for example, Mehak said, "*we copy the solution of problem from the board when teacher solve on it"*. This shows that they have to memorize the method to solve the other similar parts.

Interviewer: *Do you think everyone learns math in the same way?*
Abdul: *If all the problems are of same nature then they can be solved in the same way, for example there are addition problems, one is different from other… if there are two different questions … their answer cannot be same; answer of one problems can be different from other problem.*
Mehak: *Every one learns in the same way. Yes, what teacher tells in the class.*

After having group experiences during intervention their beliefs appeared to have changed and they think now that students learn in different ways and an advantage is that if one member forgets one method then he/she can use the other method. Abu-Baker took admission late in the school term therefore he could not be interviewed at the beginning of intervention, but he participated in some episodes in place of a member of the focus group when one of them was absent. In his interview, he replied sometime I used different methods "*when teacher teaches I use one method when you (researcher) teach I use different methods*".

In the Light School, before the intervention, Rida believed that everyone can learn mathematics because it is an easy subject. Mahnoor and Arbab also agree with Rida and give more emphasis to work hard for learning. However, Ammad's belief is different from the other interviewed students. He thinks that "*everyone cannot learn mathematics".*

Before intervention, all the interviewees except Rida believe that they learn by the one method that the teacher adopts in the class. They remember the teacher's method and solve the problems by using this method. However, Rida says "*sometimes I use different and sometime I use the same method".* When the same questions were asked again after the intervention a shift of students' attitude was noticed, which

evidences that CGW affected the students' beliefs about learning. Almost all interviewees replied that everyone can learn mathematics and that students learn by different ways. Arbab, however, gave an example from the class, saying that Ammad is not good at mathematics but "*He can learn if he works hard. He can understand mathematics. If he only works and do not involved in useless talk within group then he can learn".*

Beliefs about social context

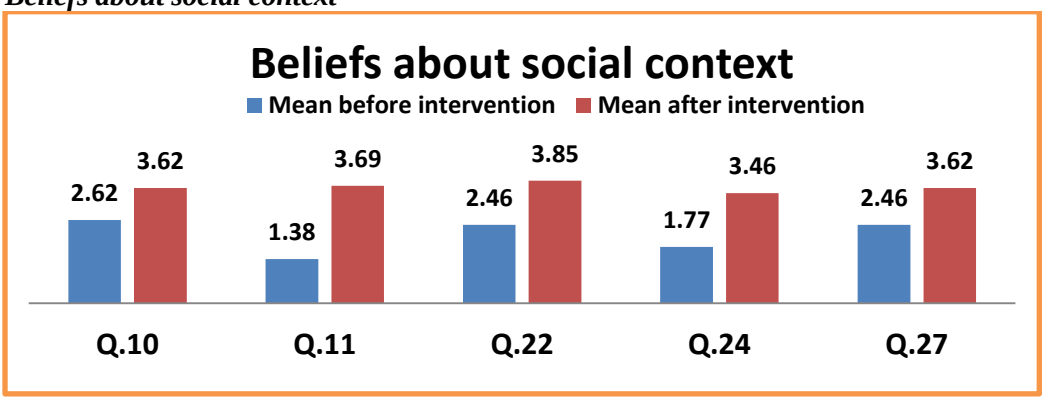

Figure 3. A comparison of beliefs about social context

Figure 3 shows that, after intervention, the respondents' beliefs changed in favour of a positive view of social context. The overall mean score changed from fairly negative to fairly positive (2.02 to 3.12). This increasing trend was once more observed for every statement in this category. However, the increase in the mean value of each statement ranged from 0.38 to 1.77. In the right school before the intervention, when it was asked; "*do you want to work alone or with others"*, the answer of all three students was almost the same that they wanted to work alone.

Interviewer:	*Is maths something you can do with other students, or do you always have to do it by yourself?*
Abdul:	*I do mathematics alone.*
Larab:	*I do myself.*
Interviewer:	*Has your teacher do group work in maths?*
Abdul:	*No, No; they are not*
Interviewer:	*Do you learn maths best by working alone or working with a partner or group?*
Larab:	*I like to work alone*
Mehak:	*I learn alone… or I like to learn with my friend Hala.*
Interviewer:	*Do you like group work?*
Mehak:	*No*

One possible reason might be that they were not aware of group work. Their teacher did not do group work in their classes, according to the interviewee Abdul. After the intervention, a very clear change in the students' beliefs could be observed. Most of the students share that they like group work. The common reason before the intervention, Arbab, Mahnoor and Ammad said they like to work individually. Arbab said she wants to assist the students who will be sitting next to her seat, but she does not say how she can help her. The students' responses show that teachers do not offer group work in their classes. Some of the students were not aware of group work, for example, Ammad consider working in group to mean to do previous work.

Rida's response at the start of the intervention was found to be different from the other students, as she already likes group work, just a few days into the intervention the reason she mentioned was to give and receive help by their group mates in the case of a difficult situation. After the intervention, a clear change of attitudes of the students was noticed, for example students saying that they are learning more in groups and they like mathematics more than before. In response to the question*: "why do teachers not do group work"?* Rida replies that teachers in their school are very strict. "*We cannot say a single word in front of them"*. This is evidence of a typical behaviour of the teacher with the students in a teacher centered classroom before the intervention.

Another student Mahnoor does not like group work when one student tries to dominate in the group or claims that I did it individually or "*I will solve my part*". She states, there should be no collaboration if such type of students' behaviour appeared in groups. She responded against this question; "s*hould teacher give worksheet each student in a group or one sheet for each group"* that one sheet should be given to each group member when individual work is required but for collaborative work one worksheet should be given for each group, not individual in a group was that "*they can get the help from one another working together"*. Abu-Baker replied if I am working with my friend, I can ask him again and again, and this also suggests that students feel more comfortable working in groups with friends.

Analysis of interview of three students during intervention

a. Dania

Dania is a bright student in the class, and she says in her interview that she did not like group work before the beginning of intervention. She says she had changed her mind after one month saying that sometimes I like and sometime I do not like. The reasons that she shared for when she does not like group work are: if there is a noise in the group; all are saying something but nobody bothers with other's proposals; participants do not try to understand each other's opinion; then she says, I preferred to work alone. She said that definitely group work is better but it is best work when there

is discipline within the group. When it was asked *what do you mean by discipline?* She replied when students listen to each other and do not say unnecessary things.

b. Neha

Another student Neha in the middle of intervention expressed her beliefs in the interview; she likes group work because she thinks during group work she can get assistance from their partner and understand more as compared to working individually. She proposed that when any member of the group failed to understand any point then they should consult the teacher for assistance. In the response to the question, *what type of partner do you like?* She said she wished to sit with Dania and Rida because they are her friends. She considers them brighter students in the class. She believes that all the students in the class are not bright. She spoke about Hammad and Ammad who are not academically good in the class. It shows the students' role as evaluator of each other in the classroom and knows their mates behaviour. She does not want to work with Hammad and Ammad because they had disturbed her and she cannot concentrate on her work. However, she believes that they can learn, if one teaches them. She suggested that "*they can learn from Ms Rabia's (class teacher) way of teaching, who is very strict with them and works with them by holding their pens. If you will adopt such an approach then Hammad and Ammad can work and understand mathematics".*

c. Rida

This interview shows that Rida responded differently when same question; "*do you like to work individually"? was* again asked in the middle of intervention as she responds, *"now I do not like to work individually"*. She states, in case of illness I cannot work within group therefore in this situation I like to work individually. One possibility of this response might be that she believes that during group work participants have to share their views, speak and participate so she is a little reluctant about working in groups during illness. Another reason of working individually she mentioned was when students are making noise then she feels disturbance and cannot concentrate on her work then she wished to work individually. This implies that teacher should be very careful about the participant's personal need and group work norms, to ensure that participants work on task smoothly.

From the comparison of before and after intervention questionnaire data, it is clear that the students' beliefs about all three categories: mathematics as subject, understanding and social context had changed positively during the intervention. The results indicate that collaborative group work increased positive attitudes towards mathematics. This may be because when students work in groups they feel that they can depend on others for help and therefore increase their confidence in solving mathematics problems. This may indirectly change their attitudes towards mathematics. However, this idea was not revealed in the questionnaire. It is necessary to turn to the

interviews.

The interviews from selected students before, during and after the intervention will be used to explore the findings from the questionnaire. The questionnaire and interviews together explain the shift of attitude. Overall students response during the semi structured interviews were much shorter, less reflective and demonstrated, less understanding of the pedagogical process at the start of intervention than middle and post intervention. In addition in the end students seemed more enthusiastic working in groups than before.

