Journal of
CONTEMPORARY
TEACHER EDUCATION

JOURNAL OF CONTEMPORARY TEACHER EDUCATION

Vol. II, Issue: 1, 2018

Secondary Teacher Education Department
Allama Iqbal Open University
Islamabad – Pakistan

i

JOURNAL OF CONTEMPORARY TEACHER EDUCATION

SUBSCRIPTION

COPYRIGHTS (2018)

CONTENTS

A Comparison of Mathematics Teachers Assessment Practices Between Public and Private Schools in District Sargodha

Muhammad Zafar Iqbal[*]
Ghulam Haider[**]
Jahan Ara Shams[***]

Abstract

Examining mathematics teachers' practices in assessing students' performance was the major concern of this research study. A survey method was applied within descriptive research design. The population of the study was all the 6th and 7th grade mathematics teachers teaching in elementary schools of district Sargodha. The sample of the study was one hundred and forty mathematics teachers of tehsil Shahpur of district Sargodha. The data were collected through a questionnaire developed by the researchers themselves. The instrument measured the assessment practices i.e. Multiple choice questions, portfolio, anecdotal record, self and peer assessment, assignment as mentioned in the national curriculum 2006. Cronbach Alpha was used to assess the instrument reliability and its value was found to be 0.824. Differences in assessment practices on the basis of demographic variables independent sample t-test and Analysis of variance were applied. It was revealed that private school mathematics teachers were practicing assessment tools more extensive than public schools teachers. It was also found that public school teachers were not performing well in students' mathematics assessment. Hence, it was recommended that government should provide them in-service training by conducting workshops and seminars to make them able to practice modern assessment techniques.

Keywords: assessment practices, public and private school, mathematics teachers, elementary level

[*]Lecturer, Allama Iqbal Open University Islamabad. Email: mzafar.iqbal@aiou.edu.pk
[**]M.Phil Scholar, University of Lahore. Email: haiderqazi82@gmail.com
[***]PhD Scholar, UMT Lahore. Email: jahanarashams@gmail.com

Introduction

A process that uses variety of tools and techniques to gather information about students learning systematically is known as assessment. Rowntree (2014) described two objectives of assessment: first, to give feedback to improve students' learning continuously and second, to give value judgment on the achievement of students. Assessment has many types but classroom assessment is an important one. It is very helpful both for the teacher as well as students. It influences students' learning. Students focus their efforts on content or cognitive skills and they believe they are tested. Additionally, it will affect teacher assessment practices by focusing on certain aspects of the course content; specify the direction and supervision of the processing of information resources. A teacher assesses whether the students are able to learn by his teaching methodology. He also assesses the methodology whether it is suitable for the students or not, if not then he changes his methodology.

The subject of mathematics is an important one to develop students' abilities e.g. problem solving, reasoning, critical thinking. It has been used in every walk of life and has connections with other subjects. The National Council of Mathematics Teachers also speaks about the mathematics curriculum assessment and the problems faced by mathematics teachers. The council also focuses on different techniques and teacher participation in assessment.

In different countries and different institutions, a lot of mathematics' assessment techniques are being applied. According to National education policy (2009), it is must to make the Pakistani education system internationally competitive in Mathematics and scientific assessment to take part under the auspices of the time. In Pakistan, in 2006 curriculum, certain assessment techniques were mentioned for each subject and for mathematics in particular i.e. general assessment practices, assignment, anecdotal records, portfolio, and self and peer assessment. The need to use the portfolio is underlined by (Birgin, 2003). Many theoretical and empirical studies in the literature have the superiority of portfolio review to the traditional assessment tools in education (Baki&Birgin, 2004). Furthermore, Pakistani education system can be divided into basic education and higher education. Both are governed separately by various financial management systems and ministries. The education system in the province of Punjab is divided into two major sectors i.e. public and private. So, it is vital to examine whether the suggested assessment practices are being implemented in

both the sectors or not, or which of the sectors is implementing those practices in a better way. Previous research studies were about investigating assessment practices and their use in classrooms by teachers but this research keeping in view the importance of assessment was focused on comparing teachers' practices in assessing mathematics students' performance in both types of elementary schools i.e. public and private in district Sargodha.

Objectives

Following were the objectives of the study:
1. To examine the elementary level mathematics teachers' assessment practices in Tehsil Shahpur.
2. To compare the elementary level mathematics teachers' assessment practices in Tehsil Shahpur by their academic qualification and school type.

The null hypotheses of the study were as follows:

H_{01}:　There is no significant difference between the public and private schools mathematics teachers' assessment practices

H_{02}:　There is no significant difference in the assessment practices of mathematics teachers on the basis of qualification.

Methodology

A descriptive research design was used in the study to examine different assessment techniques being practiced by mathematics teachers in public and private schools at 6th and 7th grades in tehsil Shahpur of Sargodha district in Punjab province. It was appropriate to use this design as Creswell (2005, 2009), and Cohen, Manion, and Morrison (2007) supported this design to examine practices and beliefs of a particular group. It was a quantitative study and both, formative and summative assessments (Gronlund& Waugh, 2009) were included. A survey was conducted to examine the mathematics teachers' assessment practices. According to the information collected from Punjab school website, the population of the study was 230 mathematics teachers teaching to 6th and 7th grade in elementary schools of tehsil Shahpur, district Sargodha. The sample was selected by multistage sampling. Firstly, 70 public and private schools were selected randomly. At second stage, one hundred and forty elementary Mathematics teachers were selected from these schools.

The tool of study was a self-developed questionnaire on five point Likert type containing forty items for elementary school teachers. The teachers were asked to give their response on strongly agree to strongly disagree. This questionnaire covered five main aspects regarding mathematics teachers' assessment i.e. general assessment practices, assignment, anecdotal records, portfolio, and self and peer assessment. Initially researchers developed 64 items. Only forty items were finalized after the expert opinion and pilot testing. The reliability of the instrument was ensured through pilot testing. The instrument was piloted on 20 respondents who were not the part of this study. To check the reliability of questionnaire, Cronbach Alpha was applied. Its value was found to be 0.824. This value showed that instrument was reliable (*Cronbach, 1970).* Final data were collected personally by the researchers. For data analysis, Statistical Package for Social Sciences was used. On the basis of demographic information, mean score and standard deviation were applied. Inferential statistics i.e. independent sample t-test and one way ANOVA were applied used in this research to compare Mathematics teachers' assessment practices.

Results

Following were the findings:
It was found in school-wise comparison that private schools Mathematics teachers were practicing the assessment techniques much as compared to public school teachers at elementary level. It was found that that private school Mathematics teachers were practicing more in assignment work (Mean=3.95 for private, Mean=3.83 for public); anecdotal record work (Mean=3.97 for private, Mean=3.81 for public); portfolio work (Mean=3.67 for private, Mean=3.49 for public) and in self and peer assessment (Mean=3.87 for private, Mean =3.79 for public). While only in general assessment practices public schools were practicing more than private school teachers (Mean =3.73 for public, Mean = 3.68 for private). The detail is given in table 1 and graphically presented in figure 1.

Table 1
School-wise Mathematics Teachers' Assessment Practices Comparison

Statement	Group	N	$\overline{X}$	SD	df	t	Sig.
School-wise Assessment Practices on General Assessment Practices	Public	30	3.73	7.285	108	.561	.576
	Private	80	3.68	4.895			
School-wise Assessment Practices on Assignments	Public	30	3.83	.709	108	-.901	.370
	Private	80	3.95	.637			
School-wise Assessment Practices on Anecdotal Records	Public	30	3.81	.676	108	1.393	.166
	Private	80	3.97	.434			
School-wise Assessment Practices on Portfolio	Public	30	3.49	.774	108	1.253	.213
	Private	80	3.67	.719			
School-wise Assessment Practices on Self and Peer Assessment	Public	30	3.79	0.69727	108	-.685	.495
	Private	80	3.87	4.91823			
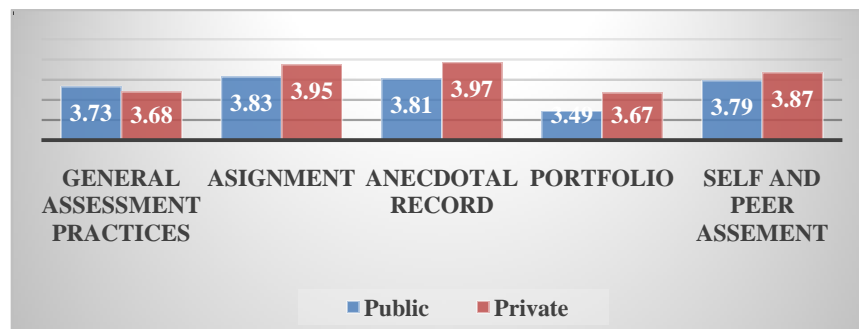
Figure 1: Public and Private Mathematics Teachers Mean Scores on their Assessment Practices

In academic qualification-wise comparison of Mathematics teachers' assessment practices, it was found that the high qualified teachers (M.A, M.Phil, P.hD), give more emphasis on students assessment than the low qualified teachers (B.A). Significant difference was found between high and low qualified Mathematics teachers' in their 'general assessment practices' (f-value= 3.83, p-value=0.03); and 'self and peer assessment practices' (f-value=4.07, p-value=0.02). There is no significant

difference was found in their 'assignment work' (f-value=0.46, p-value=0.63); 'anecdotal record work' (f-value=2.35 and p-value=0.10); and 'portfolio work' (f-value=1.14, p-value=.33) which is shown in table 2.

Table 2
Mathematics Teachers' Academic Qualification wise Assessment Practices Comparison

Qualification -wise Assessment Practices		Sum of Squares	df	Mean Square	F	Sig.
General Assessment	Between groups	1.79	2	.89		
	Within groups	24.97	107	.23	3.83	.03
	Total	26.76	109			
Assignments	Between groups	.43	2	.22	.46	.63
	Within groups	50.24	107	.47		
	Total	50.67	109			
Anecdotal Record	Between groups	1.63	2	.82	2.35	.10
	Within groups	37.10	107	.35		
	Total	38.73	109			
Portfolio	Between groups	1.29	2	.65		
	Within groups	60.87	107	.57	1.14	.33
	Total	62.16	109			
Self and Peer Assessment	Between groups	2.98	2	1.5		
	Within groups	39.22	107	.37	4.07	.02
	Total	42.21	109			

Conclusions

- It was concluded that the private school Mathematics teachers were better than public school teachers in terms of assessment practices like assignments, anecdotal record, portfolio, and self and peer

assessment, while the public school teachers are doing more general assessment practices.
- It was concluded from the academic qualification-wise comparison; high qualified teachers (M.A, M. Phil, and P. HD) were practicing modern Mathematics assessment techniques more as compared to teachers having low qualification (B.A).

Discussion

Assessment is an essential part of educational activities and the worth of teaching and learning process is judged through assessment. The study by Adams & Hsu (1998) suggested the need for a variety of assessment techniques. If assessment and evaluation system is not valid, authentic and reliable, the exact quality of output of teaching learning process cannot be determined. The challenge to enhance the assessment practices has not been taken seriously in schools. If the process of assessment is not reliable, you cannot achieve the targets of teachings. Teachers in Pakistan tend to be under pressure from the formal assessment to complete the prescribed program and overlooking pupil assessment of knowledge and skills. Public school teachers spend too much time with more emphasis on certain parts of Mathematics curriculum and do not focused on modern assessment techniques to assess students learning in Mathematics. This study concluded that the private sector is good in practicing modern assessment practice as compared to public sector school teachers. In government school, teachers used only general practices while in private schools, teacher were using both general and specific assessments practices like assignments, anecdotal record, portfolios and self and peer assessment practices. The reason behind this may be the security of jobs in public school while the private teachers have to work for their jobs.

Recommendations

This study put forward the following recommendations**:**
- The study may be replicated in other tehsils of district Sargodha and other districts of the Punjab province of Pakistan.
- Result of the study shows that public school teachers were not performing well in students' assessment. Hence, it is recommended that government may provide them in service training by conducting workshops and seminars on modern assessment techniques to make them able to utilize modern assessment techniques for the assessment of students at elementary level.
- Head teachers may monitor the assessment practices of teachers and provide them adequate feedback.

- It may also recommended that it is the duty of Govt. of Pakistan that it provides appropriate number of teachers and physical resources in every elementary school so that the teachers may fully concentrate at their work instead of clerical works.

References

Adams, T. L., & *Hsu*, J. W. Y. (*1998*). *Classroom assessment*: teachers' conceptions   and *practices*in *mathematics*. *School Science* and. *Mathematics*, *98*(4), 174-180.

Baki, A. & Birgin, O. (2004). Reflections of Using Computer-Based Portfolios as an Alternative Assessment   Tools: A   Case Study.*Journal of Educational Technology,3*(3), 79-99.

Birgin, O. (2003). *Investigation of the Application Level of a Computer Based Portfolios*. Unpublished Master's Thesis, Karadeniz Technical University, Trabzon.

Cohen, L., Manion, L. and Morrison, K. (2007). *Research Methods in Education*. Routledge, USA.

Creswell, J. W. (2005). *Educational research*: *planning, conducting, and evaluating quantitative and qualitative research (2nd Ed.)*. Upper saddle river, Pearson.

Creswell, J. W. (2009). *Research design qualitative, quantitative and mixed methods approaches* (3rd Ed.). Thousand Oaks, CA, US: Sage Publications, Inc.

Gronlund, N, & Waugh, C. (2009). *Assessment of student achievement (9th Ed.).* Upper Saddle River, NJ: Pearson Education, Inc.

National Educational Policy (2009), Ministry of Education Islamabad, Pakistan.

Rowntree, D. (1990). *Teaching through Self-Instruction (2nd Ed.).* London.Upper Saddle River

Empirical Investigation of Service Quality and Students' Satisfaction in Higher Education

AsadMohi-ud-Din[*]
Aysha Khalil[**]
Atif Hassan[***]

Abstract

Higher educational institutions are able to gain students trust by treating them in equitable manner, handling their complaints in caring manner. Students' lives undergo a series of interrelated occurrence that persuades and overlies the student satisfaction. Thus, the main intention of this research was to comprehend the role of services quality in satisfaction of students with the value provided by their institutions, in return of what they have invested. This study also analyzes the difference between the satisfaction level of students of public and private universities towards quality of services. A standardized questionnaire to measure the higher education performance named HEdPERF, originally designed by Firdaus (2006) was administered to 190 business education students of private and public sector universities of Lahore city. The Research revealed that student satisfaction is more dependent upon the availability of resource person and resources. Results of study also showed a significant difference between satisfaction of students of public and private universities towards provision of quality services. This research suggested that universities should improve service quality on continuous basis.

Keywords: higher education, performance, student satisfaction, service quality, university

* MPhil Scholar, UMT, Lahore. Email: as4asad1990@hotmail.com
** PhD Scholar, STED, Allama Iqbal Open University, Islamabad.
Email: aysha.phd@gmail.com
*** Assistant professor, University of Management and Technology, Lahore.
Email: atif.hassan@umt.edu.pk

Introduction

Customer satisfaction depicts a scenario when any exchange fulfills the expectations and needs of its users. It refers to comply with the prospects of customers by providing quality services and good regarding the price paid by them. In other words, customer satisfaction measures if supply of services and goods surpasses customer expectations. Oliver (1997) defines satisfaction as the customers' accomplishment response. Hasan, Ilias, Rahman, and Razak, (2008) states that satisfaction is a condition sensed by a person who goes through an outcome or performance that meets his/her expectations. In fact customer satisfaction, which is a business or marketing phenomenon mostly used in commercial mode, is now frequently employed in education. The commercialization of education has been fairly a recent trend that stems from the educational reform over the last two decades (Borgohain, 2016). It may profusely be expressed as progression of ownership and management of educational organizations or institutions whose main motive is earning profits in relations to the investments made. Many researchers argue about the positive and negative impacts of commercialization in education but with the start of 21st century, privatization, internationalization and expansion of higher education is being established.

The concepts of customer satisfaction and service quality are interconnected. As Devasagayam, Stark, and Valestinl (2013) refer satisfaction as a dynamic and ongoing process which occurs during the consumption of products and services, it refers that students of higher education may seek satisfaction when they fully utilize the services provided by their institutions. Provision of quality services is obligatory for organizations to maximize the students' satisfaction. Service quality according to Sultan and Wong (2012) may be defined as the entirety of attributes, features, characteristics and traits of a service of product that endures the capability of satisfying affirmed or oblique needs. Service quality is always contextual that is why several researchers have failed to agree on one definition of service quality (Khodayari&Khodayari, 2011; Biedenbach&Marell, 2010; Wang & Lo, 2002).

Universities in the world today are projected to seek and nurture modern knowledge to provide appropriate leadership and endeavor to endorse quality and social justice. For gaining success, the ideas of service quality and satisfaction of students has got sizeable considerations in public private sector universities. According to Malik, Danish, and Usman (2010), the provision of quality services in higher

education institutions is a vital feature regarded for inviting and retaining the students, which ultimately leads towards achieving excellence at higher education level. HEIs must prove steady sensitivity and compassion to the students' emerging needs and market requirements. In twenty first century where market is very competitive, student think that it is the service quality that matters most when it comes for making choices to have association with universities. Higher education institutions (HEIs) are gazed as service industry, in view of the fact that the endeavor of HEIs is to provide students with high quality learning experiences. Yeo (2008) narrates that service quality in the institutions of business education is exceedingly complex as it summarizes the institutional and psychological upshots.

Business education is regarded as a service and students of business education are considered being the customers (Cuthbert, 1996). The impression of students of business education as customers has been extremely disparaged (Fotaki& Prasad, 2015; Docherty, 2015; Bay & Daniel, 2008). According to Eagle and Brennan (2007), the use of market-place metaphors can do nothing but harm the educational process. Regardless of such criticism on the notion of students as customers, HEIs have the accountability to be aware of the fundamental aspects of student satisfaction so that they can figure out their own strengths and weaknesses. Alves and Raposo (2009) lay emphasis on the realization of steadfast reliable scales which may be utilized to make comparisons among assorted HEIs which require the differentiation and improvement strategies for measuring services quality.

Many authors in their studies argued that satisfaction of students is a crucial gauge of service quality in business education institutions (Arif, Ilyas, & Hameed, 2013; Tam, 2001). Finney and Finney (2010) conferred that there may exist more than one relationship between service provider and client, this argument also highlights that for satisfying students/customers, the organizations/universities need to make great efforts. Students need to be considered as co-producer of their learning instead of just letting those receiving services from the universities. For the said reason universities should get feedback on continuous basis for the purpose of measuring the satisfaction level of students with the services offered by the institutions. Feedback must contain all the dimensions including academic as well as administrative, and over all general satisfaction. Students evaluate services provided on the basis of their perceived image of the university and their prior expectation from that image of university. Quacquarelli (2010) confers that Eminent satisfaction of students will have an absolute positive

impact on students' motivation level as one student satisfied with services may cause to bring more admission in that university. Feedback is crucial everywhere but it is more vital in business education institutions as students are charged fees much higher as compared to other degrees and programs.

Students' satisfaction is believed requisite by Banwet and Datta (2003) because satisfaction escorts towards loyalty and trust. Besides, familiarization with students' needs assists HEIs to develop the plans for providing such services which can be helpful in satisfying the specific needs of students (Krachenberg, 1972). The determinants of students' satisfaction are: i) teaching, ii) administrative support, iii) empathy, and iv) overall satisfaction. It submits that to seek students' satisfaction, it is obligatory to provide quality teaching and administrative support to them. Empathy from institution side also leads to the trust and loyalty of students towards universities and teachers. Students' perceived overall satisfaction increases if teaching, and administrative services are provided by the universities with quality, expediency, and constancy.

Literature shows that students' satisfaction level differs when it is evaluated for diverse aspects and features of service quality (Alves &Raposo, 2007; Aldemir&Gülcan, 2004; Abouchedid& Nasser, 2002; Aldridge & Rowley, 1998; Anderson & Sullivan, 1993). Customer loyalty is one of the foremost indicators of quality and success of business (Klefsjö, Bergquist, &Garvare, 2008; Lin & Tsai, 2008). In the context of Higher Education, it is about positive behavior of students, and dispersal of positive words of mouth. As argued by Brown and Mazzarol (2009), perceived image, perceived quality of 'human ware' (e.g., people and process) and 'hardware' (e.g., infrastructure and tangible service elements) play an imperative position in perception of total quality and predicting student loyalty which is generated by student satisfaction with services provided.

HEdPERF model focus the quality of services in higher education by ascertaining the determinants of service quality in HEIs. According to HEdPERF service quality provided by HEIs has five dimensions, which are (i) Academic aspects, (ii) non-academic aspects, (iii) program issues, (iv) reputation, and (v) access. Academic services are defined as the services provided by teachers including courses and content. Academic services generally comprise of instructional quality, instructional methods, curriculum/content, competent and skilled teaching staff, etc. which contribute in the excellence of academic performance and achievement of students. Non-academic services may be defined as the services provided by the administrative bodies/units of university, such

as libraries, laboratories, rector office, registrar, dormitories, sports, health, hostels, faculty and admin offices etc. Students seek satisfaction if non-academic services are also provided properly as well as academic ones. Solution of program issues is one of the performance factors of HEIs which must be sorted out on priority bases. Reputation is of prime importance which attracts the students to take admission in well-reputed universities because it is considered for the HEIs to gain eminent position in society on the bases of provision of quality services to its customers. Access, being one of the most important factors of students' satisfaction refers to the convenience in availability and approachability of students to the logistics, faculty, administration offices, rector/HODs, libraries etc. In luminosity of the connotation of student satisfaction in business education institutions, (Abdullah, 2006a) designed a scale, named HEdPERF; especially measure the service quality in education institutions. As it is already discussed above that student satisfaction should be measured from different angles.

Hypotheses

Based upon the literature cited above and conceptual framework, following hypotheses were developed.

H_{01}: Academic aspect of service quality positively influences the student satisfaction.

H_{02}: Non-Academic aspect of service quality positively influences the student satisfaction.

H_{03}: Program issues positively influences the student satisfaction.

H_{04}: Reputation positively influences the student satisfaction.

H_{05}: Access positively influences the student satisfaction.

H_{06}: There is a difference between satisfaction level of students of public and private sector universities.

Research Methodology

The target population of this research was the students doing Masters in Business Administration (MBA) in universities (listed with HEC) of Lahore including public and private sector universities. Reason behind choosing only MBA student as population was that, as this research was about to measure satisfaction level of student acquiring higher education in business studies.

For data collection, self-administered questionnaire was utilized. In view of Oppenheim (1992), questionnaire is considered more consistent

and reliable tool than interviews because of less bias of researcher's own opinion over the respondents to which interview technique is very susceptible. For quantitative studies, questionnaires are regarded as the most appropriate method for data collection (Bryman& Cramer, 2009; Blaikie, 2000).

The scale to measure higher education performance i.e. HEdPERF was originally designed by Firdaus in 2005; initially it consisted of 41 items. In his further investigation through confirmatory factor analysis in 2006, items were reduced to 38 and named it as modified HEdPERF. This research adopts modified HEdPERF. To measure the level of satisfaction among the students this research adopts a questionnaire from national vocational training institute Taiwan 2008 that comprises of 20 items. This research uses self-administered survey questionnaire for collection of data. Blaikie (2000) and Bryman, and Cramer (2009) suggested that use of questionnaire is more suitable mean for studies that or measuring, quantifying concepts so that they can present some numerically data to the world. This study instrument contains total 58 questions/items that measure student's satisfaction in higher especially in business education. Data was collected from a sample of 190 students.

Data Analysis

Before going towards further analysis, adopted instrument was tested for reliability. For this purpose, tools were administered with 50 respondents and Cronbach's alpha value was calculated.

Table 1
Reliability of Scales

Instrument /Variable	Cronbach's Alpha
HEdPERF Questionnaire	0.87
Non-academic aspects	0.92
Academic aspects	0.89
Reputation	0.85
Access	0.88
Program issues	0.81
Customer Satisfaction	0.89

Reliability test shows the value of Cronbach's Alpha α=0.87 for HEdPERF questionnaire consists of 38 items. For individual variables, Cronbach's alpha value is also not less than the acceptable value that is

0.7. Coming towards the second instrument that was used to measure student satisfaction show the alpha value α=0.89 which evidently shows that questionnaire used for measuring the responses was consistent and reliable.

Table 2
Regression Analysis on the Prediction of Students' Satisfaction

Hypotheses	R	R^2	Adjusted R^2
1	.476	.227	.222
2	.940	.883	.881
3	.981	.962	.961
4	.989	.977	.977
5	.996	.992	.992

a. Predictors: (Constant), Non-academic aspect

b. Predictors: (Constant), Academic aspect

c. Predictors: (Constant), Program issue

d. Predictors: (Constant), Reputation

e. Predictors: (Constant), Access

f. Dependent Variable: satisfaction

Table 2 illustrates the model summary for regression analyses for hypotheses framework. For H_{01}, the value R^2=.227 depicts that satisfaction is almost 23% explained by 'non-academic aspects' of service quality. R^2=.883 shows that satisfaction is 88% explained by 'academic aspects', R^2=.962 confers that satisfaction is 96% explained by 'program issues', R^2=.977 shows that satisfaction is nearly 98% being explained by 'reputation' of organization whereas R^2=.992 explains that satisfaction is 99% being explained by 'access' aspects of service quality.

Table 3
Effect of Service Quality on Students' Satisfaction

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1.959	1	1.959	52.171	.000[b]
Residual	6.685	178	.038		
Total	8.645	179			
Regression	7.631	2	3.816	666.356	.000[c]
Residual	1.013	177	.006		
Total	8.645	179			
Regression	8.317	3	2.772	1489.666	.000[d]
Residual	.328	176	.002		
Total	8.645	179			
Regression	8.449	4	2.112	1894.790	.000[e]
Residual	.195	175	.001		
Total	8.645	179			
Regression	8.579	5	1.716	4546.841	.000[f]
Residual	.066	174	.000		
Total	8.645	179			

a. Dependent Variable: satisfaction
b. Predictors: (Constant), Non-academic aspect
c. Predictors: (Constant), Academic aspect
d. Predictors: (Constant), Program issue
e. Predictors: (Constant), Reputation
f. Predictors: (Constant), Access

Above mentioned results of table 3 showed that every dimension of service quality has positive impact on student satisfaction. It explains that student satisfaction is being influenced by every aspect of the service quality. So universities and degree awarding institutes are here by suggested to make sure that they are ensuring all the aspects of service quality. Non-Academic Aspect of service quality got the lowest score. That depicts the students are least concerned with administrative support and most concerned about the other aspects.

After checking data for all the assumptions of linear regression and found satisfactory results, regression analysis was conducted for whole model. To test the hypothesis H_{01} that is Service quality positively influences the student satisfaction linear regression was tested.

Table 4
Regression Analysis on Students' Satisfaction

Model	R	R Square	Adjusted R^2	SEE	Durbin-Watson
1	.718[a]	.516	.513	.15335	2.442

a. Predictors: (Constant), HerdPERF

b. Dependent Variable: satisfaction

Table 4 provides R an R^2 values, R=.718 represents the simple correlation which indicates a high degree of correlation. Durbin Watson value is within the best fitting range (1.5-2.5) which fulfills the assumption of regression. The R^2=.516 indicates that .516% the total variation in satisfaction can be explained by service quality.

Table 5
 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.458	1	4.458	189.576	.000[b]
	Residual	4.186	178	.024		
	Total	8.645	179			

a. Dependent Variable: satisfaction
b. Predictors: (Constant), HerdPERF

In table 5, ρ <.05 indicates that the regression model predicts 'satisfaction' significantly well (i.e. it is good fit for data).

Table 6
Coefficients

Model	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.192	.283		.677	.000
HerdPERF	.950	.069	.718	13.769	.000

To analyze the impact of service quality in higher education on student satisfaction, regression analysis was used. Findings point out that student satisfaction is almost 52% being explained by service quality that

means universities or degree awarding institutes having service orientation used to have more satisfied students the other competitor organizations. Service quality influences the satisfaction of student by 52% that means it is the most influential indicator of student satisfaction. Significance value .000 shows that the regression model is highly significant.

To test the sixth hypothesis, means values of satisfaction level of students of public and private universities were compared.

Table 7
Comparison of Public and Private Sector University Students' Satisfaction

Nature of Organization	N	Mean Value
Public	57	3.07
Private	133	4.1

Table 7 shows Mean value of satisfaction from public universities $M_1=3.07$ and mean value of satisfaction from private universities $M_2=4.1$. It is clear from table that there is a difference between mean values of satisfaction level of the students of private universities and public sector universities. Mean value shows that students of public sector universities are less satisfied as compared to the students of private sector universities.

Conclusions

The main objective of this research study is to ascertain the association between services quality and students' satisfaction in public and private sector business schools operating in Lahore. This research was also aimed at understanding the aspects of services quality in higher educational institutions with which students are more concerned and the aspects that are needed to be more focused by administration of the universities. Research model was found significant as the significance value is lesser than .05 and it has ability to predict the students satisfaction. R^2 is 0.52 which shows that 52 % of the variation in student satisfaction is being explained by this model.