In the responses, most of the students spoke of the advantages of small group learning. However, the students' interviews do provide some insight into the benefits of using small group learning in school mathematics. The semi-structured interviews revealed a strongly positive evaluation of the impact of the intervention, in both of the schools in which it was implemented. In particular, the interviews revealed heightened functions of talk amongst participating students, and of the importance of improving children's communication skills as a means of ensuring their successful participation in the classes.

Discussion

Streitlien, Wiik and Brekke as cited in Kislenko, Grevholm, & Lepik (2005) in their study found that the students who showed a positive attitude towards mathematics on average, performed better in mathematics than their fellow students. Therefore, it seems that a positive attitude towards mathematics leads in general to greater motivation to learn. On the other hand, "… research certainly suggests caution against over optimism in assuming a very direct relation between attitude and achievement" (Cockcroft & Halliday, 1982, p. 61). Nevertheless, a more positive attitude to mathematics is generally accepted to be worthwhile and the results of this study convinced me that CGW can have a positive effect on students' attitudes toward mathematics. The descriptive statistic in section 3.3 provides evidence that the attitude of the students towards mathematics at the end of the intervention was much more positive than at the beginning. The overall mean score changed from fairly negative to fairly or very positive. Students tended to believe that mathematics is a useful subject and by working hard everyone can learn mathematics. Students also found mathematics to be an interesting subject rather than boring. This increasing trend was observed for every statement in three categories of the questionnaire. To that extent the results of this study showed the influence of the intervention on the cognitive development of students (Breiteig, Grevholm, & Kislenko, 2005). The results of this study are consistent with the conclusions from other researches such as Gillies (2004) and Walmsley (2003), who found students' attitudes were positive after they had been working in cooperative groups. Gillies (2004) suggested teachers can encourage a

positive attitude towards learning by adopting a non-traditional pedagogical approach such as CGW in their classes.

According to Schoenfeld (1985) one's views about mathematics make a beliefs system that is dynamic and changeable. Students during CGW shared their experiences and beliefs and they possibly restructured their system continuously (Breiteig, et al., 2005). Students before the intervention mostly believed that mathematics was boring and they did not like it. Some of them even had the view that 'everyone cannot learn mathematics'. It is unfortunate that schools have not been able to arrange teaching in such a way that students find mathematics challenging and fascinating (Breiteig, et al., 2005). In Pakistani schools, there is emphasis on rote learning of rules and the procedure of solution in mathematics in a teacher centered classroom. The students before the intervention tended to believe that mathematics is a difficult subject, with long solution problems that are difficult to remember.

The analysis shows that CGW gave the opportunity to the students to share and reflect on their ideas and to evaluate themselves, which leads to the improvement of mathematical discussion. CGW offered the opportunity to express new ideas, feelings and experiences to the other members within a group. The students believed that they were enjoying mathematics more. The beliefs are developed when working together and students accepted beliefs from one another (Walmsley, 2003). As Moreira and Noss (1995) say, attitudes are learned and are continuously evolving because of different experiences. The analysis indicates that mostly students started to like and enjoy the mathematics later on in the intervention. The common reason might be that they started to think about and understand mathematics instead of treating it as rote learning and this change could be because of the changing context, where they got opportunities to share ideas, challenge each other and justify their hypotheses. Moreira and Noss (1995) also link attitude change with the classroom environment, and this study provided the opportunity to the students to experience a different classroom environment, which contained the whole history of their collaboration, and this is important for understanding the trajectories followed by the participating students. Overall, the collaborative context helps to encourage students to participate more in task completion. It is noted that students learn the art of collaboration with each other over time and the change in attitude that occurred in this study is evidence of the potential value of CGW. The results also show a positive change in the attitude of the students towards mathematics. At the start of the intervention, the attitude was generally negative, but in the end it was fairly positive or very positive. In a nutshell, CGW affected the students' attitudes towards mathematics positively.

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Assessment of In-Service Training of Secondary School Science Teachers

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Abstract

The quality of education is directly linked with the quality of teacher education. In the field of science education, in-service training plays a vital role. In-service teacher training programs are implemented as a way to improve teachers' quality. The present study was aimed to assess the quality of in-service training of secondary school science teachers. The population of the study comprised of secondary school science teachers working in Multan, Lodhran, Khanewal and Layyah districts. The researcher used questionnaire as a tool to collect the quantitative data. The data were analyzed by calculating frequencies, percentages and chi-square as a test of significance. The main findings of the study were that the contents of the text book were taught according to the schedule of the programme. The secondary school science teachers did not get command over teaching methods during in-service training, and A.V. Aids were not used during training. Therefore it is recommended that training should be focused on modern methods of teaching and use of A.V. Aids.

Key Words: Science Education Project (SEP), Secondary School Science Teachers, In-service training, Teaching methods.

Introduction

Science education is considered to be an important aspect in school curriculum. Development of scientific attitude is the objective of teaching of science. The development of scientific attitude makes learners open minded, helps them to make critical observations, develops in time intellectual honesty, curiosity, unbiased, critical and independent thinking. A science teacher assumes different roles as a counsellor, a guide, an administrator, a leader, a custodian, a facilitator, an evaluator, an innovator, a

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change-agent and a learner etc. The question is whether a science teacher can perform these roles effectively or he/she needs some guidance for fulfilling his/ her duties properly. Teacher needs some training for his/her professional growth which increases attractive competencies and applications for him/her. Iqbal (2002) has described the importance of INSET in these words:

> "In-service education is a tool to mould better teachers by improving their knowledge, providing ways to help them improve their effectiveness in the classroom and by instilling in them a desire to do a better job of teaching."

Little (1992) describes that teacher development is marked by four types of growth – growth in knowledge, growth in skill, growth in judgment (all of which are classroom related), and growth in the contributions teachers make to a professional community. It has been noted that effects of evaluation on teacher development have been almost negative in which schools' system claim that the process of evaluation was designed to improve teaching. Stodolosky (1990) observed that first they do not yield insight into teachers' thinking. Second, they do not provide information on how teachers plan. Third they give no data on how teachers' work with colleagues, students and parents. Asia and The Pacific Programme of Educational Innovation for Development (APEID) (1993) defined INSET as "In-service training includes all training activities which address the differentiated needs of teachers in school (including teachers without pre-service training) to improve their knowledge, skills and attitudes for better instruction". The aims of INSET, stated by Eraut (1987) are (i) to develop their professional competence and relevant knowledge. (ii) To evaluate their own work and attitude.

National Education policy 1998-2010 states the status of INSET in these words: "In-service training programmes for teacher educators are almost non-existent. There are no institutionalized arrangements for providing regular training to teachers and teacher educators. Sporadic training opportunities, if any, lack in quality".

No doubt, a teacher is an innovator and a catalyst of change and when he/she is equipped with quality training, he/she may play an excellent role in producing good students who would be helpful for betterment, progress and prosperity of a nation. Well trained teachers who go on developing themselves professionally may change the whole structure, composition and complexion of a society. Similarly, Mirza (2008) described that the quality product can be obtained through using effective instructions at all stages of educational system including objectives, teaching-learning environment, training, assessment, supervision and feedback. All these aspects are very necessary and need suitable attention of all concerned. Burke and Kenzie (2007) carried out a study

on students' learning and found that …in particular, the broad consensus is that "teacher quality" is the single most important factor to achieve the goal of quality education. Teachers' qualification and their training are essential for preparing qualified teachers. Similarly other researchers (Saeed, 2006 & 2000; Mirza, 2003; Mirza & Iqbal, 1994) specifically described that the in-service training of teachers is necessary to improve their abilities in term of contents, pedagogy, administrative and managerial skills.

If teachers are un-trained and incompetent then an appropriate and operational policy may become collapsed (Malik et al. 2008). Therefore, teachers' training is essential for achieving the national goals and quality education for the prosperity of country and nation. Villegas-Reimers (2003) states that in-service teacher training, which can be used to improve teacher quality and student educational performance in developing countries, has also been included as an important component in social development programs. In developing countries, pre-service teacher preparation (that is, graduating from college with a teaching credential) is not always required; as a consequence, in-service training is often the only preparation teachers receive. In-service teacher training is used to improve teacher quality and ultimately affects educational performance of students. Joshi (2005) describes that a teacher's personal qualities, educational qualification his professional training, his managerial skills and the place he occupies in the school and in the community contribute to the quality of his teaching.