The research revealed that student satisfaction is more dependent upon the availability of resource person and resources. Then the importance of academic aspects and the positive dealing of their problems by resource persons and support staff were rated as second priority by the students. Role of administrative staff like registrar and

examination office got the lowest score. Research findings support the result of previous studies like (Anderson & Sullivan, 1993; Douglas, McClelland & Davies, 2008). Therefore a causal relationship between these two constructs exists. The results suggest that service quality paradigm is a creator of student satisfaction. Hence resource persons and staff of the university should emphasize to improve the excellence of quality of education and relevant facilities in universities and degree awarding institutes.

Results also disclose that there is a gap existed between student's satisfaction level among private sector student and public sector universities' students. Compare means test statistics indicate that there is a noteworthy variance between satisfaction level of student enrolled in public and private universities.

This research also claims and suggested as many of the scholar believes that organizations/universities should improve service quality on continuous basis, as suggested by students. The institution will eventually face the shortcomings or difficulties due to lack of knowledge/awareness about the competitive nature of attracting students and measuring services quality (Angell, Heffernan, &Megicks, 2008). Consequently, a marketing strategy to the higher education perspective may bestow significant outcomes.

References

Firdaus, A. (2005). The development of HEdPERF: A new measuring instrument of service quality for the higher education sector. *International Journal of Consumer Studies*, *30*(6), 569-581.

Firdaus, A. (2006), Measuring service quality in higher education: HEdPERF versus SERVPERF. *Marketing Intelligence and Planning*, *24*(1), 31-47.

Abdullah, F. (2006a). The development of HEdPERF: a new measuring instrument of service quality for the higher education sect. *International Journal of Consumer Studies*, *30*(6).

Abouchedid, K., & Nasser, R. (2002). Assuring quality service in higher education: registration and advising attitudes in a private university in Lebanon. *Quality Assurance in Education, 10*(4), 198-206.

Hasan, A., Ilias, A., Rahman, A., &Razak, A. (2008). Service quality and student satisfaction: A case study at private higher education institutions. *International Business Research*, *1*(3), 163-175.

Aldemir, C. &Gülcan, Y. (2004). Student Satisfaction in Higher Education: a Turkish Case. *Higher Education Management and Policy*. *16*(2), 109-122.

Aldridge, S., & Rowley, J. (1998). Measuring customer satisfaction in higher education. *Quality Assurance in Education*, *6*(4), 197-204.

Alves, H. &Raposo, M. (2007). Conceptual model of student satisfaction in higher education. *Total Quality Management*, *18*(5), 571-88.

Alves, H., &Raposo, M. (2009). The measurement of the construct satisfaction in higher education. *The Service Industries Journal*, *29*(2), 203-218.

Anderson, E. W. & Sullivan, M. W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, *12*(2), 125-43.

Angell, R. J., Heffernan, T. W., &Megicks, P. (2008). Service quality in postgraduate education. *Quality Assurance in Education*, *16* (3), 236-254.

Arif, S., Ilyas, M., & Hameed, A. (2013). Student satisfaction and impact of leadership in private universities. *The TQM Journal, 25*(4), 399-416.

Banwet, D. K. &Datta, B. (2003). A study of the effect of perceived lecture quality on post-lecture intentions. *Work Study, 5*(4), 234-243.

Bay, D., & Daniel, H. (2008). The student is not the customer – an alternative perspective. *Journal of Marketing for Higher Education, 11*(1), 1–19.

Biedenbach, G. &Marell, A. (2010). The impact of customer experience on brand equity in a business-to-business services setting. *Brand Management*, *17*(6), 446-458.

Blaikie, N. W. H. (2000). *Designing social research: the logic of anticipation*. Cambridge, UK; Malden, MA.

Borgohain, S. (2016). Commercialization of Education system: A critical analysis. *International Research Journal of Interdisciplinary & Multidisciplinary Studies*, *1*(12), 71-76.

Brown, R. &Mazzarol, T. (2009). The importance of institutional image to student satisfaction and loyalty within higher education. *Higher Education*, *58*(1), 81-95.

Bryman, A. & Cramer, D. (2009). *Quantitative data analysis with SPSS 14, 15, and 16: A guide for social scientists*. Routledge.

Cuthbert, P. F. (1996). Managing service quality in HE: is SERVQUAL the answer? Part 2. *Managing Service Quality*, *6*(3), 31-35.

Devasagayam, R., Stark, N. R., &Valestin, L. (2013). Examining the linearity customer satisfaction: Return on satisfaction as an alternative. *Business Perspectives and Research*, *1*(2), 1-49.

Docherty, T. (2015). *Universities at war*. London: Sage.

Douglas, J., McClelland, R., & Davies, J. (2008). The development of a conceptual model of student satisfaction with their experience in higher Education. *Quality Assurance in Education, 16*(1), 19-35.

Eagle, L., & Brennan, R. (2007). Are students customers? TQM and marketing perspectives. *Quality Assurance in Education, 15*(1), 44-60.

Finney, T., & Finney, Z. (2010). Are students their universities' customers? An exploratory study. *Education and Training, 52*(4), 276-291.

Fotaki, M., & Prasad, A. (2015). Questioning neoliberal capitalism and economic inequality in business schools. *The Academy of Management Learning and Education, 14*(4), 556–574.

Khodayari, F., &Khodayari, B. (2011). Service quality in Higher Education. *Interdisciplinary Journal of Research in Business*, *1*(9), 38-46.

Klefsjö, B., Bergquist, B., &Garvare, R. (2008). Quality management and business excellence, customers and stakeholders: Do we agree on what we are talking about, and does it matter? *The TQM Journal, 20*(2), 120-129.

Krachenberg, A. R. (1972). Bringing the concept of marketing to higher education. *The Journal of Higher Education*, *43*(5), 369-380.

Lin, C. P. & Tsai, Y. H. (2008). Modeling educational quality and student loyalty: A quantitative approach based on the theory of information cascades. *Quality and Quantity. 42*(3), 397-415.

Malik, M. E., Danish, R., & Usman, A. (2010). Impact of Job Climate and Extrinsic Rewards on Job Satisfaction of Banking Executives: a Case of Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, *1*(12), 125-139.

Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer*. New York: Irwin/McGraw-Hill.

Oppenheim, A. N. (1992). *Questionnaire Design, Interviewing and Attitude Measurement*. Pinter, London.

Quacquarelli, N. (2010). QS Top MBA Jobs & Salary Trends 2010/11. The world's largest annual survey of MBA employers. [Online] QS Quacquarelli Symonds Ltd.

Tam, M. (2001). Quality and performance in higher education measuring quality and performance in higher education. *Quality in Higher Education, 7*(1), 47–54

Wang, Y. & Lo, H. P. (2002). Service quality, customer satisfaction and behavior intentions: Evidence from China's telecommunication industry. *Info*, *4*(6), 50-60.

Yeo, R. K. (2008). Brewing service quality in higher education. *Quality Assurance in Education, 16*(3), 266-286.

Exploration of Need and Collaboration of Technical and Vocational Education in Conventional Schools with Technical Institutions at Secondary Level

Tahira Bibi [*]
NeelamYaqoob[**]
Malik Omer Mansoor[***]

Abstract

The objectives of the research were to study the existing situation of technical education in conventional schools, which helped in assessing the need for introduction of technical education in mainstream education system. Study focused on identification of main discrepancies in existing conventional secondary education system which are causing hindrance in the effective incorporation of technical education. Study also explored the possibility of collaboration between conventional and technical institutes for technical education at secondary level. Qualitative descriptive research was conducted through the support of documentary analysis and administration of structured interview and semi-structured interview. Population for the study was ninety-seven secondary schools of Islamabad and government technical institute. Qualitative content analysis technique was applied to analyse the collected data in thematic manner, it was found that there has been need for the introduction of technical education in main stream educational system. Some of the major problems in existing system of education are deficiency of technically advanced infrastructure and other resources, mismanagement of funds and resources, non-availability of qualified technical teachers, fixed mindset of society, gaps in planning and implementation stages etc. It was also evident from the study that there exists intense possibility of collaboration between technical institutes and conventional secondary schools for incorporation of technical education.

[*]Lecturer, Allama Iqbal Open University Islamabad.
Email: tahira.naushahi@aiou.edu.pk
[**]M.Phil Scholar, Allama Iqbal Open University Islamabad.
Email: canvassanalysis@gmail.com
[***]Student, Allama Iqbal Open University Islamabad.
Email: canvassanalysis@gmail.com

Introduction

Education plays a major role in the economic and social development of any country. It gives the people awareness to defend their rights, respect rule of law, gain valuable skills to improve their living standard and spend life positively for their own well being and that of society in a broader context. The lack of quality education is the biggest cause for underdevelopment of human capital in Pakistan. Technical education can be regarded as a solution to the economic problems of countries like Pakistan. If the diversion of conventional secondary level curriculum is made towards technical and more specialized education then many of the educational problems can be solved in Pakistan.

There is a need to reduce the gap between conventional secondary schools and technical training institutions or merge them into a single institute or a subsidiary with the purpose of giving both skilled (Technical) and conventional education at the same time to maximum number of young students. Also this can be done by establishing new technical training departments in conventional schools and colleges especially in rural areas and city slums where most of the poor live. This will not put extra burden on the national economy, as the resources of conventional education will be utilized into technical education. Special attention must be paid for technical education for women. There should be skills for women which they can use from home to earn their livelihood (Durrani, 2016).

It has been witnessed from the review of related literature that there are comparatively limited number of technical institutes in Pakistan especially in Islamabad Capital Territory and this deficiency has created a gap between conventional educational system and technical education system. Technical education is lagging behind in the field of main stream education system. This issue has also been addressed in National Education Policy (NEP) (2009), in which suggestion were also made to enhance the technical education facilities in main educational system.

In Pakistan most of the students at secondary level leave their education due to different issues relating to their social, economical, financial, and personal preferences. Due to this fact this can be said that technical education can serve as an effective tool but there is a need for reforms in the technical education sector as well and one such reform is collaboration between Technical Education and Vocational Training Authority (TEVTA) with conventional schools at secondary level in Islamabad Capital Territory. In NEP (2009), it has also been highlighted

that steps should be taken to utilize the existing resources of schools to impart the technical skills to students at secondary and higher secondary level.

This collaboration will be helpful in creating a qualified workforce as per the demand of market without putting any extra burden on economy and making new expensive infra structures for the purpose of imparting technical education to the students of secondary level.

Aim and Objectives

Following objectives were achieved through this research paper with an exploratory perspective.

- Studied the existing situation of technical education in conventional secondary schools of Islamabad Capital Territory.
- Assessed the need for technical education in conventional secondary schools of Islamabad Capital Territory.
- Identified the main discrepancies in existing conventional secondary education system for technical education.
- Explored the possibility of collaboration between conventional and technical institutions for technical education at secondary level in Islamabad Capital Territory.

Research Questions

Following questions were answered in this research project:

- How will the technical education improve the conventional education system?
- How existing conventional secondary level education system is catering technical education in Islamabad Capital Territory?
- Do we need technical education at secondary level in conventional schools?
- What factors seem to affect the technical education in existing scenario of conventional secondary education system?
- Will there be any need and possibility of collaboration between conventional and technical education department? If yes, how will it improve technical education in conventional secondary schools of Islamabad?

Research Method

Researchers had followed the qualitative descriptive research design in which the comprehensive summarization has been made for the under study phenomenon or process which has been experienced and perceived by the individuals or group of individuals during their practical dealings. This approach helped in investigating and exploring the phenomenon and human behaviours associated with the subject of study and assisted in answering the questions in descriptively and explanatory manner.
Population
1. Ninety seven heads of conventional secondary schools (running under the Federal Directorate of Education) in Islamabad Capital Territory (ICT).
2. One head of Technical Education and Vocational Training Authority (running under TEVTA) which is National Institute of Science and Technical Education (NISTE), located in Islamabad Capital Territory (ICT).

Sample

Eighty (80) heads of secondary level conventional schools (running under the Federal Directorate of Education in areas of ICT) were considered as sample. Also 1 (one) technical and vocational school of ICT which is National Institute of Science and Technical Education (NISTE), (running under the TEVTA) was sample for the study. The sampling framework is provided below for selection of sample population from heads of conventional secondary school and also from heads of technical institutes.

Table 1
Sampling for Heads of Conventional Secondary Schools

Geographical Area/Strata	Number of SSC Schools	Number of Selected SSC Schools as Sample	Number of Responses Collected from Sample
BharaKau	20	17	15
Urban	36	29	29
Nilore	13	11	9
Sihala	11	9	8
Tarnol	17	14	12

Source: www.fde.gov.pk

Table 2
Sampling for Heads of Technical Institute

Institute	Total Population	Selected Sample	Response Collected
TV institute under TEVTA (NISTE)	1	1	1

Instrumentation for Data Collection

Two data collection tools were developed for separate sample for the purpose of data collection. One research instrument was a structured interview which was administered on the heads of conventional secondary schools of Islamabad Capital Territory (ICT). Other tool was a semi structured interview, which was conducted on heads of technical and vocational institute of Islamabad Capital Territory (ICT).

Results

The data were collected by researcher from Islamabad District which is comprised of urban area and four (4) rural areas. This geographical distribution of Islamabad District was considered as the strata categorization for the purpose of sample selection and data collection. The randomly selected sample schools from each stratum were visited and research tool (structured interview) was administered on heads of the secondary schools who gave their views and opinions in the form of responses to questions of tool. Similarly, the head of technical institute was approached and a semi structured interview was conducted which provided the detailed opinions of interviewee regarding the questions of semi structured interview.

Technical and Vocational Education

Technical and Vocational Education is any education which can make a human prepared for employment in recognized occupation (Kennedy, 2012). The foundation of technical education is on self employment and self reliance of individual.

Technical and Vocational Education is defined in different ways by different authors:

1. McDonald (2011) defined vocational education as "all those experiences whereby an individual learns to carry on successfully any useful occupation."

2. In views of Spindler (Spindler, 2010), "vocational education aims at the development of human abilities in terms of knowledge, skills and understanding so efficiently in carrying on the activities in the vocational pursuits of his choices".

3. Lee (2012) in his contribution stated that vocational education is "designed to develop skills, abilities, understanding attitudes, work habits and appreciation encompassing knowledge and information needed by workers to enter and make progress in employment on a useful and productive basis".

4. Skill development of workforce working in an industry of a country is known as Technical and Vocational Education and Training. (Ismail, 2005)

5. Technical education is known as post secondary course of study and training focus of which is to make technicians to work as supervisory staff. (Ismail, 2005)

6. Vocational training on the other hand means lower level of education and training for preparation of semi skilled workers for different trades. (Ismail, 2005)

In the light of versatile definitions, technical and vocational education can be termed as development of skills and abilities to perform the occupational activities of any field so that the maximum possible productive results can be attained within the scope of available resources. Technical and vocational education is combination of knowledge acquisition and training for the skills development for various occupations and trades of life for the sustainable livelihood of individuals.

Benefits of Technical Vocational Education and Training (TVET)

Developing countries are now focusing on importance and critical role of Technical and Vocational Education and Training for National Development (Maclean & Wilson, 2009). One of the most important features of TVET is its orientation towards vast work and emphasis of the curriculum on the acquisition of employable skills. The curriculum of TVET is therefore well placed to train entrepreneurial workforce and skilled man-power which the country needs for economic and social development. This means that the youth, the poor and the vulnerable society of a country can benefit directly from TVET programs.

According to the World Bank's 2007 World Development Report (Bank, 2007)

"1.3 billion 15 to 30 year old young people now live in the developing world—the largest youth population in the history of the world, in both absolute and relative numbers. Young people make up

nearly half of the world's unemployed population. For example; a recent study concludes that 100 million new jobs have to be created in the Middle East and North Africa by 2020, just to keep pace with new entrants into the region's labour markets. Most surveys of young people in East Asia, Eastern Europe, and Central Asia indicate that access to jobs, along with physical security is young people's biggest concern". The report goes on to say, "developing countries have a very short time to get this right before the youth dividend turns into a generation of unemployed adults."

Technical and Vocational Education and Training in Pakistan

Developing countries like Pakistan have realized the importance of TVET but unfortunately gap between policy making and its implementation makes it hard to achieve the required goals. In a country like Pakistan where a large number of youth is outside the formal schools, integration of non formal education and methodologies, and also literacy programs in national education programs are really worthy. But to completely overhaul the system of TVET in Pakistan, TVET institutions and TVET programs must be mobilized at all stakeholder levels and position them to be responsible for regional cooperation.

New technologies are being developed and implemented frequently due to globalization and radical changes in demand for work force. To meet this demand, Pakistan has to make drastic changes in its TVET policies and implementation. According to UNESCO research study (UNESCO, 2009) on Technical and Vocational Education in Pakistan at Secondary Level in 2009 "Pakistan workforce showed 43.1 percent engaged in agriculture, 13.8 percent in manufacturing and mining and 43.1 percent in service. Since year 2000, there has been a shift of 5.3 percent work force from agriculture to manufacturing sector. At present there are 18 colleges of technology, 54 polytechnic institutes (11 for female) and 25 mono techniques".

National Education Policy 2009 and TVET

According to NEP (2009), large population in Pakistan give an advantage of cheap labour but the low quality of skills hamper the growth of labour force to its full. This low quality skill set is a problem in all sectors like agriculture, industry, services, commerce etc. Any improvement in these skill set will make more opportunities for labour force, both in local and international market, resulting in better

economical and social conditions. NEP (2009) suggests that the present system of TVET in Pakistan is not enough to meet the required demands of market. Like all other sectors of education in Pakistan, TVET also suffers in all aspects due to improper management and policy making.

With the development of every sector of Pakistan, very less importance has been given to TVET since its independence. Jobs in public sector are a priority; but for low end jobs qualification of matriculation and for higher jobs education of bachelors was deemed enough with no requirement of specific skill set, even though Pakistan has gone through major development economically. The institutions responsible for creating and supplying skilled people for the jobs also failed to meet their responsibilities fully. A major variety of skills are totally absent from such institutes and those present have outdated or obsolete curriculum.

Also stakeholders, such as business sector, are not given adequate consideration in development of TVET sector. TVET sector does not majorly benefit from collaboration with business sector for anything like up gradation to latest equipment, latest technology or introduction of new skill sets etc.

NEP (2009) identified following issues in TVET in Pakistan:

1. Schools in Pakistan do not have sufficient budget to meet the equipment requirement for vocational training,
2. Trained and skilled teachers for TVET programs are not available,
3. The curricula assume prototype that do not cater to differentials in market requirement across districts or other geographical divides like rural-urban etc.

Vocationalization of General Education in Pakistan

Realizing the importance of Technical and Vocational Education in development of economic conditions and social structure of Pakistan, governments in previous years also tried to make efforts for vocationalization of general education in Pakistan. This concept was also started due to the fact of large number of school drop outs and unemployed youth. Following schemes were started by Pakistan government in past:
1. Comprehensive High Schools (CHS)
2. Agro-Technical Scheme (ATS)

3. Technical School Certificate (TSC)
4. Matric Technical Stream (MTS)

Technical and Vocational Education Option for Age Group 11 to 18 Years

Following TVE options are available for the age group of 11 to 18 years students (UNESCO, 2009) in Pakistan

1. Vocational Trade Courses (after Grade-VIII)
2. Matric Tech (Grade IX-X)
3. Technical School Certificate (Grade IX-X)
4. Agro-Tech Courses (Grade-IX-X)
5. Vocational Certificate Courses (after Grade-X):
    i. G-III (Basic Level)
    ii. G-II (Intermediate Level)
    iii. G-I (Advanced Level)
6. Diploma of Associate Engineers (DAE) after Grade-X
7. Customized Training for In-Service Workers of Industry (after Grade-X, and DAE)

Research Findings on the Basis of Structured Interview and Semi-Structured Interview

This part includes the analysis and interpretation of findings for the data collected through the structured interview from the heads of conventional secondary schools and semi-structured interview from head of technical institute. The qualitative thematic content analysis for the data collected from both tools is organized and interpreted into four themes or categorize which are as follows.

1. Existing situation of technical education in conventional secondary schools.
2. Need for incorporation of technical education in conventional secondary schools.
3. Discrepancies in existing conventional secondary education system for technical education.
4. Possibility of collaboration between conventional and technical institutes for technical education at secondary level.

Theme 1: Existing situation of technical education in conventional secondary schools.

Table 3
Structured Interview from Heads of Conventional Secondary Schools

Statements	Opinion	
	Yes	No
Do you have knowledge of any current policy which provides introduction of TVE in conventional secondary schools at secondary level in ICT, if yes please specify?	21.91% (16)	78.08% (57)
From your experience, do you feel students of secondary level of ICT show interest or inclination towards TVE?	87.77% (64)	12.23% (09)
According to your observations, is the dropped out rate of non-affording students at secondary level higher? Please Elaborate.	65.75% (48)	34.25% (25)
Can the dropout rate of students in ICT at secondary level be lowered by introduction of TVE?	82.20% (60)	17.80% (13)

Respondents elaborated in the comments that;
a. National Education Policy 2009 has the provisions to introduce the TVE in conventional secondary schools so that the existing resources can be utilized.
b. Students of secondary level leave their education due to socioeconomic problems and financial issues.

Table 4
Semi-Structured Interview from Head of Technical and Vocational Institute

Statements	Yes	No
Do you think technical education planning is effective in Pakistan? If not, why?		
In your opinion, are the policy objectives being observed while planning TE in Pakistan?	✓	
Is the allotment of funds for technical education, in ICT, sufficient?	✓	
Do you have knowledge of any current policy which provides introduction of TVE in conventional schools at		

secondary level in ICT, if yes please specify?

Comments by the respondent were:

a) Governing bodies of technical education are trying to incorporate the technical education in mainstream general education system. Many plans have been made in past for this purpose, many schemes were introduced at different times, but planning fails mostly due to the implementation problems.

b) Government is working on making technical education part of the main stream education system of Pakistan. Federal Ministry of Education and Professional Training are working on the introduction of Matric Vocational stream in the country. Respondent was of the view that hopefully these efforts will be fruitful and result oriented. Sincere efforts are needed to bring a change in the society and in the educational system. Such changes can serve as a basic catalyst in the progression and development of a country as a nation as well as an economic power of the world.

Theme 2: Need for incorporation of technical education in conventional secondary schools.

Table 5
Structured Interview from Heads of Conventional Secondary Schools

Statements	Opinion	
	Yes	No
Is there any need for TVE at secondary level in ICT? Please explain.	86.30% (63)	13.70% (10)
Will there be any improvement in socioeconomic conditions of families of students by introduction of TVE at secondary level? Please explain.	87.77% (64)	12.23% (09)
Will it be feasible to incorporate the TVE in conventional school's curriculum at secondary level, in ICT?	79.45% (58)	20.54% (15)
Do you think it is beneficial to incorporate the TVE in conventional school's curriculum at secondary level, in ICT?	87.77% (64)	12.23% (09)
In your view, what will be the response of students for TVE if it is introduced at secondary level in ICT?	87.77% (64)	12.23% (09)

In your view, what will be the response of teachers on introduction of TVE at secondary level in conventional schools of ICT?	87.77 (64)	12.23% (09)

Comments by the respondents were

a) Secondary level students leaving their education normally fail to earn their livelihood due to lack of technical skills,

b) Students having any technical skill will be in a better position to earn a sustainable livelihood for at least themselves or for their families which is a huge advantage of technical education,

c) Students will show positive response because they will be able to learn something other than the words from the books, and

d) Technical skills can benefit the students in short run as well as in long run for their income earning purpose and also for the accomplishment of their hobbies.

Table 6
Semi Structured Interview from Head of Technical and Vocational Institute

Statements
Do you think TVE should be introduced at secondary level? If not, please specify the level at which TVE can be introduced in your opinion and why?
Is quality of technical education in Pakistan; especially in ICT meeting standards of advanced countries? If no, why?
How the development of technical education is progressing in Pakistan especially ICT?
Is there any need for changes to be done in curriculum of secondary level education in ICT for introduction of TVE at secondary level in ICT?

The findings as per the response of participants were

a) There is a significant need for incorporation of technical education at secondary level in conventional schools of ICT. National Education Policy 2009 (Government of Pakistan, 2009) has the objective to incorporate technical education in conventional education system at secondary level, but unfortunately this objective is yet to be achieved.

b) Quality of the technical education in Pakistan is not meeting the International Standards due to lack of advanced training facilities and infrastructure for technical education, non availability of trained and competent teachers, and lack of commitment by the Government.

c) Due to these issues the development of technical education is progressing at a very slow rate in Pakistan. This is the era of science and technology, country like Pakistan needs advancements and updations in the field of technical education to compete in the international market. Trained and skilled labour of other countries is capturing the international market. Pakistan itself is also importing the trained and skilled technical manpower from other countries to run the different advanced industries within the country. This situation is creating a huge gap in demand and supply, disturbing the market cycle and increasing the unemployment rate of country.

d) In order to incorporate the technical education at secondary level in conventional schools of ICT, there is a need for changes in the curriculum and the current resources of schools are not sufficient to incorporate the technical education at secondary level. Curriculum should be revised and updated according to the needs and objectives.

Theme 3: Discrepancies in existing conventional secondary education system for technical education.

Table 7
Structured Interview from Heads of Conventional Secondary Schools

Statements	Opinion	
	Yes	No
Do you believe curriculum of secondary level is enough to enhance the *craftsman ship skills of students? Please explain.	0% (0)	100% (73)
As per your view, Do you think a dropped out student from secondary level is capable enough to generate income for the family?	11% (08)	89% (65)
Are the current resources of secondary schools enough to cater the introduction of TVE in ICT? Please explain.	11% (08)	89% (65)
Do you think teachers of secondary level have enough expertise to teach technical education?	5.48% (04)	94.52% (69)
In your opinion, does the curriculum of secondary level have enough capacity and flexibility for introduction of TVE	60.27% (44)	29.63% (29)

Please specify main problems existing in present scenario regarding TVE and conventional education at secondary level in ICT?

Comments by the respondents of conventional secondary school heads indicated that:

a) Existing conventional secondary schools lack the resources, for instance infrastructure, equipment, technical expert teachers, maintenance staff for labs or workshops etc

b) Qualified trained and competent teachers of technical education are essential. Non availability of technical teachers can make the material resources useless. Conventional secondary schools need technical subject specialists, technical training and practice needs to be increased as compared to theoretical education of the technical subjects. For this purpose, trained teachers and trained staff for practical training are required in conventional schools at secondary level in ICT.

c) Hindrances in effective technical education in conventional secondary schools are lack of Interest from students, Interest from parents, School management, Seriousness by the government, Proper planning, Policies by government, Proper management of resources, and Administration etc.

d) Although many programs and schemes for technical education at secondary level are being introduced in past, but almost all of the schemes failed. Proper planning, management of resources, implementation, and administration is required in this regard for achievement of any fruitful outcome.

Table 8
Semi Structured Interview from Head of Technical and Vocational Institute

Statement
Is there any lack of coordination between plan preparatory people and implementers? Explain?
In your views what are the reasons due to which targets of technical education in ICT are not achieved previously?
What are the main problems for promotion and development of technical education in Pakistan, especially in ICT? Please specify
Are the current resources of secondary schools at sufficient enough to cater the introduction of TVE in ICT

Please specify main problems existing in present scenario regarding TVE and conventional education at secondary level in ICT?

Responses by head of technical institute were
a)   There is a lack of coordination between planning and implementation stages. Policy objectives are being observed while planning, but efforts fail at the implementation stage due to lack of coordination.
b)   The targets of technical education are not still achieved mostly due to fixed mindset of the society, cultural norms and lack of respect for technical education in our society. Society has a specific thinking and reasoning mindset, according to which technical education is a low end certification for labour class manpower.
c)   Society has some unusual cultural norms to label or tag the technical education with labourers and workers. Society doesn't consider the technical education as a proper qualification to be achieved in schools colleges and universities. This mindset has made a scenario of disrespect towards the technical education itself and also towards its attainment in schools or institutions.
d)   Schools need infrastructure, technical laboratories, equipment and tools, funds for running expenses, trained technical staff, appointment of technical teachers to teach the technical subjects in conventional schools. Proper administration of resources and accountability system is also required so that the programs for technical education don't fail due to mismanagement of resources in the future.
e)   Main problem relating to technical and vocational education is non-availability of higher education in the field of technical and vocational disciplines. There is non-existence of opportunities for upward progression to master and doctoral levels in the technical education. This is causing lack of competent and highly qualified technical teachers or scholars in the field of technical education in Pakistan.

Theme 4: Possibility of collaboration between conventional and technical institutes for technical education at secondary level.

Table 9
Structured Interview from Heads of Conventional Secondary Schools

Opinion

Statements	Yes	No
Is collaboration between conventional schools and TV institutes/centers possible for introduction of TVE at secondary level in ICT? Please Explain.	87.77% (64)	13.23% (09)

Please provide suggestions for collaboration between TVE
and conventional education at secondary level in ICT?

Different ideas and suggestions according to the experience of conventional secondary school heads were:

a) Revision of curriculum to incorporate the technical education in conventional education is required.
b) Competent, trained and qualified technical teachers should be appointed to impart the technical education to students of secondary level.
c) Technical education cannot be taught without the practical training, and practical training requires the laboratories or workshops. Every conventional school should be equipped with labs, workshops, latest equipments, and technical staff to run the labs.
d) Technical education at the conventional secondary schools should be linked with actual technical market of the country. Students and technical education departments of conventional schools should have access to the stakeholders or practical market, such as agriculture, industry, business etc.
e) Technical education departments at conventional secondary schools should be visited and administered by the technical authorities or governing bodies for evaluation and assessment purposes.
f) There is a need to change the mindset of our society about technical education. Parents and students should be made aware of the importance and benefits of technical education at secondary level.