Tolerance and patience of a teacher are cardinal principles while teaching/training with susceptibility to accept the new trends and changes in the field of teaching and training. A rigid, inflexible and harsh attitude of a teacher during teaching/training would not only destroy the congenial atmosphere and the taught as well. Effectiveness of such training can only be achieved with keeping these stated principles in heart and mind.

Objectives of the Study

The objectives of the study were:

1. To assess the present system of in-service training of secondary school science teachers.
2. To analyze the opinions of secondary school science teachers who got training under Science Education Project (SEP).
3. To assess the needs of secondary school science teachers for training.

Methodology

The present study is descriptive in nature. In order to achieve the objectives, a sample of 724 teachers out of the total population of 2191 secondary school science teachers was taken from randomly selected districts of Multan, Lodhran, Khanewal and

Layyah. In order to collect the data, a questionnaire was developed, which composed of 38 items in which 37 items had four options and one open ended question in which suggestions regarding improvement of in-service training programme were sought. Different aspects like training objectives, administration of pre-test, textbooks contents teaching, use of A.V. Aids, contents comprehension, teaching methods command, etc. were covered in the questionnaire. The questionnaire was validated by seeking experts' opinion. Data collected through questionnaire were tabulated and analyzed in term of frequencies , percentages and chi square test of significance.

Findings

The findings drawn out from the data collected through the questionnaire are given below:

Table 1. *Training Objectives*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
Are you informed about the objectives of training course in the beginning?	Oftenly	204	46.89	27	20	231	40.52
	Seldom	121	27.81	30	22.22	151	26.49
	Always	97	22.29	73	54.07	170	29.82
	Never	13	2.98	5	3.70	18	3.15

Table 1 reveals that 40.52% trainees stated that they were oftenly informed about the objectives of training course; 29.82% opined that they were always informed; 26.49% stated that they were seldom informed and 3.15% viewed that they were never informed. Male trainees (46.89%) were of the view that they were oftenly informed while only 54.07% female teachers responded that information about objectives of training course was always given in the beginning. The value of $\chi 2$ =54.653 with significance value 0.0000 shows that there is strong impact of introducing training objectives in beginnings of training.

Table 2: *Administration of pre-Test*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
Is pre-test administered in the beginning of training course?	Oftenly	208	47.81	22	16.29	230	40.35
	Seldom	75	17.24	3	2.22	78	13.68
	Always	142	32.64	105	77.77	247	43.33
	Never	10	2.29	5	3.70	15	2.63

Table 2 indicates that according to 43.33% teachers, pre-test was always administered in the beginning; 40.35% declared that pre-test was oftenly administered;

13.68% stated that pre-test was seldom administered and 2.63% viewed that pre-test was never administered. Male teachers (47.81%) respondents stated that pre-test was oftenly administered while 77.77% female teachers were of the view that pre-test was always administered in the beginning of training course. The value of χ^2 =91.555 with significance value 0.0000 shows that there is strong association between pre-test administration with the training.

Table 3. *Textbooks Contents Teaching*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
The contents of textbooks are taught according to a schedule of programme.	Oftenly	214	49.19	50	37.31	264	46.31
	Seldom	115	26.43	43	31.85	158	27.71
	Always	91	20.91	30	22.22	121	21.22
	Never	15	3.44	12	8.88	27	4.73

Table 3 indicates that 46.31% participants (49.19% male and 37.31% female) stated that the contents of textbooks were oftenly taught; 27.71% indicated that contents were seldom taught; 21.22% opined that contents were always taught while 4.73% teachers responded that they were never taught the contents of textbooks according to a schedule of training programme. The value of χ^2= 10.899 with significant value 0.0123. shows strong relation between text book contents and training.

Table 4. *Use of A.V. Aids*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
Are A.V. Aids used during the training course of science?	Oftenly	126	28.96	40	29.62	166	29.12
	Seldom	229	52.64	48	35.55	277	48.59
	Always	56	12.87	42	31.11	98	17.19
	Never	24	5.51	5	3.70	29	5.08

Table 4 shows that according to 48.59% respondents (52.64% male and 35.55% female) A.V. Aids were seldom used; 29.12% opined that A.V. Aids were oftenly used; 17.19% opined that A.V. Aids were always used on the contrary 5.08% respondents were of the view that A.V. Aids were never used during the training course of science. The value of χ^2=26.803 with significant value 0.0000 shows that there is strong association between use of A.V aids and training.

Table 5. *Contents Comprehension*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
Do you get full comprehension of the contents during the training course?	Oftenly	217	49.88	63	46.66	280	49.21
	Seldom	130	29.88	32	23.70	162	28.42
	Always	81	18.62	35	25.92	116	20.35
	Never	7	1.60	5	3.70	12	2.10

Table 5 reveals that according to 49.21% trainees (49.88% male and 46.66% female) they oftenly got full comprehension of the contents; 28.42% opined that they seldom got; 20.35% indicated that they always got whilst only 2.10% stated that they never got full comprehension of the contents during training course. The value of χ^2=6.451 with significant value 0.0916 shows weak association between contents comprehension and training.

Table 6. *Teaching Methods Command*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
Do you get full command of all the teaching methods during the training course?	Oftenly	154	35.40	43	31.85	197	34.56
	Seldom	175	40.22	57	42.22	232	40.70
	Always	79	18.16	27	20	106	18.59
	Never	27	6.20	8	5.92	35	6.14

Table 6 shows that 40.70% teachers (40.22% male and 42.22% female) indicated that they seldom got full command of all the teaching methods; 34.56% responded that they oftenly got full command; 18.59% opined that they always got full command on the other hand 6.14% respondents were of the view that they never got full command of all the teaching methods during the training course. The value of χ^2=0.677 with significant value 0.8786, shows no relation between command of teaching methods and training.

Table 7 indicates that 44.37% participants (44.13% male and 46.66% female) opined that lecture method was frequently used; 29.82% were of the view that activity method was frequently used; 20.35% stated that demonstration method was frequently used while only 5.08% responded that project method was frequently used in the training course of science subjects. The value of χ^2=9.131 with significant value 0.0276, shows association between commonly used teaching method and training.

Table 7. *Teaching Methods Command*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
Which one of the teaching methods is frequently used in the training course of science subjects?	Lecture method	192	44.13	63	46.66	255	44.37
	Activity method	120	27.58	50	37.03	170	29.82
	Project method	24	5.51	5	3.70	29	5.08
	Demonstra-tion method	99	22.75	17	12.59	116	20.35

Table 8. *Teaching Material Quality*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
Which quality does the teaching material possess?	Explains the basics of subject	64	14.71	22	16.29	86	15.08
	Fulfils the psychological needs of students	54	12.41	10	7.40	64	11.22
	Explains the teaching methods	124	28.50	50	37.03	174	30.52
	Explains the main points of textbooks	193	44.36	53	39.25	246	43.15

Table 8 shows that 43.15% trainees (44.36% male and 39.25% female) responded that teaching material explained the main points of textbooks; 30.52% stated that it explained the teaching methods; 15.08% opined that it explained the basics of subject on the other hand 11.22% respondents were of the view that teaching material fulfilled the psychological needs of students. The value of χ^2=5.550 with significance value 0.1357 shows that the teaching material quality is not linked with training.

Table 9 indicates that according to 55.78% trainee teachers (52.41% male and 66.66% female) writing board was the frequently used; 21.92% viewed that charts were frequently used; 19.64% stated that overhead projector was frequently used while only 2.63% trainees were of the view that computer was the most frequently used as an A.V. Aid during the in-service training course of secondary school science teachers. The value of χ^2=14.081 with significance value 0.0028, shows strong association between commonly used A.V aids and training.

Table 9. *Commonly Used A.V. Aid*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
The most frequently used A.V. Aid during the training course is.	Computer	10	2.29	5	3.70	15	2.63
	Overhead projector	87	20	25	18.51	112	19.64
	Chart	110	25.28	15	11.11	125	21.92
	Writing board	228	52.41	90	66.66	318	55.78

Table 10.*Reason for Not Better Teaching*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
Training courses do not better your teaching due to one of the reasons.	Programme schedule unsuitability	67	15.40	48	35.55	115	20.17
	Only use of lecture method	144	33.10	12	8.88	156	27.36
	Short duration of training	102	23.44	22	16.29	124	21.75
	Lack of interest of master trainers	122	28.04	53	39.25	175	30.70

Table 10 reveals that 30.70% trainee teachers indicated that training courses did not better their teaching due to lack of interest of master trainers; 27.36% stated that courses did not better their teaching because lecture method was only used; 21.75% opined that training period was very short and 20.17% trainees were of the view that the schedule of training programme was not suitable. Male teachers (33.10%) opined that lecture method did not better their teaching while 39.25% female trainees viewed that lack of interest of master trainers was the reason by which training courses did not better their teaching. The value of χ^2=49.455 with significance value 0.0000 shows strong relationship between training and reason for not better teaching.

Table 11 indicates that 48.94% trainees were of the view that post-test was always administered; 34.38% viewed that post-test was oftenly administered; 14.56% responded that post-test was seldom administered and only 2.10% stated that post-test was never administered. Male secondary school science teachers (41.60%) declared that post-test was oftenly administered while 77.77% female respondents pointed out

that they always took post-test at the end of training course. The value of χ^2=66.272 with significance value 0.0000 shows strong relation between administration of post-test and training.

Table 11. *Administration of post-Test*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
Is post-test administer-ed at the end of training course?	Oftenly	181	41.60	15	11.11	196	34.38
	Seldom	73	16.78	10	7.40	83	14.56
	Always	174	40	105	77.77	279	48.94
	Never	7	1.60	5	3.70	12	2.10

Table 12. *Incentive Pertaining to Training Course*

Statement	Responses	Male = 435		Female = 135		Total = 570	
			%age		%age		%age
What incentive ought to be given on completion of a training course?	Advance increment	172	39.54	73	54.07	245	42.98
	Promotion to next grade	88	20.22	50	37.03	138	24.21
	Cash award	22	5.05	5	3.70	27	4.73
	Merit certificate award	153	35.17	7	5.18	160	28.07

Table 12 shows that 42.98% trainees (39.54% male and 54.07% female) suggested an advance increment should be granted to the trainees on successful completion of a training course; 28.07% were of the view that merit certificate should be awarded; 24.21% indicated that trained teachers should be promoted to next grade but only 4.73% teachers opined that they should be awarded cash on successful completion of a training course. The value of χ^2=50.487 with significance value 0.0000, shows strong association between incentive and completion of training courses.

Conclusions

Most of the teachers expressed the views that they were informed about the objectives of training course, pre-test was administered in the beginning of the training course and a wide range of topics from the text book were taught. Majority of the teachers had consensus that A V Aids were not used during training course and they got comprehension of the subject matter that was taught during the training. They also

stated that command over teaching methods lacked during training ,lecture method was frequently used, the material provided during the training was helpful in explaining contents and pedagogy and most commonly used A.V. Aid was writing board, however charts were also used during training. Lack of the interest of master trainers and over emphasis on lecture method were shortcomings of the training and post test was administered at the end of the training. They further opined that advance increments and merit certificates ought to be given to the participants at the completion of the training course.

Recommendations

On the basis of findings and conclusions, following recommendations are made in order to up lift the quality of in-service training of secondary science teachers.

1. The in-service training of science teachers should focus on use of AV Aids.
2. The emphasis should be on use of various instructional methods and participants should be made to practice over various methods during the training.
3. Lecture method should be avoided in training courses for science teachers. Methods like activity method, project method and demonstration method should be given more weight age.

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Differences in the Use of English Vocabulary Learning Strategies at Higher Secondary Level

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Abstract

Vocabulary learning strategies are sub-division of Language Learning Strategies. These strategies have a prominent place in students learning. The aim of this study was to explore the use of vocabulary learning strategies by male and female students at higher secondary level. 3059 students were involved in this study. Questionnaire was used to investigate the strategies used by the students. Descriptive statistics, including means and standard deviations and response percentages were calculated to summarize the responses to the metacognitive and cognitive vocabulary learning strategies. This analysis identifies the overall patterns of the use of vocabulary learning strategies. The findings reveal that there was a striking variation between male and female students in the use of VLS. Female students are ardent users as compared to their counterparts. The findings of this study lead to some suggestions to enhance students' vocabulary.

Key Words: Vocabulary learning strategies, metacognitive and cognitive strategies, higher secondary students, vocabulary learning

Introduction

Vocabulary is a store house of words. It is knowledge of words and words meaning. It is considered a necessary food for brain, blood for academic nourishment and heart of any language. Obviously, it will add to him fluency in speech, clarity in expression and effectiveness in communication. Vocabulary learning strategies go a long way in improving the learners' of vocabulary. Vocabulary learning strategies (VLS) form sub class of framework for language leaning strategies (LLS). Both are concomitant to each other for the acquisition of any 2nd language.

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Vocabulary learning strategies work, like well manufactured and easily dispensed pills and potions for the relevant students. The research under review intends to investigate the types of vocabulary learning strategies which the 12th grade students reported to deal with their vocabulary learning. To explore the similarities and differences among male and female students, in terms of their use of vocabulary learning strategies, the researcher used quantitative method.

Literature Review

A large number of scholars and researchers like Chen, (2001), GU and Johnson, (1996); Nation, (2001), O, Malleys & Chamot, (1990), Wang, (1998); Wu & Wang, (1998) have played their significant role in devising and systematizing VLS. Huckin, Haynes & Cody, (1993) have highlighted the fact as to how mnemonics go a long way in differentiating various shades and nuances of a word. Eminent scholars like PreSley, Levin & Miller have brought to light the fact as to how guessing is a useful method of not only improving the vocabulary of a learner but also building up his confidence. Renowned language experts like Nation, (1982, 2001), Cohen & Aphek, (1981) have also highlighted the importance and utility of guessing and rote repetition exercises.

These scholars have also pointed out how strategies can be partially or completely used by different categories of students according to their mental caliber, educational background and grip on the target language. Even the gender of the learner plays a role in deciding and cementing his prejudices and priorities for selecting one strategy and rejecting the other. Zimmerman and Pons (1986) came forward with the finding that students with comparatively higher mental caliber used greater number of strategies available in the world of letters.

Catalan (2003) highlighted the difference in the use of VLS on the basis of gender. Female learners were found to be more prone to using formal rule strategies, rehearsal strategies and planning strategies. Male learners were found more partial to using image strategies. Boyle (1987) observed the attitude of male Chinese students of English. His study revealed that male students were far ahead of their female counterparts in vocabulary recognition task. Nyikos (1990) noted that female learners were in the favor of using social strategies. Zhang, Gao and Liu (2002) observed that female graduates were using more vocabulary learning strategies than the male ones. However, Wang (2006) found no major difference or divide in this area on the basis of gender. Gao (2004) thought that female students use vocabulary learning strategies with more ease, fluency and vigor than the male students.

It is very queer and quaint phenomenon that people belonging to different cultural background respond differently while using vocabulary learning techniques. Zarafshan (2002) noted that Iranian learners of EFL don't prefer to us meta cognitive

strategies. There is almost zero scope for mutual discussion and learning through joint and well-coordinated social activities. Thus the scope for the use of social strategies for learning has compressed. Instead the students are more prone to using sophisticated strategies like memory and cognitive to achieve their academic goals. This finding of Zrafshan (2002) tallies with that of Oxford (1990) that adult learners prefer to use more refined strategies. Wu (2005) conducted a study to acquaint himself with VLS used by Taiwanese students of EFL. Wu has observed that old methods of rote learning, memorizing word and grammatical forms still existed in Taiwanese students. Sarani and Kafipor (2008) observed that teachers and students in Iran do not depend upon psycholinguistic strategy.

Sener (2009) focused his research on the learning habits of Turkish students of English as a Foreign Language (EFL). His findings revealed the fact that Turkish students use meta cognitive strategies more fondly and efficiently than psycholinguistic strategies. Anyhow, this researcher feels no hesitation in saying that the task of augmenting and supplementing vocabulary should not be made mechanical, dull and boring. Language is a tool but not the cog of an inanimate machine. It should be treated as a medium of communication of living human beings, comprising ambitions and dreams, desires and aims, achievements and frustration is equal measure. The medium for preserving and conveying these human aims and achievements, dreams and desires cannot and is not at all a soulless entity. It should be acknowledged as such and no strategy can be more effective than the unbiased acknowledgement of this aspect of language learning.

Research Questions

This study focused on the following research questions:

1. Which English vocabulary learning strategies do students use at higher secondary level?
2. Is there any significant difference between male and female students about the usage of vocabulary learning strategies?
3. Is there any significant difference between male and female students regarding their use of meta cognitive and cognitive strategies?