Table 10
Semi Structured Interview from Head of Technical and Vocational Institute

Statements
Please provide suggestions and recommendations, which will help in development of TVE in ICT?
Is there any possibility of collaboration between conventional schools and TVE institutes for introduction of TVE at secondary level in ICT?

Comments by the respondent were:

a) In order to change the mindset of population regarding the technical education for every student, a media campaign can be started to create the awareness about the importance of technical education.
b) There is a possibility of collaboration between technical institutes and conventional schools for the introduction of technical education at secondary level. But there are a lot of factors which need to be considered before collaboration. Proper planning and implementation of any project is needed to make the collaboration successful and results-oriented.

Conclusion and Recommendations

From the analysis of the data it is interpreted that the incorporation of technical education in conventional education system needs some serious efforts and commitment by the government, policy makers, school administrations, students and their parents, and society as a whole. There are definitely some gaps in the systems which are needed to be encountered in order to achieve the targets. Practical and realistic recommendations at planning stage can serve as contingency plans at implementation phase. United efforts are required to bring the change in society and in educational system. There is a need to set priorities as per the demand of market. Teaching-Learning process needs a revolution to meet the challenges of globalization. Following were the main conclusion:

1. In present scenario, National Education Policy 2009 exists which recommends the introduction of technical education at secondary level in conventional schools.
2. There is an overall significant need for introduction of technical education at secondary level in conventional education system.
3. Many schemes have been introduced in regard of technical education at secondary level, but all the schemes failed mainly due to mismanagement of resources.
4. There is a fair possibility of collaboration between technical institutes and conventional schools for the introduction of technical education at secondary level in mainstream conventional education system.

Recommendations suggested on the basis of analytical findings for the introduction and incorporation of technical education in conventional secondary schools are:

1. Prioritization of the education is needed. Type of education which is imparted to the students of different age groups needs consideration from policy makers.
2. Existing curriculum needs modifications and up-gradations. Standardization of technical education can improve the quality of technical education.
3. Any scheme introduced in regard of technical education shall be properly managed and administered. Standardized check and balance procedures shall be adopted. Previously failed schemes evaluation shall be made to identify the main causes of failure and their remedies.
4. Availability of resources and their maximum utilization shall be made possible. Technical education needs advanced technical facilities, such as infrastructure, laboratories, equipment, trained and competent technical staff etc.
5. Qualified and competent technical teachers shall be selected through merit, Pre-service and in-service training shall be made mandatory for teachers to equip them with updated knowledge and skills of their field.
6. As recommended by the Head of technical institute, a media campaign shall be initiated to create the awareness about technical education. Both, print and electronic, media can be utilized to bring a change in the mindset of the society.
7. Private sector shall be encouraged to participate in the technical education. Technical education shall be properly linked with actual practical fieldwork. Agriculture, industry, business, and service sector etc. shall be given incentives to participate in the improvement and development of technical education.
8. More opportunities shall be created for higher education in technical disciplines to encourage the students in this field.

References

Bank, W. (2007). World Bank Development Report.

Durrani, I. (2016). Exploring variations in the relative technical efficiency in providing school education: a case study of Sindh, Pakistan. *International Journal of Education Economics and Development*, *7*(4), 155-197. doi: 10.1504/ijeed.2016.082174

Ismail. (2005). Skill and Vocational Development. Retrieved July 28, 2016, from docshare01.docshare.tips/files/9453/94533456.pdf.

Kennedy, O. O. (2012). Philosophical and Sociological Overview of Vocational Technical Education in Nigeria. *College Student Journal*, *46*(2), 274-282

Lee, I. H. (2012). Strategies for Handling Missing Data with Maximum Likelihood Estimation in Career and Technical Education Research. *Career and Technical Education Research* , *37*(3), 297-310.

Maclean, D. R., & Wilson, D. (2009). *International Handbook of Education for the Changing World of Work*: Springer.

McDonald, B. M. (2011). Career Satisfaction following Technical Education. *Career and Technical Education Research*, *36*(3), 155-170.

National Educational Policy (2009), Ministry of Education Islamabad, Pakistan.

Spindler, M. (2010). A Taxonomic Description of the Science Integrating Learning Objectives in Career and Technical Education Programs of Study. *Career and Technical Education Research*, *35*(3), 157-173.

UNESCO. (2009). Research Study on Technical and Vocational Education in Pakistan at Secondary Level. Islamabad: National Institute of Science and Technical Education.+

Exploratory Study of TARGET Model of Motivation

Muhammad Saeed[*]
Marina Ilyas[**]

Abstract

The study is designed to explore the use of TARGET model of motivation in university classrooms. This case study also explores, whether the practices of model were used to create mastery climate or ego climate. The sample of the study was comprised of 20 students of B.Ed. (Hons.) program from University of Education Lahore, Pakistan. Participants were selected by using purposive sampling technique. Semi-structured interview schedule was used for the data collection. Data were transcribed and coded into interpretive categories according to the research objectives and questions. Thematic inductive approach was used for analyzing the data. Major findings of this study revealed that teachers were practicing TARGET model as an instructional strategy in university classrooms, although unintentionally in mastery dimension. In a mastery-oriented environment, the focus of students in class was on learning rather than to competition.

Keywords: target, mastery climate, ego climate

[*]Associate Professor & Chairman, Department of Educational Research and Evaluation
IER, University of the Punjab. Email: drsaeed1961@hotmail.com
[**]PhD Scholar, IER, University of the Punjab. Email: mareenaillyas@gmail.com

Introduction

In educational context, motivation provides the best way for students to deal with problems, which they face in classroom setting and side-by-side motivation is concerned with the factors that stimulate students' behavior towards desired outcome and able them to achieve the best of their abilities. Baron (1991) and Schunk (1990) explain motivation as the power that strengthens individual behavior to make them engage in a specific activity. Motivation is considered a fundamental component in the learning process and a wide range of factors influence it, but generally the most important recapitulate as intrinsic or extrinsic factors. Both of these factors play an important role in classroom setting as internal motivators satisfy students' intrinsic needs, whereas external factors motivate students to do something by getting some rewards. Therefore, external motivators considered environmental factors (Bassy, 2002).

In the most recent thirty years, numerous models, approaches and theories have propelled researchers studying motivation in educational context. Such perspectives include the needs theory, value expectancy theory, social cognitive theory, attribution theory, goal theory, and intrinsic motivation. These theories have been progressed to clarify how objectives associating with outside and inward factors affect motivation to accomplish.

Ames (1992) has developed a model of motivation that incorporates numerous thoughts about motivation. The TARGET structure emphasized on instructional approach associated to: Tasks i.e. Projects, assignments (T), autonomy opportunities (A), recognition method (R), grouping criteria (G), evaluation practices (E), and time utility (T).

Table 1
Components of TARGET

TARGET	Mastery	Ego
Task	Varied, differentiated, Challenging task	Comparative goals, uni-dimensional &undifferentiated
Autonomy	Leadership opportunities provided to students and involved in decision making	Decision are made by the teachers
Recognition	Students are recognized privately	Students are recognized publically, Normative ability
Grouping	Cooperative mixed ability grouping structure	Groups are structured of same ability
Evaluation	Students are evaluated to improve their learning.	Normative & public

Time	Flexible time	Fixed time

TARGET components that influence motivational climate (Ames, 1992; Epstein, 1989)

Ames (1992) used TARGET structure to categorized instructional practices related with a task or ego climate in educational setting to motivate learners. Each element of TARGET model plays its role in a direct or indirect manner to motivate student in class (Ames, 1992). Classroom goal structures were defined by the ways in which various kinds of achievement goals emphasized in the classroom and influence patterns of students' achievement goal orientations (Ames, 1992; Ames & Archer, 1988). Teaching methodologies used by teachers in the classroom communicate differential emphases on goals and students' perception of classroom goal structure influence by it. Students grasp several goals in classroom: The types of goal orientations address in this study are mastery goal orientations and performance goal orientations

Mastery goals are goals based on developing competence within the self, and these goals focus on the mastery of the task also termed task goals, a mastery goal refers to developing one's abilities, mastering a new skill, trying to accomplish something challenging and trying to understand learning materials, whereby learning is valued as an end in it. Contrary to mastery goals, performance goals are based on demonstrating competence or skill at a task in relation to others (Meece, Anderman, & Anderman, 2006).

Patrick, Anderman, Ryan, Edelin, and Midgley (2001) conducted a study at school level. They observed four classrooms that differed in the degree to which students perceived an emphasis on mastery and performance goals. Findings revealed that in high mastery-oriented classrooms, the TARGET model practices focused on learning as an active process and expressed strong positive affect about learning and positive expectations for students. In contrast, information about relative performance, grades and assessment was increasingly salient in classrooms that were identified as highly performance-oriented. Kaplin, Martin and Martin (2007) quoted findings of some correlation studies, conducted mostly in school settings, the results of these studies found positive relations between mastery goals orientation and classroom. Whereas other studies, conducted mainly in college settings did not find such relations (Harackiewicz, Barron, Pintritch, Elliot, & Thrash, 2002).

This research was aimed to explore the existing practices of TARGET model of motivation and further it explores whether the

practices of model were used to create mastery climate or ego climate in university classrooms. TARGET model is a framework that can be utilized in diversified teaching learning settings for developing motivational consideration into teaching plans. The study provides in-depth detail about each element of model: Variety and nature of tasks practiced in students' classroom it may explore whether the tasks with optimal level of difficulty were given to students or of moderate level of difficulty. The study investigated whether the autonomy was exercised in the classroom with the students according to their perceptions and educational needs, whether the students were recognized by the teachers especially who made noteworthy progress. Furthermore, it was also explored that how the groups are structured, friendship based or mixed ability, how the students were evaluated in the class. Finally, it was also explored that the time given to students for the accomplishment of tasks was flexible or fixed and whether the flexible time schedule remained innovative with respect to students learning or there were no contribution made by flexible time in students' learning. The present study addresses the following research questions.

1. What are the existing practices of TARGET model of motivation in the university classroom?
2. How each component of TARGET model contributes to create the mastery climate in class?
3. Which practices of TARGET model create ego climate in the university classroom?

Rationale of the Study

In the context of Pakistan especially at higher education level, no study from qualitative context was found with respect to the utilization of TARGET model at university level. This study carries significance for the teachers at every classroom, as they can maximize students' performance by utilizing each component of TARGET model in classroom. One of the significant aspects of this research for teachers is that they can use TARGET principles when their students get unmotivated. The study showed, how TARGET model help the teachers educators to create instructional opportunities for students to regulate their engagement and participation in the classroom. Although teachers are practicing this model, may be knowingly or unknowingly in every classroom to promote students' motivation to learn. Therefore, this study was designed to explore the existing practices of the model and the practices that are being ignored by the teachers. Research also

investigated the classroom motivational climate structure under the principles of TARGET model whether mastery oriented or ego oriented.

Methodology

It was a case study. A qualitative approach was used to address research questions and objectives. In general, qualitative research techniques are especially useful in discovering the meaning that people give to events they experience (Bogdan &Biklen, 2003).Qualitative methods emphasize the researcher's role as active participant in the study (Creswell, 2005).For the present study, the researchers were the key instrument in data collection and the interpretation of findings.

The population of this study was comprised of students of B.Ed. (Hons.) of University of Education, Lahore. Population was delimited to the third year students of B.Ed. (Hons.) programme because they were more likely to have the richest experience of working in groups and engaged in different activities over the period of their studies. The researchers selected 20 students by using purposive sampling technique. Semi-structured interview was selected as tool to collect data because interview is a purposeful conversation between two people or sometimes involving more (Warren, 2002). It provides the opportunity to probe for deeper analysis of the process and experience. The interview was shared with three experts (university teachers) for validation purpose and finally consisted of 10 questions besides four probing questions. The three mock interviews were conducted for ensuring further validity and reliability of the interviewees.

Researchers visited the University of Education to get the list of B.Ed. (Hons.) students from relevant office, and approached the students in their classroom. Researchers explained them the purpose of the study. The students who became willing were interviewed after taking their consent for interview recording and its confidentiality. The researchers started asking pre-structured questions as per interview schedule. During the interview, probing questions were also asked, wherever it was required. Data were collected by taking one to one interviews of the participants. The principal researcher took the assistance of facilitator for keeping key notes. Tape recorder was used for recording of interview. The approximate time for the interview was 25-30 minutes. Twenty students were interviewed within a working week, in March, 2016.

The current investigation utilized an inductive, thematic approach to analyze the data, which is also recommended by Hatch (2002). Mostly qualitative research analyzed inductively because this method allows

participant stories to surface by centering deeply on a particular entity (Hatch, 2002; Mayan, 2009).

Results

The results were drawn by considering the research questions and objectives. The research question 1of the study was to investigate the existing practices of TARGET, model of motivation: task, autonomy, recognition, evaluation and time. Among all the comments reported by the participants it was found that all the components of TARGET model were practiced in classrooms. Teachers were using every component of model as an instructional strategy.

In order to address the research question 2 "How each component of TARGET model contributing to create the mastery climate or ego climate in class" the participants reported in-depth detail about the use of each component of TARGET model in creating mastery and ego climate. Six main themes: task, autonomy, recognition, grouping, evaluation and time extracted from the data reported by the students and are discussed in subsequent section.

Theme 1: Task

The "Task" was the first component of TARGET model. It includes assignments, projects, presentations, test, and any other activities, which were given to students in the classroom by their teachers. Four codes: variety of task, nature of task, task value and students' preference for taking easy and challenging tasks were generated under the main theme "Task".

The data showed that variety of tasks and activities were practiced in students' classroom. The common variety of tasks reported by majority of the respondents were assignments, presentations, tests (oral and written) , jigsaw activities, classroom discussion and quiz such activities were given to students in their classroom, which created learning focused climate in class. Majority of the participants reported that diverse nature of tasks was assigned to various students especially when tasks were given individually.

To explore the reasons for valuing the tasks and activities different reasons were reported by the participants during interview. Majority of the participants reported that they valued the tasks for their learning and to get new experience. The last question about the task was to explore the level of difficulty they found in tasks and activities. Data revealed that

the tasks with moderate level of difficulty were mostly given to the students. Further, students' preferences for taking challenging or easy tasks were also explored. The data showed that maximum number of students preferred to take challenging tasks rather than to easy one. When the reason was asked that why did they prefer to take challenging task? Majority of them said that challenging tasks enhance their learning. One of the participants (P4) reported during interview. "I preferred to do challenging task because the challenging work enhance more learning as compared to easy one which have nothing new in it".