Research Methodology

The major approach for this research was quantitative in nature. The researcher's intentions regarding the present study were to find out the strategy use with significant difference between male and female students at higher secondary level. The population of the study consisted of all male and female students of the 12^{th} grade from public sector colleges of the Punjab Province. The population of the study was distributed in 36 districts of the Punjab province. Multistage sampling techniques were applied to draw the sample. To ensure the true representation of the population, 36 districts of the Punjab were divided into four groups on the bases of their literacy rate.

From each group two districts were selected randomly. From each district four colleges (two boys, two girls) were randomized. The randomization was done by ballot.

Instrument

Vocabulary Learning Strategy (VLS) questionnaire on 5 points Likert scale, developed by Fan, was used in the study with necessary modification in order to suit the Pakistani students learning context. VLS questionnaire comprised 108 items. These are summarized as Meta Cognitive Strategies (28 items), Cognitive strategies (70 items) and social / affective strategies (10 items).

The researcher personally visited all the 32 colleges included in the sample from the eight selected districts for the purpose of date collection. As the study demanded relatively long time commitment, so the prior permission was necessary from the concerned authorities to gain access to the randomly selected colleges. After brief introduction by the researcher, the participants were briefed about the nature and purpose of the research study. The participants were assured regarding the confidentiality of their results. It was added that this data collection would not affect their academic results rather it will boost up their confidence. Each statement of VLS questionnaire was briefly explained to the participants to complete it accordingly.

After data collection, it was analyzed by means of Statistical Package for Social Sciences (SPSS), version 17. Procedures of data analysis involved tabulating results for descriptive statistics, including means and standard deviations for the sample based on their demographic variables. Descriptive statistics, including means and standard deviations and response percentages were calculated to summarize the responses to the metacognitive and cognitive vocabulary learning strategies. This analysis identifies the overall patterns of the use of vocabulary learning strategies.

Results

Table 1 presents the mean and standard deviation of metacognitive and cognitive strategies for gender.

Table 1:

	Male N=1475		Female N=1551		Total N=3026	
	Mean	SD	Mean	SD	Mean	SD
Metacognitive	3.56	.4809	3.76	.4675	3.66	.4853
Cognitive	3.58	.4817	3.75	.4827	3.67	.4899

The finding indicates that female students exhibited higher scores in Metacognitive strategies and cognitive strategies as compared to male students. Table 2

presents the mean and standard deviation of types of metacognitive strategies for gender.

Table 2:

	Male N=1471		Female N=1545		Total N=3016	
	Mean	SD	Mean	SD	Mean	SD
PM	3.89	.6104	3.70	.6495	3.80	.6372
SA	3.81	.6147	4.04	.5864	3.93	.6112
LA	3.39	.6297	3.60	.6079	3.50	.6273
RT	3.40	.7004	3.61	.6931	3.51	.7044

Note :M = Male; F = Female

PM = Plan making; SA = Selective Attention; LA = Learner Autonomy; RT = Reviewing Testing

The finding indicates that female students exhibited higher scores in SA, LA & RT as compared to male students. While male students exhibited higher scores in PM as compare to female students. Table 3 presents the mean and standard deviation of types of cognitive strategies for gender. The finding indicates that female students exhibited higher scores in RPT, ASO, IMG, CXT, GUS, DU, MO & US as compared to male students. While male students exhibited higher scores in WF & GRP as compared to female students.

Table 3:

	Male N=1471		Female N=1545		Total N=3016	
	Mean	SD	Mean	SD	Mean	SD
RPT	3.51	.5846	3.68	.5648	3.60	.5814
ASO	3.59	.7263	3.73	.7532	3.66	.7436
IMG	3.59	.8091	3.73	.8325	3.66	.8240
WF	3.69	.8318	3.51	.8219	3.60	.8313
GRP	3.80	.7970	3.58	.7538	3.69	.7829
CXT	3.73	.7527	3.90	.7414	3.82	.7516
GUS	3.76	.9156	3.89	.9094	3.83	.9148
DU	3.76	.6790	4.00	.6461	3.88	.6731
MO	3.50	.7968	3.66	.8377	3.58	.8214
US	3.41	.8635	3.57	.8591	3.49	.8648

Note: M = Male; F = Female

RPT = Repetition; ASO = Association; IMG = Imagery; WF = Word formation; GRP = Grouping; \CXT = Contextualization; GUS = Guessing; DU = Dictionary Use; MO = Meaning oriented; US = Use oriented

Discussion

The result of the present study reveals that both male and female students are very rich in the use of vocabulary learning strategies at their own. Although the female students were more curious in the use of these strategies, the findings of the present investigation are compatible with the literature indicating more frequent overall use of VLS by females (Dryer and Oxford, 1996; Ehraman and Oxford 1989; Green, 1995; Bedell and Oxford, 1996; Jones, 2006; Macro, 2001; Oxford and Nyikos, 1989). But it is incompatible with Khatib (2011), Pishghadams (2009) and Sodomand Afshar (2010). None of them found any significant difference between gender in the use of VLS. They revealed that all the learners in Iran either male or female employed vocabulary learning strategies on same pattern and with same zest.

In the light of the findings of the present study, it is concluded that, females are generally more caring and active in using vocabulary learning strategies to make their learning effective. Another reason that females are more stable than males is attitude and learning motivation. The result of study under review showed that female students used metacognitive strategies more than their counterparts, the male students. The female students surpassed the male students in overall use of metacognitive strategies except plan making (PM) strategy in which male students outclassed female students. The results of this present study are not in line with the earlier studies done by other researchers on vocabulary learning strategies with special reference to the use of metacognitive strategies.

The results of the studies like Salehi and Farzad (2003) found no gender difference in the use of metacognitive strategies. But a study conducted by Arjomand and Sharififar (2011) revealed that male students used metacognitive strategies with keen interest against their counterparts, the female students. Anyhow, a study done by Filiz and Erul (2005) is slightly matched with the result of the present study. Their result showed that female students used overall strategies than those of male students. Female excelled a bit to male students in the use of metacognitive strategies.

The findings of this study demonstrated that the female students used repetition (RPT) association (ASO) imagery (IMG) contextualization (CXT) guessing (Gus) dictionary use (DU), meaning oriented (MO) and use oriented (US) strategies more keenly than the male students. Whereas, the male students excelled to their counterparts in the use of word formation (WF) and grouping (GRP) strategies. This result is in accordance with Filiz and Erol's (2005) findings: the female students are frequent users of cognitive strategies than male students. This result is also consistent with the findings of Green and Oxford (1995) in which females used excessively more learning strategies than those of males. The same results are matched with the findings of Luimei Wang

(2009). She found significant difference in the use of vocabulary learning strategies between male and female students, which are grouping, dictionary use, use oriented etc.

Conclusion

To view the whole picture of VLSs, it is concluded that students used a variety of vocabulary learning strategies on the basis of their ability and readiness. Many research scholars like Ehrarman & Oxford, Nyikos (1989, 1995); Oh (1996) are of the view that sex marks the difference in strategy use. This study also reveals that both male and female students are very rich in the use of vocabulary learning strategies at their own. Both have their own choice and preference. Female students used metacognitive strategies more than their counterparts, the male students. The male students, on the other hand, surpassed females in the use of cognitive strategies. But holistically, female students surmounted their counter parts in strategies use.

In the light of above results, it can be safely said, vocabulary is food for the brain and academic nourishment (Nagy & Scott, 2000). The VLS are indispensible tool in describing and explaining the vocabulary development of a foreign language. It is closely linked with the students' academic excellence and teachers can help the language learning process by promoting VLS awareness and their use. Therefore, teachers at this level should pay maximum heed to the strategy use and motivate the students to use them ardently. It will surely crown the efforts and services rendered by the teachers in the arena of education and research.

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Exploring Religious Orientations of Female Students

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Abstract

Allport's theory of religious orientations has high theoretical effects on scientific investigations in religious psychology. The current study focused to explore religious orientations of female students studying at school and university levels. 663 school and 612 university female students participated in the study. Age universal I-E scale was administered to collect the data. Findings demonstrate comparatively higher presence of extrinsic personal religious orientation in the both samples than intrinsic and extrinsic social religious orientations. Statistical comparison of the both samples shows that the school girls are comparatively higher affiliated with intrinsic religious orientation than the university students. Presence of extrinsic personal and social religious orientations is comparatively higher in the university students. We attempted to theoretically explain variances in religious orientations of the female students in their aging and educational experiences at two different points.