It was found from the above data that variety of tasks, differentiated in nature was practiced in university education classrooms. Further data showed that tasks with moderate level of difficulty were given to students in class Students preferred to take challenging tasks rather than to easy ones. Varied differentiated and challenging tasks all these indicators contributed to create mastery climate in class. Contrary to these it was found that the first component of TARGET model "task" was not practiced in the way to create ego climate.

Theme 2: Autonomy

Second component of the TARGET model "Autonomy" addressed the role of autonomy in creating mastery or ego climate. The theme "autonomy" contained two codes provision of autonomy and aspects where the students were free to give their opinion. All the respondents reported that autonomy was provided to them in the class. Maximum students reported that they got autonomy in selection of assignment topics of their own choice and they were also allowed to change their topics. As P5 reported during interview, "well we have choice to select topic of our own choice in assignments".

The data revealed that learner were given autonomy in certain matters. This showed that classroom students' focused. There was consideration of students' opinion in class in certain aspects. That ensured students' enthusiasms towards learning in creating healthy learning environment. It was revealed that provision of learner autonomy contributed to create mastery climate in classroom.

Theme 3: Recognition

The third component of the TARGET model was "Recognition" that addressed the role of recognition in creating mastery or ego climate. Recognition is sort of appreciation which students received in the class.

During interview majority of the respondents reported that all teachers appreciated them especially when they showed their maximum effort in presentations and assignments. Only few students reported that some teachers showed biased attitude. As P7 reported, "Mostly teachers appreciated to everyone in class when students showed good performance but few teachers were biased towards some students".

To inquire more about recognition the researcher asked whether teachers appreciate students publically or privately. Majority of the participants reported that they were recognized publically in front of all class. Students' views revealed that they felt good when they were recognized publically. P15 reported, "Teachers appreciated us in front of whole class. We feel good and got encouragement to do better for the next time".

The findings showed that majority of the teachers recognized students in class. The teachers recognized variety of intended behaviors and outcomes. It was also found that students got recognition publically instead of privately. Publically recognition enhances students' motivation and they got inspiration for more hard work in future. It was revealed from the data that the third component of the TARGET model was practiced in such a way that it was contributing to enhance and create mastery-oriented climate in the classroom instead of ego climate.

Theme 4: Grouping

The fourth component of TARGET model was about the "grouping". The researchers asked the students how the learning activities were structured in their classroom whether in groups or individually; if in groups then how the groups were structured. The responses obtained during interview revealed that, mostly the tasks were given in the form of groups and sometimes on individual bases. Majority of the students reported that groups were structured on friendship based and students have choice to select their group members. It was also reported during interviews when teachers construct group than it was based on mixed ability. The groups were consisting on 4-5 and 5-6 members. Majority of the students reported that there were cooperative learning environment within the group. On the basis of students' comments, it was found that the experience of working in group create healthy learning environment for the students.

Theme 5: Evaluation

The researcher asked the students about the evaluation criteria it was normative or criterion. Further, it was also explored whether there were chances available for the students to improve the grades and if there were any chance for that, then what were the nature and condition of chances. Majority of students' answers indicated that their performance was evaluated at the end of the semester in the form of marks and grades. Few students reported that feedback was also given in the form of remarks.

Further, it was also inquired that what was the nature and conditions of chances they availed, the variety of condition reported by the students like when anyone gave poor performance or having some authentic reason than teachers gave them additional assignment. Flexible time provided for the completion of assignment and projects. In support of this one student, P19 said, "Chances to improve the grades were given but only to those students who have some authentic reasons for their poor performance e.g., additional assignments were given to the students".

The findings showed that the evaluation criteria were supportive because chances were given to students for the improvements of grades but under rules. Supportive criteria of evaluation were the main indicator of mastery structure.

Theme 6: Time

The last component of TARGET model was the time. The researchers asked the students about the allocation of time for the completion of tasks and activities. Whether there was fix time schedule or flexible time, it was found that both of the time schedules were used in classroom for the completion of tasks and assignment in classroom. Findings showed that the utilization of flexible time depend upon the students. Majority of the students completed their works in flexible time while few utilized it in a productive way.

Discussion

The primary focus of the study was "to explore the existing practices of TARGET model in higher education classroom". Results drawn from the findings revealed that all the components of TARGET model; task, autonomy, recognition, grouping, evaluation and time were practiced in B.Ed. (Hons) program, but unknowingly. However, students and teachers were not familiar with the TARGET term collectively, as they have not studied psychology in detail. However, they have common perception

about the use of each component of TARGET model when it was asked exclusively.

Next thing explored was to find out the practices that contributed to create mastery or ego climate. Central element of classroom learning was the design of tasks and learning activities in B.Ed. (Hons.) programme. Findings revealed that greater variety of tasks with diverse nature were practiced in classroom. Tasks involved variety and diversity was more likely to promote interest of students in promoting their learning and such type of task category created mastery oriented classroom. As the students were in 6th semester, they had the rich experience of variety of tasks over period of their studies. Parallel to present research findings, the study conducted by Ames (1992), Patrick, Anderman, Ryan, Edelinand, and Midgley (2001) also revealed the same results.

The next target of this study was to investigate the role of learner autonomy in higher education classroom whether it was contributing to create mastery or ego climate. Findings revealed that most of teachers were providing autonomy to their students in certain matters such as in the selection of assignment topic and classroom discussion. An effective distribution of autonomy achieved in this study. Teacher provided students choices and allowed them to set the pace and procedure for their own learning. The psychological rational for promoting learner autonomy is that students learn better when they are in charge of their own learning (Cotterall, 1995). Similar to these findings Scharle and Szabo (2000) also exposed same result in their study on learner autonomy. Finch (2002) in his research reported the same findings that learner in formal context do not easily take the responsibility of autonomy and do not find it easy to reflect on the learning process.

Next thing to explore about TARGET model was the role of *recognition* in promoting mastery or ego climate. In present study, recognition has the same meaning as the praise and appreciation. In this study, recognition was considered one of the more obvious aspects to maximize students learning. Findings of present study indicated that all teachers appreciated and encouraged students for giving good performance. Variety of students' behaviors and outcomes recognized by the teachers such as, in presentations students' communication skill, their confidence and extraordinary performance, class participation, in time tasks submission and good grades in exams.

Specifically, the present study indicated that students got publically recognition when they showed intended behavior and outcomes. Students have perceived public feedback an encouraging factor which gave them confidence whenever they got a well done in front of whole class. The

major reason of present findings can be the effective use of feedback by the side of teachers. The positive and effective use of publically recognition lead to created mastery climate in classroom. Contrary to present study findings, some previous researchers, e.g. Ames (1992), Treasure and Roberts (1995) reported that public recognition invites social comparison among students in class.

The results regarding next component "grouping" of TARGET model findings showed that students have been working in groups. Study revealed that two ways were followed for the group formation. Mostly students selected their group members on friendship based and sometimes teachers constructed students' groups based on mixed ability. Groups constructed of small and moderate size. It was examined from data that students' group work experience, created cooperative learning environment within group. One of the basic reason may be to choose the members was according to students own choice, so the entire focus of students were on learning and mutual sharing rather than to compete from other members.

The aspects found in present study about students' group work experience in University of Education classrooms likewise, small and moderate size of groups based on mixed ability students and cooperative learning environment within group were contributed to create mastery climate. Consistent with Ames (1992) research findings for a mastery climate, when students placed in mixed ability groups, students of lower ability seem to be getting higher their performance while working with higher ability students.

Another findings revealed by this research was about the supportive evaluation criteria. Students' results were evaluated on the bases of marks, grades and remarks. In presentation, teachers evaluated students' performance on the bases of their interpersonal skills. Results of this study indicated that evaluation criteria were supportive for students the reason behind this finding can be clarified, that absolute marking criteria were used to evaluate students' performance and the chances of grades improvement were available under rules. Very clear and supportive evaluation criteria were used in higher education classrooms therefore; social comparison did not rise among students. Contradictory to this study finding, Treasure and Robert (1995) found that evaluation practices could have harmful effects when they linked to social comparison and such type of practices evoked ego climate in classroom.

The question asked about the provision of flexible time whether it contributed to create mastery or ego climate. Time considered as the most important element in the effectiveness of institutions and an

absolute factor that effected students' learning experience. The findings of the present study revealed that teacher implemented both of the time schedule (fix and flexible) in class for the submission of tasks. The major difference in the findings of the present study and past research can be the level of education as the Ames (1992) conducted research at school level while the present study was conducted at university level.

It is inferred that TARGET model is performing its role in higher education. However, the teachers of the University of Education are not familiar with the TARGET term but the components of model: task, autonomy, recognition, grouping, evaluation and time are practicing highly. This fact is supported during study that these practices of TARGET model associated with mastery climate in classroom, whereas, the practices of TARGET model did not connected with ego-climate in higher education. The learning context in University of Education is cooperative because classrooms are learner centered. Hence, due to being studied in student-centered environment students feel relax and experience lower level of anxiety, which result in their better performance. It seems obvious from present study that mastery climate has positive relation wherever the learning environment is student-centered. In sum, the mastery-oriented classroom context in university of Education providing opportunities to students with emphasis on the importance of understanding, an easier learning path, and a more comfortable atmosphere in which they focus on learning rather than on competition.

Recommendations

- Future research may need to consider TARGET structure in more detail in order to identify a model of best practice at higher education level.
- Any future researcher interested may need to utilize larger sample size and some other research designs to explore the TARGET model.
- Institution should arrange training sessions for the teachers to make them aware of the practical use of TARGET model.
- Teacher educators may need to utilize TARGET framework as an instructional strategy to motivate prospective teacher.

References

Ames, C., & Archer, J. (1988). Achievement goals in the classroom: Students' learning strategies and motivational processes. *Journal of Educational Psychology, 80*(3), 260-267. Retrieved from http://www.unco.edu/cebs /psychology/ kevinpugh/ motivation project/resources/ames_archer88.pd

Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology, 84*(3), 261-271. doi:10.1037/0022-0663.84.3.261

Baron, A. R. (1991). Motivation in work settings: Reflections on the core of organizational research. *Motivation and Emotion*, *15*(1)*,* 1-8.doi: 10.1007/BF00991472

Bassy, M. (2002). *Motivation and work-investigation and analysis of motivation factors at work* (Unpublished master's thesis). Linkoping University, Department of Management and Economics, Sweden.

Bogdan, R. C., &Biklen, S. K. (2003). *Qualitative research for education: An introduction to theories and methods*. New York, NY: Pearson.

Cotterall, S. (1995). Developing a course strategy for Learner Autonomy. *ELT Journal, 49*(3), 219-227. Retrieved from http://eltj.oxfordjournals.org

Creswell, J. W. (2005). *Qualitative research design: An interactive approach* (2nd ed.).Thousand Oaks, CA: Sage.

Epstein, J. (1989). Family structures and student motivation: A developmental Perspective. In C. Ames & R. Ames (Eds.), *Research on motivation in education*. (259-295). New York: Academic Press.

Finch, A. (2002). Autonomy: Where are we? Where are we going? (Based on the author's unpublished doctoral dissertation, Hong Kong Polytechnic University. Retrieved from http://www.finchpark.com/arts/autonomy /index.htm

Harackiewicz, J., Barron, K., Pintrich, P., Elliot, A., & Thrash, T. (2002). Revision of achievement goal theory: Necessary and illuminating.

Journal of Educational Psychology, *94*(3), 638–645. doi: 10.1037//0022-0663.94.3.638

Hatch, J. A. (2002). *Doing qualitative research in educational settings.* Albany, NY: State University of New York Press.

Kaplin, A., Martin, L., &. Martin (2007). The contributions and prospects of goal Orientation theory. *EducPsychol Rev Springer Science, 19,* 141-184. doi: 10.1007/s10648-006-9012-5

Mayan, M. J. (2009). *Essentials of qualitative inquiry.* Walnut Creek, CA: Left Coast   Press.

Meece, J., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structure, students' motivation and academic achievement. *Annu. Rev. Psychol, 57,487*–503.   doi: 10.1146/annurev.psych.56.091103.070258

Patrick, H., Anderman, L., Ryan, A., Edelin, K., &Midgley, C. (2001). Teachers' communication of goal orientation in four fifth-grade classrooms. *Elementary School   Journal, 102*(1), 35-58.

Schunk, D. H. (1990). Introduction to the special section on motivation efficacy. *Journal of Educational Psychology*, *82*(1), 3-6.doi.org/ 10.1037/h0092681

Scharle, A. & Szabo, A. (2000). *Learner autonomy: A guide to developing learner responsibility,* Cambridge: Cambridge University Press.   Retrieved   from http://catdir.loc.gov/catdir/samples/cam031/00710233.pdf

Treasure, C. D., & Roberts, C. G. (1995). Application of achievement goal theory to physical education: Implications for enhancing motivation. *National Association for Physical Education in Higher Education, 47*(4), 475-489. Retrieved from http://groups.jyu.fi/sporticus/lahteet/LAHDE_21.pdf

Warren, C. A. (2002). Qualitative Interviewing. In J. F. Gubrium& J. A. Holstein (Eds.), *Handbook of interview research: Context and method*. Thousand Oaks, CA: Sage

Perception about Nature of Science and its Incorporation in Teaching at Secondary Level

WaseemAhmed[*]
RahmatUllah Bhatti[**]

Abstract

The present study was designed to explore the perception of science teachers about nature of Science (NOS) and its incorporation in their teaching. The participants in this study were science teachers teaching at secondary level in Islamabad Model Colleges (IMCs). The frequency of the participants is 120 science teachers, consisting of 60 males and 60 females. The instrument used in the study was the 3-point Likert scale. The statistical tests used were percentage, correlation coefficient and association. The major findings of the study are that the out of five tenets of NOS: tentativeness, empirical, imagination and creativity, subjectivity and theory-laden, and socio-cultural embedded, science teachers appreciate the first three tenets and do not appreciate the rest of two tenets and whatever they perceive, they incorporate as such in their teaching. The recommendations of the study are: the NOS may be considered while constructing the curriculum of science subjects and training courses of science teachers . Moreover ,along with the full continuum of tenets of NOS, the two less appreciated tenets of this study should also be investigated by the researchers of the science education field.

Keywords:nature of science, perception, incorporation, tenets, descriptive research.

[*]PhD Scholar at Department of Science Education, Allama Iqbal Open University, Islamabad. Email: was2emahmed@gmail.com
[**]Assistant Professor, Department of Early Childhood Education & Elementary Teacher Education, Allama Iqbal Open University, Islamabad. Email: rehmat.ullah@aiou.edu.pk

Introduction

Perception may be characterized from physical, physiological, and psychological perspectives. The cognitive dimensions of perception were introduced by Eggen and Kauchak (2001).According to them, perception was qualified as the process through which people attach meaning to experiences. Further they illustrated that when people are exposed to some stimuli in their sensory memories, mental processing continues in accordance with the perception. Perception affects the information that is received by the humans.