Key Words: Faith; Social acceptance; Security; Maturity

Introduction

Allport (1960) divides peoples' religious orientations into two major categories i.e. intrinsic and extrinsic religious orientations. Intrinsic religious orientation in Allport's view, is accepting religion as a self-serving agent. It is referred to genuine, heartfelt and devout faith of a person in her religion. Intrinsically religious persons demonstrate commitments with their religion and religiously derived beliefs and values for their inner satisfaction (McFarland & Warren, 1992). Extrinsic religious orientation, in contrast, refers to the use of religion as a mean for getting security, sociability, and status. The motives for being religious, in this category, depend on social or external

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values. Extrinsic religiousness is further divided into extrinsic personal and extrinsic social religious orientations (Kirkpatrick et al., 1988; Maltby, 1999). Extrinsic personal religiosity is to use religion for gaining personal acceptance in society whereas extrinsic social religious orientation aims to ensure social security of its followers and protect their societal interests.

Research demonstrates that people belonging to different age groups, genders, and faiths express variances in their religious orientations (Flere & Lavrič, 2008; Govender, 2010; Maltby & Day, 2000; Maltby, 1999). Literature demonstrates that American Christian women university students have stronger intrinsic religious orientations than their male fellows. However for the extrinsic religious orientation male university students reveal comparatively stronger affiliation than their female fellows (Rowatt & Schmitt, 2003). Pierce, Cohen, Chambers, and Meade (2007) as a part of their research concluded that female high school students (majority of sample was Chrsitian) demonstrated higher extrinsic religiosity than their male fellows. These types of studies show gender based variations among the religious orientations of school as well as university students in separate studies. The religious orientations of school and university students of same gender and religious affiliations are not widely explored and compared in previous research. It seems appropriate to calculate changes; emerged in students' religious orientations after transition to university level.

The Current Study

We focused to investigate the case of female students enrolled in Pakistani schools and universities. Theories of development claim variances in mental, emotional and psychological approaches of school and university students. We attempted to verify whether these variances influence the female students' religious orientations. Examination of female students' religious orientations studying at two different education levels (i.e. secondary school and post-graduate) facilitates the study in achieving its targets. We theorized the impacts of students' aging, institutional environments and educational levels on the formation of students' religious attitudes. Examining female students' religious preferences at two different age stages were also accepted as a supplementary objective of the study.

Research Methodology

Following the tradition of Allportian research, we majorly depended on Religious Orientation Scale (ROS) developed by Allport and Ross (1967) for data collection. Kirkpatrick et al. (1988) and Maltby (1999) revised the ROS and prepared "Age Universal I-E Scale". The scale measures intrinsic, extrinsic personal and extrinsic social religious orientations of the respondents of all age groups. We adapted age universal I-E scale was converting it from three to four point Likert type scale. Urdu translation of the scale was validated consulting five prominent educationists.

Girls studying at secondary and master levels in public sector institutions of Southern Punjab participated in the study. Sample comprised 1275 females students in which 663 were studying in secondary schools whereas 612 were enrolled in universities. The three subscales of "age universal I-E scale" demonstrated high reliability (Cronbach's Alpha > 0.70) on the both sample groups.

Findings

Findings reveal that the presence of extrinsic personal religiosity is higher than intrinsic and extrinsic social religious orientations in the both samples (Table 01). It is also apparent that female school and university students have declined interests in practicing extrinsic social religious orientations. The Mean scores uncovering the students' weakened extrinsic social religious orientations are 1.96 and 2.07 for female school and university students respectively. In contrast, the mean scores revealing the students' strong affiliations with extrinsic personal religiosity are 3.42 and 3.57 for the school and university girls respectively. Similarly the scores are 3.15 and 3.11 to reflect the intrinsic religious orientations of female school and university students respectively. It can be inferred that the two groups of students have lessen extrinsic social religious orientation whereas their attitudes towards intrinsic and extrinsic personal religious orientations are stronger.

Table 1: *Mean scores revealing presence of three religious orientations in the students*

Sr. #	Sample	Intrinsic Religiosity	Extrinsic Personal Religiosity	Extrinsic Social Religiosity
01	School	3.15	3.42	1.96
02	University	3.11	3.57	2.07

Range: 1 (Minimum) – 4 (Maximum)

Pearson's correlation coefficients show that the students' intrinsic religious orientations have significant and direct associations with their intrinsic personal religiousness (Table 2). Correlations between the students' intrinsic religiosity and extrinsic social religious orientations are significant and indirect in the both samples. However relationships between the students' extrinsic personal and social religious orientations are insignificant. Data show that the direct association between the intrinsic and extrinsic personal religiousness of the university students (r = 0.579) is stronger than such association of the school students (r = 0.417). However, in case of correlation between intrinsic and extrinsic social religious orientations of the female students, the school girls (r = -0.367) show stronger inverse association than the university students (r = -0.099).

Results of *t* test demonstrate significant differences between the religious orientations of school and university female students. For the students' intrinsic religious orientation the *t* value 2.176 (*df* = 1273) is significant at the level of 0.030 (Table 03). Mean difference 0.046 reveals that the school girls are slightly stronger affiliated with intrinsic religiousness than the female university students.

Table 2: *Pearson' Correlation Coefficients Showing Relationships among Different Aspects of Students' Religious Orientations*

	Sample	Intrinsic Religiosity	Extrinsic Personal Religiosity
Extrinsic Personal Religiosity	School	0.417**	-
	University	0.579**	-
Extrinsic Social Religiosity	School	-0.367**	-0.031
	University	-0.099*	0.046

*Correlation is significant at the level of 0.05

** Correlation is significant at the level of 0.01

The *t* value -4.766 (*df* = 1273) is significant at the level of 0.000 to demonstrate mean difference between the extrinsic personal religious orientation of the school and university female students. Female university students are, comparatively, more inclined towards extrinsic personal religiousness than the school girls (MD = -0.149). For the extrinsic social religious orientation, the *t* value -2.452 (*df* = 1273) is also significant at the level of 0.014. Mean difference, -0.107, shows that the female university students are strongly affiliated with extrinsic social religiosity than the school girls.

Table 3: *Comparing Religious Orientations of Female School and University Students*

Religious Orientations	Sample	N	Mean	S.D.	*t*	*df*	*p*	M.D.	*d*
Intrinsic Religiosity	School	663	3.15	0.412	2.176	1273	0.030	0.046	0.32
	University	612	3.11	0.329					
Extrinsic Personal Religiosity	School	663	3.42	0.598	-4.766	1273	0.000	-0.149	0.48
	University	612	3.57	0.511					
Extrinsic Social Religiosity	School	663	1.96	0.808	-2.452	1273	0.014	-0.107	0.18
	University	612	2.07	0.744					

Note: N = Sample Size, S.D. = Standard Deviation, *t* = *t* value, *df* = Degree of Freedom, *p* = Significance Level, M.D. = Mean Difference, *d* = Cohen's *d* (effect size)

Values of Cohen's *d* demonstrate that the levels of education have small size effect on the female students' intrinsic and extrinsic personal religious orientations (Table 03). However, effect size is trivial for the students' extrinsic social religious orientation according to Cohen's classification of effect size (Cohen, 1992). Findings support the significant impacts of female students' levels of education on their religious orientations. Girls studying at school level show stronger affiliations with intrinsic religious orientation than the university students. In contrast, female university students demonstrate more inclination towards extrinsic personal and social religious orientations than the school girls.

Discussion

The current study depicts that the transition of female students from secondary school to university, though, does not disturb major dimensions of their religious orientations in Pakistani context however the extent of their affiliations is changed aligned with their promotion to higher level. Presence of extrinsic personal religious orientation is higher than intrinsic and extrinsic social religious orientations in the both samples. Similarly both groups show discouraging attitude towards extrinsic social religiousness. These results are consistent with the findings of Flere and Lavrič (2005, 2008) who examined religious orientations of people in different cultures. Relationships between different aspects of students' religiousness advance our understanding about their orientations. Strong positive correlations between the students' intrinsic and extrinsic personal religious orientations, in both samples, reveal relationships between living and using religion. However the influences of Pakistani culture and religious interpretations are apparent through negative correlations between students' intrinsic and extrinsic social religious orientations. We know that intrinsic religiousness, denoted by Allport and Ross as mature religiosity, is to live religion. Extrinsic religious orientation or immature religiosity, in contrast, is to use religion. Using religion is also subdivided in using religion for getting personal acceptance (extrinsic personal religiosity) and protecting social interests (extrinsic social religiosity).

Pakistani school and university female students who follow religion for self-satisfaction also have attached tendency to use their religious affiliations for gaining personal acceptance in society. Flere and Lavrič (2008) already presented such preferences of Bosnian Muslims, Serbian Orthodox and Slovenian Catholics. Current study, however, focusing on female Muslims argue that this trend is stronger in the university females (r = 0.579) than the school girls (r = 0.417). Intrinsic religiosity of the students of both samples is negatively correlated with their extrinsic social religiosity. It reveals that the students who prefer faith for the sake of faith avoid using religious affiliations for protecting their social interest. However this attitude is stronger in school girls (r = -0.367) than the university students (r = -0.099). Results of Pearson's correlation coefficients demonstrate that the Pakistani secondary school girls

have, comparatively, less intention of using religion for gaining social acceptance than the university females. Similarly the school students are, comparatively, stronger than the university females in opposing the use of religion for protecting social interests.

Results of *t* test are supportive in finalizing this discussion. Mean differences and *t* values demonstrate significant impacts of education levels on students' religious orientations. The girls studying at secondary school level are, comparatively, more associated with intrinsic religious orientation than the girls studying at university level. The university female students, in contrast, are comparatively more affiliated with extrinsic personal and social religious orientations. It is visible that in transition from school to university the female students start to prefer using religion for getting personal and social interests.

Conclusions

The study attempted to explore religiousness of Pakistani female students comparing religious orientations of school and university learners. It is concluded that the presence of extrinsic personal religiosity is higher than intrinsic and extrinsic social religious orientations in the both samples. Similarly the two groups discourage their association with extrinsic social religious orientation. Comparative analysis of the students' religious choices is helpful in manipulating their religious attitudes. Inferential statistics elaborate that, despite the higher presence of extrinsic personal religiosity, secondary school girls are comparatively more inclined towards intrinsic religious orientation than university female students. In contrast, school girls show comparatively lesser commitment with extrinsic personal and social religious orientations than their university fellows. It is also concluded that the university girls are comparatively more interested in using religion for gaining social acceptance, benefits and security.

The study concludes that intrinsic and extrinsic personal religious orientations, in both samples, are positively associated. Intensity of correlation, however, is higher in the school girls than the university students. Intrinsic religious orientation, in both groups, is inversely correlated with extrinsic social religiousness. Intensity of correlation is again comparatively higher in the school girls. Results help in concluding that the ratio of increasing extrinsic personal religious orientation with the increase of intrinsic religiousness is comparatively higher in school girls. Similarly, inverse correlation indicating that increase in students' intrinsic religious orientations results in decrease in their extrinsic social religiosity is also higher in the school girls. Viewing the concepts of mature and immature religions presented by Allport and Ross, it can be argued that the school girls demonstrate relatively more maturity in their religious orientations than the female university students. One factor contributing in the formation of Pakistani female students' religious orientations is their university education. Study of factors related to university education i.e. curriculum, teaching-

learning practices, institutional environment etc. can further explore the role of university education in shaping religious attitudes of female students. However the impacts of non-educative factors cannot be undermined in this regard. Contribution of students' aging, media, culture, and other socio-economic factors can be examined to find out the roots of students religious orientations.

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Differences in Self-esteem of University Students with and without Disability

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Abstract

The study is aimed to assess the self -esteem level of university students. Comparison on two variables, disability and gender, has also been investigated. A purposive sample comprised of 93 students (42 students with disability and 51 without disability). The sample is drawn from 19 departments of the University of the Punjab, Lahore, Pakistan. The Self -Esteem Scale developed by Rifai (1999) was individually administered to all research participants. Research data indicates no significant difference in self-esteem of students with and without disability ($t = .28$, $df = 91$, $p > .05$). Findings also suggest no significant gender differences in self-esteem of students with and without disability ($t = .20$, $df = 91$, $p > .05$). The findings of the research support that education is a key factor in the development of self- esteem of students. If students with disability have an opportunity to get education, it will help them to enhance their self-esteem.

Key Words: Self Esteem, Gender, Disability

Introduction

Self-esteem as a personality construct is just an estimation of one's self, therefore, is usually considered as private and personal. Generally it means a person's over all worth about him or herself. The construct of self- esteem consists of many beliefs such as the appraisal of one's own appearance, emotions, cognition and behavior. Self-esteem is an essential human need for survival and normal healthy development. It arises automatically based upon a person's beliefs and consciousness and has conjunction with a person's thoughts, behavior, feelings and actions.

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Self- esteem as a component of personality has its own significance, irrespective of gender, ethnicity, race and disability. Persons with disabilities (PWDs) also need positive self –esteem as their normal peers possess. In Pakistan, the ratio of disability in the total population is 2.49% (Census, 1998). Ministry of Health, Special Education and Social Welfare deals with this population. Many national and international NGOs are working to empower and rehabilitate people with special need in all sectors of life. The major focus of all these organizations and institutions in special education is to provide them with the best educational, psychological and other allied services like, medical facilities, financial assistance, provision of aids (like wheel chairs, hearing aids, etc). Researches in these fields also concentrate on just surveying available services, like schools, books, teachers and transport as well as other hubs including symptoms, causes and prevalence of disability. These are related to physiological needs of human beings. However, needs like self-esteem are still not focused upon. So this scenario demands to muse on psychological aspects of persons with disabilities or special needs.

Gender has a great magnitude in the formation of self-esteem at any age. Generally females have lower self-perception than males at the time of adolescence and early adult years especially in male dominating societies like Pakistan. So this factor also calls for examination.

Literature Review

Self- esteem is based on appraisal concern to oneself and is a belief in one's capacity to change one's own situation. It helps a person to realize his/her good and bad qualities, and can alleviate lack of self-esteem, lack of satisfaction and the sense of unhappiness. Self-acceptance is the recognition of one self. It is just good feelings of within and does not depend on what is going outside or external achievements. It is necessary for human beings to learn to accept and love oneself with all ones flaws and imperfections as well as weakness and strengths, without any feelings of shame and embarrassment (Gerrard, Gibbons, Reis-Bergan, & Russell, 2000; Phelps, 2010). Factors like economic status, education, social support and awareness hold principal positions in development, expansion and enhancement of Self-esteem (Leary, 2004; Logel, Holmes, Anthony, Wood, & Cameron, 2006; Mruk, 2006; Robins, Tracy, Trzesniewski, Potter, & Gosling, 2001; Rogers, 1980). According to MacDonald and Leary (2005), evaluation by others also has a significant part in developing self-esteem. Self-perceptions and actual competence have traditionally been divided into four smaller categories. These include academic, social, emotional, and behavioral perceptions. Based on these categories, four common dimensions of self- esteem are drawn such as self- acceptance, self- competence, social and physical self- acceptance, and academic self-competence (Anthony, Wood, & Holmes, 2007; Antle , 2004; Cash, & Annis, 2004; Harter, 2003; Watson, Suls, & Haig, 2002).

Academic self-competence is a term that generally refers to perceptions of ability in broad academic areas, such as how good a student is in general. Academic self-competence may also refer to perceived ability in subject areas as a whole. This makes the definition very similar to self-concept. However, while self-concept also addresses students' beliefs about academic difficulties and student affect, self-competence refers only to their perceptions related to success (Ismail, & Majeed, 2011; Mar, DeYoung, Higgins & Peterson, 2005; Partington, & Kimberly, 2004, Rendall, Wesson, Anderson, & Bould, 2009).

Researches (Cash, Theriault, & Annis, 2004; Shapiro & Martin, 2010) show that physical self-concept of an individual is developed under somatic, psychological and social components. Physical self-concept is very critical during adolescence and youth. Development of positive self- concept is very important to promote an individual's well- being (Fletecher & Hattie, 2005; Harter, 2003; Maiano, Ninot, & Bilard, 2004; MacDonald, Saltzman, & Leary, 2003).

People with high Self-esteem or positive Self-esteem have a sense of worthiness, value and significance. They show an optimistic attitude and constructive behavior and shape their lives in an acceptable manner. Maslow (1954) regarded positive self- esteem as an immune system of spirit. Opposite to this is a group of people with low or negative self- esteem. Low self- esteem comes from a poor self-image and fed negative thinking that leads towards low confidence, self-criticism and self- deception (Baumeister, et al., 2003; Larson & Buss, 2008).