Science is a knowledge as well as method. In scientific method ,knowledgeis constructed which explains and predict the phenomenon of real world. (Wilson, 1999). Science educators has identified three structural and functional constituents of science i.e. knowledge, set of methods / processes, and a method to know about physical world .Nature of Science (NOS) is a comprehensive term, described by a set of number of characteristics or tenets(Khalick &Lederman,1998). Among them the following five tenets of NOS were considered for study: science knowledge is reliable as well as tentative, science knowledge is empirical, science knowledge is resulted from human imagination, inference, and creative thinking, science knowledge is subjective and theory-laden, and science is a social activity and culturally embedded.

The above mentioned tenets have been recognized and defined by the researchers of the science education field: tentative (may subject to evolve, as the science knowledge is not to prove, rather it is to falsify);empirical(based on facts);involving human imagination, creativity (putting forward explanations), and inference (distinct from observation), and having strong link with concerned society(Bell&Lederman,2003;Schwartz,Lederman &Crawford,2004;Kang,Scharmann&Noh,2005).

There has been a wide spread theme regarding NOS in science education reforms as an essential aspect of science literacy (American Association for the Advancement of Science (AAAS), 1993; National Research Council (NRC), 1996).Lederman (2007) studied understanding of those teachers who were teaching science regarding NOS. and came up with the following three outcomes: i) science teachers are deficient of ample appreciation of NOS; ii) conception about NOS may be enhanced among science teachers if they integrated either historical aspects of science or they put explicit focus on NOS; and iii) academic background

of science teachers is not appreciably related to appreciation of science teachers concerning NOS.

Akerson, Khalick and Lederman(2000) studied the understanding about NOS among elementary-level science teachers. They concluded that explicit focus on NOS enhanced teachers' conceptions about NOS.

Importance of NOS was also highlighted by Lakin and Wellington(1994) in their study on science teachers .They found that those teachers who are ignorant about NOS could not adopt adequate approaches to address this domains of science. As a result science teaching becomes ineffective .In the views of Luft (2001) and Khalick (2005), role of secondary level science teachers is critical in developing the appreciation of NOS among students .Therefore ,without knowing the perception of science teacher achievement of objectives of science at secondary level is not possible.

Objectives of the Study

This study pivoted aroundthe following two objectives:

- To investigate the perception of the science teachers teaching at secondary level about NOS, i.e. to what extent they appreciate tenets of NOS.
- To find out the relationship of perception of science teachers and their teaching approach, i.e. whether they incorporate NOS in their teaching by sharing tenets of NOS in their classroom.

Methodology

The study was descriptive in nature. Survey questionnaires were used as main tool of the data collection for the study.

Participants

The participants were the science teachers of Islamabad Model Colleges (IMCs) teaching at secondary level.A random sample of 16 IMCs was taken in which there were 8 Islamabad Model Colleges for Boys (IMCBs) and 8 Islamabad Model Colleges for Girls (IMCGs). There were total 120 science teachers: 60 males and 60 females.They teach physics, chemistry and biology at secondary level .

Instrument

To explore appreciation of science teachers and incorporation of NOS in their teaching, following two questionnaires were developed by the researcher :

1. Questionnaire :this questionnaire was developed to explore the perception of science teachers regarding nature of science.
2. Questionnaire: this was developed to find out the teaching approach of science teachers

Both questionnaires were based upon 3-point Likert scale:Disagree (D), Undecided (U), and Agree (A). Each questionnaire consists of five categories of tenets of NOS.Each category further consists of four items pivoted around the same conception regarding that tenet.

Validation and Reliability

The questionnaires were first pilot tested and then sent to a panel of experts of the related field. This procedure helped in improving the validity and reliability of them.

Procedure of Study

Researcher visited IMCsand distributed the questionnaires among science teachers. Later, filled-in questionnaires were collected from a sample of 120 science teachers. Each participant filled two questionnaires: One for appreciation of NOS and the other for incorporation of NOS in their teaching.

Response percentages were calculated for each category of tenets of NOS. The relationship between appreciation and incorporation was determined through correlation coefficient. Further a test for association between gender and appreciation and gender and incorporation was done.

Results

The following five tables have been included that demonstrate the overall findings of the research study.

Table 1

Serial No.	Tenets of NOS	%age

1	Tentative NOS	80
2	Empirical NOS	93
3	Inferential, Imaginative and Creative NOS	81
4	Subjective and Theory based NOS	46
5	Socially and Culturally based NOS	39

Percentages of science teachers' appreciation about each tenet of NOS

Table1demonstratesthe percentages ofappreciation of each tenet of NOS by science teachers. Higher percentages indicate greater understanding of each corresponding tenet of NOS.Science teachers' appreciation towards first three tenets i.e. tentative nature; empirical nature; inferential, imaginative and creative nature of science is high while appreciation towards last two tenetsis low.

Table 2
Percentages of science teachers' incorporation of each tenet of NOS in their teaching

Serial No.	Tenets of NOS	%age
1	Tentative NOS	79
2	Empirical NOS	84
3	Inferential, Imaginative and Creative NOS	72
4	Subjective and Theory based NOS	43
5	Socially and Culturally based NOS	33

Table 2shows the percentages of incorporation of each tenet of NOS by science teachers. Higher percentages indicate greater integration of each corresponding tenet of NOS in their teaching. Science teachers' incorporation of the first three tenets i.e. tentative nature; empirical nature; inferential, imaginative and creative nature of science is high while incorporation towards last two tenets is low.

Table 3
Relationship between Science Teacher's Perception about NOS and its Incorporation in their teaching

Tenet No.	Perception (No. of Science Teachers)	Incorporation (No. of Science Teachers)
1	96	95
2	111	101
3	97	86
4	55	51
5	47	39
r = 0.99		

Table 3highlightsthe perception of science teachers about NOS and its incorporation in their teachingi.e. whether they share whatever they perceive regarding five tenets of NOS in their classroom with the students. The value of correlation coefficient is obtained between perception and incorporation.As the value of coefficient of correlation (=0.99) is near 1 which shows that perception about NOS and its incorporation in teaching are strongly related .

Table 4

Association between gender of Science Teachers and their Perception about NOS

Gender / Perception	Appreciating	Not Appreciating	Undecided	*df*	*α*	χ^2_{tab}	χ^2_{cal}
Male	208	43	49	2	0.05	5.991	1.372
Female	198	42	60				

df = degree of freedom,α= significance level,χ^2_{tab}=tabulated value,χ^2_{cal} = calculated value

Table 4 reveals that is there any association of being male or female and having distinct perception regarding NOS.As The p-value of χ2cal (=1.372) is 0.5036 which is greater than α (α = 0.05), hence gender and perception about NOS has no association .

Table 5

Association between gender of Science Teachers and Incorporation of NOS in their teaching

Gender / Perception	Appreciating	Not Appreciating	Undecided	*df*	*α*	χ^2_{tab}	χ^2_{cal}
Male	189	51	60	2	0.05	5.991	1.280
Female	183	46	71				

df = degree of freedom,α= significance level,χ^2_{tab}=tabulated value, χ^2_{cal} = calculated value

Table 5 discloses that is there any association of being male or female and having distinct incorporation of NOS in their teaching. It is evident from the above table that p-value of χ^2cal (=1.280) is 0.5273 which is greater than α (α = 0.05), therefore it is concluded that there is no association between gender and incorporation.

Results of analysis of data collected from all 120 science teachers about 5 tenets of NOS is as follows. the tentative nature: appreciation (80%), incorporation (79%); the empirical nature: appreciation (93%), incorporation (84%); the inferential, imaginative and creative nature: appreciation (81%), incorporation (72%); the subjective and theory-laden nature: appreciation (46%), incorporation (43%); the socially and culturally-embedded nature: appreciation (39%), incorporation (33%).

Among 60 male science teachers, the tentative nature: appreciation (78%), incorporation (73%); the empirical nature: appreciation (93%), incorporation (83%); the inferential, imaginative and creative nature appreciation (90%), incorporation (80%); the subjective and theory-laden nature: appreciation (45%), incorporation (43%); the socially and culturally-embedded nature: appreciation (40%), incorporation (35%).

Among 60 female science teachers,the tentative nature: appreciation (82%), incorporation (85%); the empirical nature: appreciation (92%), incorporation (85%); the inferential, imaginative and creative nature appreciation (72%), incorporation (63%); the subjective and theory-laden nature: appreciation (47%), incorporation (42%); the socially and culturally-embedded nature: appreciation (38%), incorporation (33%).

A correlation coefficient test was performed, and the result showed a strong relationship between appreciation of NOS and its incorporation in their teaching.Further Chi-Square test of independence was performed with gender and their perception about NOS and Chi-Square test of independence was also performed with gender and incorporation of NOS in their teaching. The results showed that these were statistically independent.Further Chi-Square test revealed that gender and perception of NOS were statistically independent. Similarly, gender and incorporation of NOS in teaching were also statistically independent.

Discussion

Data was analyzed usingSPSS: percentages, correlation coefficient and association statistics is applied on the data. The percentage result show that science teachers have higher percentage of appreciation for first three tenets of NOS and consequently their incorporation of these tenets in their teaching is also higher in percentage. The correlation

coefficient result reveal that appreciation of NOS and incorporation of it in teaching are related with each other.The association result demonstrates that there is no association between gender (being male or female science teacher) and appreciation about NOS.Researchers opined that teachers' understanding and knowledge of NOS affects students understanding and knowledge regarding NOS(Khalick & Lederman, 2000; Khalick, Bell, & Lederman, 1998).

Study of Schwartz and Lederman (2002) is also in line with these results. They investigated the development of understanding about NOS among naive science teachers along with incorporation of their perceptions into classroom practices. The results revealed the depth of NOS appreciation, subject matter understanding, and the perceived association between NOS and science-subject material influenced the teachers' pedagogical ideas of NOS.
.

Recommendations

Five tenets of NOS were investigated; the science teachers were not appreciating all the five tenets fully, so it is recommended that NOSshould be integrated as a part of curriculum and training courses.These tenets of NOS may be more emphasized and illustrated in curriculum and trainings so that these might be more appreciated by the science teachers.Among five tenets of NOS, the two less appreciated tenets should be further explored by the researchers of science education field.

There are a number of tenets identified in the research literatures, out of them five tenets were investigated in this study; it is suggested that the other tenets may also be explored like the difference between observation and inference, the distinct natures of theory and law, or the myth that there is only one way to do science so called scientific method, or whether the scientific knowledge is discovered or invented etc.

References

Abd-El-Khalick, F. (2005). Developing deeper understandings of nature of science: The impact of a philosophy of science course on pre-service science teachers' views and instructional planning. *International Journal of Science Education, 27*(1), 15–42.

Abd-El-Khalick, F., Bell, R., & Lederman, N. (1998). The Nature of Science and Instructional Practice: Making the Unnatural Natural. *Science Education, 82*(4), 417-437.

Abd-El-Khalick, F., & Lederman, N. G. (2000). Improving science teachers' conceptions of the nature of science: A critical review of the literature. *International Journal of Science Education, 22*(7), 665–701.

Akerson, V. L., Abd-El-Khalick, F., & Lederman, N. G. (2000). Influence of a reflective explicit activity-based approach on elementary teachers' conceptions of nature of science. *Journal of Research in Science Teaching, 37*(4), 295–317.

American Association for the Advancement of Science. (1993). *Benchmarks for scientific literacy: A project 2061 report*. New York: Oxford University Press.

Bell, R. L., & Lederman, N. G. (2003). Understanding of the nature of science and decision making on science and technology based issues. *Science Education, 87*(3), 352-377.

Eggen, P., & Kauchak D. (2001). *Educational psychology: Windows on classrooms*. NJ: Prentice Hall, Inc.

Kang, S., Scharmann, L. C., & Noh, T. (2005). Examining students' views on the nature of science: Results from Korean 6th, 8th, and 10th graders. *Science Education, 89*(2), 314-334.

Lederman, N. G. (2007). Nature of science: Past, present, and future. In S. K. Abell & N. G. Lederman, *Handbook of research in science education*. NJ: Erlbaum Publishers.

Lakin, S. & Wellington, J. (1994). 'Who will teach the 'nature of science?': teachers views of science and their implications for

science education', *International Journal of Science Education*, *16*(2), 175-190.

Luft, J. A. (2001). Changing inquiry practices and beliefs: the impact of an inquiry-based professional development programme on beginning and experienced secondary science teachers. *International Journal of Science Education, 23*(5), 517-534.

National Research Council. (1996). *National Science Education Standards*. Washington, DC: National Academic Press.

Schwartz, R. S., & Lederman, N. G. (2002). It's the nature of the beast": The influence of knowledge and intentions on learning and teaching nature of science. *Journal of Research in Science Teaching, 39*(3), 205-236.

Schwartz, R. S., Lederman, N. G., & Crawford, B. S. (2004). Developing views of nature of science in an authentic context: An explicit approach to bridging the gap between nature of science and scientific inquiry. *Science Education, 88*(4), 610–645.

Wilson, E. O. (1999). "The Natural Sciences". *Consilience: The Unity of Knowledge* (Reprint ed.). New York, NY: Vintage.