Self-esteem with reference to disability can be defined as a disabled person appraising which leads towards poor body image (Antle, 2004; Bunmi, 2009; Hunt, & Marshall, 2002; Phelps, 2010; Scarpa, 2011; Watson, Suls & Haig, 2002). However, Bowen (2010) has presented results with normal or high level of Self-esteem in people with disabilities. Tuttle and Tuttle (2004) described two sources for the development of self-esteem: externally oriented and internally oriented. They reported that people with visual impairment (VI) views himself first, as a person of dignity and worth, and second as a person who, among many other attributes, happens also to be blind. Thus self-esteem is not static, but dynamic and changing with variable in people's lives (Griffin-Shirly & Nes, 2005; Lopez-Justicia, Pichardo, Amezcua, & Fernandez, 2001). Researches about people with hearing impairment yield inconsistent results. However, factors like means of communication at home and severity of hearing loss and coping styles in daily life affect their self-esteem. Deaf students with higher degree of hearing loss and with bicultural skills help them to function both in hearing and deaf communities, and generally have a higher Self-esteem (Jambor & Elliot, 2005).

Studies of young people with physical disabilities present a diverse collection of findings. Four studies in this regard revealed no significant gender difference on either self- esteem or body image (Hansen, 1994; Kling, Hyde, Showers, & Buswell, 1999; King, Schultz, Steel, Gilpin, & Cathers, 1993; Naderi, Abdullah, Aizan, Sharir, & Kumar, 2009).

Positive self-esteem elevates a student's academic performance. Rendall (2009), Larson and Buss (2008), Ismail and Majeed (2011) reported that positive self- esteem excel individuals in other areas also. They found that there are significant differences among high academic achievers and low academic achievers on self - esteem. So it is pertinent to measure the self -esteem of students. Generally self-report measures are used to measure self-esteem. The procedure to asking individuals to introspect or hold in self- report is considered valid. But the data has issues of truthfulness, and willingness of respondents.

In the present study efforts have been made to assess the level of self- esteem of students with and without disabilities of the University of the Punjab. The study is further designed to explore differences in studying self-esteem on the basis of gender and disability.

Research Methodology

This study has used a survey research design in which gender and disability are independent variables while self-esteem is the dependent variable. This study is carried out with reference to hearing impairment, visual impairment and physical impairments. Level of self-esteem is determined according to measuring criteria given in Rifai (1999). The cutoff point for low self-esteem is the 30^{th} percentile and for high Self-esteem is the 70^{th} percentile. The measuring criteria provide separate percentiles for boys and girls. So participants of the study have evaluated accordingly.

Non-probability purposive sampling technique is used to collect data for this research. Research sample is selected from 19 different departments of the University of the Punjab. The sample is comprised of 93 participants. Out of the sample, 42 participants are disabled (26 male and 16 female) and 51 participants are non-disabled (29 male and female 22). Inclusion criteria for participants are: 1) Students are selected from those departments where both disabled and non-disabled students are studying. 2) Only those students are selected who are willing to participate in the study. 3) Age range between 18-25 years. 4) Students studying at post-graduate level. 5) Students with disability are having only one disability at the time of data collection.

The study has used two research instruments: i) Demographic Information Form; ii) Self- esteem Scale. The Demographic Information Form is used to collect

information regarding, gender, age, monthly income, academic achievement and type, severity and nature of disability. Whereas, the Self-esteem scale presented in Rifai (1999) is used to find the level of self-esteem. The Scale is an indigenous scale developed in Urdu language. The Scale is internally consistent and reliable with alpha-coefficient, .83 and split–half reliability .72. Its convergent validity with Rosenberg Self-esteem Scale (1965) is .62. The scale is a self-report measure consisting on 29 items with four dimensions, self- acceptance, self- competence, social and physical self-acceptance, and academic self –competence. There are 11 items under self-acceptance, 6 items under self –competence, 7 items under social and physical self-acceptance and five items under self-competence domain. Each item has five optional responses as follows: Absolutely right, To some extent right, Do not know, To some extent wrong, and Absolutely wrong. Each option is assigned numerical value 4, 3, 2, 1 and 0 respectively however there is reverse scoring for negative items.

Score range for the Scale is from 0-116. High and low scores were described on the basis of percentiles; score 73 and less is found at the 30^{th} percentiles while score 90 and above is found at the 70th percentiles. High scores on scale are an indicator of high Self-esteem and low scores are an indicator of low self-esteem. The Scale also provides a separate percentiles score for four dimensions with cut off scores of the 30^{th} percentile or below for low Self-esteem and the 70^{th} percentile or above for high self-esteem.

The instruments were individually administered to the selected students with and without disabilities after getting their willingness to participate in the study. Non-disabled students and students with physical disabilities were advised to read instructions and the statement as stated in the instrument carefully. For students with visual impairment material is read by the researchers and for students with hearing impairment it is conveyed by the use of sign language. All participants were asked to feel free to ask any queries.

Data Analysis

Descriptive statistics were performed to describe frequencies of different groups. T-test is applied to measure the gender differences and differences between students with and without disability. Descriptive statistics of gender and types of disability are presented in Table 1.

Table 1: *Descriptive Statics of Sample by Gender and Disability*

Hearing Impairment		Visual Impairment		Physical Disability		Non-disabled	
3		15		24		51	
Male	Female	Male	Female	Male	Female	Male	Female
3	0	8	7	15	9	29	22

Frequency distribution of percentiles of participant of the study is presented in Table 2.

Table 2: *Percentiles of Participants on Self-Esteem Scale*

Percentiles	**Frequency**	**Percentiles**	**Frequency**
10	3	60	15
20	4	70	7
30	3	80	7
40	4	90	12
50	11	95	27

The analysis results, using t-test, are given in table 3 and 4 respectively.

Table 3: *Differences in Self-Esteem of Disabled and Nondisabled Students*

Nature of participants	**N**	**Mean**	**SD**	***t***	***df***	***p-value***
Disabled	42	89.63	17.13	.28	91	.111
Nondisabled	51	90.51	12.11			

Table 4: *Differences in Self -Esteem of Male and Female*

Gender	**N**	**Mean**	**SD**	***t***	***df***	***p-value***
Male	55	89.83	14.02	.20	91	.838
Female	38	90.47	15.64			

The results given in Table 3 and 4 indicate that there is no statistically significant difference in self–esteem of students with disability (M=90.51, SD= 12.11) and students without disability (M=89.63, SD=17.13) conditions; t (91) = .28, p= 0.111). The results described in Table 4 indicate that there is no statistically significant

difference in self- esteem of male (M=89.83;SD=14.02) and female students (M=90.47;SD15.64) conditions, t (91) = .20, p=0.83).

Discussion

The study is carried out to compare the self-esteem of students with and without disability. The findings of the study reveal that both groups of the study (students with disability and without disability) have the same level of self-esteem. These findings are consistent with the findings of others studies of people with physical disabilities, e.g. Antle, 2004; Hansen, 1994 and King et al, 1993, that people with physical disability have a positive self-esteem. These findings are also consistent with Bowen (2010) that reported no difference in self- esteem of disabled and normal individuals.

The finding of the study also shows that there is no gender difference with regard to self-esteem. The findings are inconsistent with the trends in the general population and also with the findings of Kling, Hyde, Showers, and Buswell (1999) which suggest that males have a high self-esteem as compared to females. However findings are consistent with the findings of Anlte (2004).

Conclusion

The results of this study reveal that the participants of this study (university students) have high self-esteem. Disability and gender do not significantly affect their level of self-esteem. The study concludes that education has an important role in increasing the level of students' self-esteem and eliminating the stigma related to gender. The study also concludes that the provision of education can make students with disability to recognize, accept and utilize their abilities. It will also enhance their worth in their own appraisal.

The study is limited to only one institution (University of the Punjab) of one city (Lahore). So the results cannot be generalized. The self-esteem scale is based on self-report measures which have its own biases. For students with Hearing Impairment and students with Visual Impairment, statements were read out and were interpreted in sign language that may affect participants' responses.

Recommendations

It is recommended that further research should be carried out in different institutions of different cities of Pakistan. However, based on the results of this study, it

is recommended that educational facilities should aim to improve self-esteem of both disabled and non-disabled students. Aiming so will assist them to bringing out their best side and help them to cope better with everyday situation; especially, in frustrating and discouraging situations. It will also assist them in realizing their individual strengths, skills and weaknesses and to improve upon them. This focus will also encourage them in self-motivation to achieve their individual vision and set objectives.

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