APPENDICES
APPENDIX-A
QUESTIONNAIRE OF PERCEPTION ABOUT NATURE OF
SCIENCE

Encircle the option; each statement is followed by three choices indicating:

D = Disagree   U = Undecided   A = Agree

Item No.	Item Statement	Options		
	The Tentative Nature of Science			
1	Scientific knowledge is subject to modification in light of new empirical evidence	D	U	A
2	Scientific knowledge is tentative	D	U	A
3	Change in scientific knowledge is unavoidable as new observations may confront the prevailing theories	'''''''''''''' D	U	A
4	Scientific knowledge is absolute	'''''''''''''' D	U	A
	The Empirical Nature of Science			
1	Scientific knowledge is built and/or derived from observation and experimentation	D	U	A
2	Scientific knowledge entails empirical evidence	D	U	A
3	Scientific knowledge can be established without observation and experimentation	D	U	A
4	Scientific knowledge has empirical nature	D	U	A
	The Inferential, Imaginative and Creative Nature of Science			
1	Scientific knowledge is created from human imagination	D	U	A
2	The creation of scientific knowledge is established by inference	D	U	A
3	Imagination and creativity play important role in the development of scientific knowledge	D	U	A
4	Science does not have inferential, imaginative and creative nature	D	U	A
	The Subjective and Theory-laden Nature of Science			
1	Background knowledge influences how scientist view data	D	U	A
2	Scientific investigations are theory driven	D	U	A
3	Scientists' observations are affected by their exposures and perceptions	D	U	A
4	Scientific conclusions made by a scientist are not dependent on his or her perspectives	D	U	A
	The Socially and Culturally embedded Nature of Science			
1	As a social activity, science inevitably manifests social values and point of views	D	U	A

2	The scientific research is directed by the socio-cultural interests	D		U	A
3	Science is driven by prevailing opinions of the socio-cultural setting	D		U	A
4	Science does not have socio-cultural nature and it transcends cultural limitations and boundaries	D		U	A

APPENDIX-B
QUESTIONNAIRE ABOUT TEACHING APPROACH

Encircle the option; each statement is followed by three choices indicating:

D = Disagree   U = Undecided   A = Agree

Item No.	Item Statement	Options		
	The Tentative Nature of Science			
1	I incorporate tentative nature of science in my teaching	,,,,,,,,,,,,,,, D	U	A
2	I assert in my classes that scientific knowledge is tentative rather than absolute	D	U	A
3	I elaborate in my classes that scientific knowledge is subject to modification in light of new empirical evidence	D	U	A
4	I seldom integrate tentativeness of scientific knowledge in my lessons	D	U	A
	The Empirical Nature of Science			
1	I incorporate empirical nature of science in my teaching	D	U	A
2	I emphasize in my classes that scientific knowledge is established and/or derived from observation experimentation	D	U	A
3	I assert in my classes that scientific knowledge entails empirical evidence	D	U	A
4	I rarely integrate empirical nature of scientific knowledge in my lessons	D	U	A
	The Inferential, Imaginative and Creative Nature of Science			
1	I incorporate has inferential, imaginative and creative nature of science in my teaching	D	U	A
2	I discuss in my classes that the creation of scientific knowledge is based on inference	D	U	A
3	I emphasize in my classes that imagination and creativity play important role in the development of scientific knowledge	D	U	A
4	I infrequently integrate inferential, imaginative and creative nature of science in my lessons	D	U	A
	The Subjective and Theory-laden Nature of Science			
1	I incorporate subjective and theory-laden nature of science in my teaching	D	U	A
2	I emphasize in my classes that scientists make observations and interpretationsinfluenced and driven by their exposures and perceptions	D	U	A
3	I discuss with my students that science is directed and shaped by the prevalent scientific notions	D	U	A

4	I scarcely integrate subjective and theory-laden nature of scientific knowledge in my lessons	D	U	A
	The Socially and Culturally embedded Nature of Science			
1	I incorporate socio-cultural embedded nature of science in my teaching	D	U	A
2	I discuss in my classes that being a social activity, science inevitably manifests social values and point of views	D	U	A
3	I share with my students that the scientific research is directed by the socio-cultural interests	D	U	A
4	I barely integrate socio-cultural nature of science in my lessons	D	U	A

Teachers' Job Satisfaction: A Study in Secondary Schools of Bangladesh

Monira Jahan[*]
Md. Meraz Ahmed[**]

Abstract

This study was conducted to assess teachers' job satisfaction in secondary schools of Bangladesh. Secondary school teachers i.e. 314 were selected randomly from purposively selected 6 teacher training centers (TTC) located in 4 different divisions in Bangladesh. This was a survey study within the nature of positivist and constructivist approaches as mix research method was used to generate data of the study. Data on teachers' job satisfaction were collected by using questionnaire and focus group discussion. Brayfield-Rothe job satisfaction scale and Kanungo's job involvement scale were adapted to measure teachers' job satisfaction and job involvement respectively. The findings of the study indicated that most of the teachers were generally satisfied ranging from moderately satisfied to satisfied. Gender, school location, school type, attitude to benefits and job involvement were identified as robust predictors for teachers' job satisfaction. The implications of the findings are also discussed here that can help the policymakers in formulation policy for teachers' satisfaction in Bangladesh.

Keywords: job satisfaction, job involvement, secondary school, teachers.

[*]Professor, Institute of Education and Research, Jagannath University. Email: jahannottingham@yahoo.co.uk
[**]Lecturer, School of Education, Bangladesh Open University. Email: mnmerazmkt@gmail.com

Introduction

Teachers are the backbone of any education system as they build reform and guide a nation. National development of a country largely depends on teachers' performance. The ultimate goal of education could be achieved with a meaningful interaction between the teacher and the taught. Teachers are the role model for the students as they transfer knowledge, values and morality to their students; prepare them for future education and life. They are igniting the inherent talents of the children by their manipulative skills. According to Panda and Mohanty (2003), the teacher is the pivot of any education system and they always play a vital role in molding a student towards education (Chamundeswari, 2013). In fact, teachers are the strength of a nation, since they are the key actors of instructional process and students' cognitive, social and emotional development. Generally, they are the central of teaching-learning activities, where they are considered as creator, keeper and transformer of knowledge.

So, people choose teaching profession considering it is a noble profession and they feel proud taking part in country's national development producing young talents. Ironically, a high turnover rate among the teachers can be found (Schlechty& Vance, 1981; Kirby &Grissmer, 1993) albeit most of the people think it as a noble profession. The reason behind high turnover is probably for people joining in teaching profession sometimes as the last resort, when all of their efforts to get other profession have been failed. Apart from this, teachers are losing their interest to this noble profession for a number of reasons.

Job satisfaction is one of the determinants, which is very important for any field of professions. It is evident that job satisfaction is related to job performance, i.e. teachers, who are satisfied with their job they are more motivated to their job and teach more effectively and efficiently than teachers, who are not satisfied with their teaching profession (Shah, 1995; Indhumathi, 2011; Chamundeswari, 2013; Kumar, 2014). Motivated and satisfied teachers have positive impacts on students' academic performance and as well as school performance. On the other hand, dissatisfied teachers are not productive and committed to their profession and they could not perform at the best level of their abilities.

Thus, the researchers of this study believe that understanding teachers' job satisfaction is an important area of educational research. The chief intention of this study is to explore the phenomena of teachers' job satisfaction. In Bangladesh teachers are playing a very crucial role in achieving the objectives of Bangladesh's vision 2021. Currently

Government of Bangladesh is working for improving the quality of teacher and education. It is expected that this study can identify the factors that are related to teachers' job satisfaction and the findings of the study may help to review educational policy for increasing teacher welfare and improving school performance and teaching quality.

Literature Review

The term job-satisfaction, simply, implies employees feeling to their work, which is interrelated to a number of personal factors, such as- age, sex, education and job-related factors that include payment level, opportunity for advancement, working conditions, etc. According to Zembylas and Papanastasiou (2006), "although there is no available conventional definition of job satisfaction but many scholars have studied it for a long time" (p.230). The most popular definition of job satisfaction is given by Locke (1976). According to Lock "it is a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (Cited in Tasnim, 2006, p.18; see also Latif, Shahid, Sohail, &Shahbaz, 2011, p.235). Spector (1997) defined it as "how people feel about different aspects of their jobs. It is the extent to which people like (satisfaction) or dislike (dissatisfaction) their jobs" (p.2). Mbua (2003) defined it as "the fulfillment acquired by experiencing various job activities and rewards" (p.305). Robbins & Judge (2008) described "it a positive feeling about one's job resulting from an evaluation of its characteristics" (p.20). Over the years it has been considering as one of the most popular interests among scientists, researchers and practitioners (Blood, Ridenour, Thomas, Qualls, & Hammer, 2002; Klassen& Chiu, 2010; Malik, Nawab, Naeem, & Danish, 2010; Platsidou&Agaliotis, 2008; Perrachione, Rosser, & Petersen, 2008).

Job satisfaction is an important construct in employees' emotional and psychological well-being (Klassen, Usher, & Bong, 2010). Like employee of any other organizations teachers are also viewed a specific sample of employees, who work in different operating conditions and experience higher levels of job-related stress (Klassen et al., 2010). They have to maintain various responsibilities in their workplace, for illustration, (a) to build up students through their effective teaching, (b) ensure safety and healthy atmosphere for the students, (c) communicate and collaborate with different stakeholders, i.e. parents, other teachers, specialists and administrators, (d) develop their own skills and knowledge, (e) store students records and documents, (f) organize school

trips and (g) complete a number of other tasks provided by the government and school authority (Comber & Nixon, 2009). All of these responsibilities, in most of the cases, make stress on teachers' daily life, which might have negative impact on their job satisfaction.

Job satisfaction for teachers is defined as "the teacher's affective relation to his or her teaching role and is a function of the perceived relationship between what one wants from teaching and what one perceives it is offering to a teacher" (Zembylas&Papanastasiou, 2006, p.230). A number of factors are associated with teacher job satisfaction. Some of these factors are job appreciation, communication, coworkers, fringe benefits, job conditions, nature of work, organization itself, organizations' policies and procedures, payment, personal growth, promotion opportunities, recognition, security (Spector, 1997) and teacher quality, organizational commitment and performance with reference to scholastic achievement, students' attitude, teacher turnover and executive performance (Mathieu, 1991; Ostroff, 1992). Many researchers have agreed upon that supervision, work itself, promotion and recognition are important dimensions of teachers' satisfaction with work (Rosser, 2005; Sharma &Jyoti, 2009; Tillman & Tillman, 2008). "Teachers relationship with students are largely contributing to their job satisfaction" as stated by Ramatulasamma& Rao (2003, p.71). Tasnim (2006) from her study identified factors, like salary, academic qualification, career prospects, supervision, management, working environment, culture, which have robust effect on job satisfaction. She found that both the male and female teachers were dissatisfied with their job but females were more dissatisfied than their counter part. Gupta (1988) investigated to explore the correlates of effectiveness and ineffectiveness of teachers teaching. He identified job satisfaction and financial support as influential factors for effective teaching. Reviewing the literature of job satisfaction, the researchers of the current study have taken an effort to identity the indicators of teachers' job satisfaction since a negligible number of studies can be found on teacher job satisfaction in Bangladesh.

Objectives

The general objective of this study is to examine job satisfaction of teachers working in secondary schools of Bangladesh. To address the general objectives following specific objectives are considered. The objectives are to:

1. Investigate the level of job satisfaction among teachers of secondary schools in Bangladesh.
2. Explore the reasons behind teachers' job satisfaction or dissatisfaction.
3. Examine the association between teacher's job satisfaction and pre-determined factors, such as- age, gender, marital status, academic and professional qualifications, monthly income, job location, job position, job experience, school type and nature of job.
4. Determine the relationship between teachers' job satisfaction with job involvement and job benefits.
5. Look into the initiatives to increase teachers' job satisfaction.

Methodology

Research Design

Mixed research approach was used in the current study to generate quantitative and qualitative information. The intention of using mixed method was basically to generate more depth information from the key informants. Thus, a survey research method was used by collecting data through questionnaire and focus group discussion. Use of qualitative research methods, as the researchers of the current study believe, allowed the respondents in the sample to articulate their attitudes, perceptions, feelings and beliefs in a much more explanatory way than quantitative data.

Population and Sample of the study

The population of this study was teachers who are working in secondary schools of Bangladesh as a whole. The total population of secondary school teachers is 20297 (Bangladesh Education Statistics, 2015) in Bangladesh. Initially, 400 secondary school teachers, 1.97% of total population, were chosen for the sample of this study. It is important to note that 86 teacher participants were excluded from the sample since they returned incomplete questionnaires. Finally, 314 teachers as shown in table 1 constituted the sample of the study. Comparing total population, we can't strongly say it is a representative sample. The sample size 314 is quite large, so it can be considered as representative sample and it can be acceptable when the study is carried out with researchers' own finance. The teachers in the sample were chosen at

random from different teacher training centers. We considered teacher training centers rather than schools for a number of reasons, such as-it helped us to: select expected number of teachers within a short period of time, avoid logistic supports, save time and money and conduct focused group discussion (FGD) with less struggle. Eight FGD were conducted to generate depth information about teachers' job satisfaction. 56 participants took part in eight FGD, where seven teacher participants comprised a group for each of the FGD sessions. The researchers conducted the FGD sessions in different training centers after getting participants consents.

Table 1
Research Tools and Sample Size

Research Tools	Sample Size
Questionnaire survey	258
Focus group discussion (FGD)	56 (8x7)
Total	314

Research Setting

The teachers in the sample of this study were employees of secondary schools in Bangladesh. The research location was 6 teacher training centers (i.e. Dhaka, Rajshahi, Rangpur, Pabna and Barisal teacher training centers; and Bangladesh Madrasha teachers' training institute) chosen purposively from 4 different divisions in Bangladesh out of eight. The selected divisions were Dhaka, Rangpur, Rajshahi and Barisal. Thus, 314 teachers in the sample were from 170 schools located in different urban and rural areas of 42 districts.

Data Collection Instruments and procedure

A pilot study was carried out in a small group of teachers (N=10) before generating the actual data of the study. The pilot study helped to assess the reliability and validity of the research tools and observe the trend of teachers' opinions. The researchers then finalized the survey and FGD questionnaires editing and correcting the research tools based on the participants' valuable comments. Brayfield and Rothe (1951) scale was employed to measure job satisfaction and job involvement scale developed by Kanungo (1982) was used to measure teachers' level of job involvement. Reliabilities of the scales were measured to assess their usability. The reliabilities were found to be 0.90 and 0.89 for Brayfield-

Rothe scale and Kanungo scale respectively. Finally, self-completion survey questionnaire, focus group discussion (FGD) questionnaire, job satisfaction scale and job involvement scale were manipulated to generate actual information from the key respondents of the study. Using a questionnaire format of data collection instrument enabled the teachers to feel more at ease and honest in providing feedback. The questionnaire contained two different natures of questions, for illustration, structured questions and open-ended question. Quantitative data was generated using structured questions, whilst open ended questions helped to provide qualitative or more depth information about teachers' job. For FGD, a list of pre-determined job satisfaction related questions was asked to the teacher participants, keeping in mind that an interview is a social and interpersonal encounter that may prompt further questions and/or discussion (Cohen, Manion, & Morrison, 2011).

Results

Once all of the respondents' questionnaires were returned, each questionnaire was assigned a number to identify them easily. Then, the researchers interpreted the answers provided by the respondents in relation to the specifics of each question. For data analysis procedure the study focused on a mixed method approach as both of the analytical techniques, i.e. qualitative and quantitative was used in this study. The quantitative data was analyzed using Statistical Package for Social Science that includes descriptive statistics like graphical presentation, simple frequency counting along with percentages, mean, standard deviation, and correlation. For qualitative data any common trends and factors were identified and respondents' opinions were presented in a narration form. The use of mixed method helped the researchers for in-depth interpretation of data and triangulation of research outcome generated from two different research approaches.

Ethical Issues and consent of the respondents

Ethical aspect is a big issue for any social research. The researchers maintained this point strictly and carefully. At the beginning of the field work we asked for permission from the teacher training center authorities and teachers to conduct the survey. Confidentiality was assured throughout the duration of and upon completion of the study. For all participants in the study, participation was voluntary and all those involved in the study were assured that they could withdraw from the

research at any time. Measures were taken throughout the research to maintain the anonymity of the teachers' participating in the study.

Salient Findings of the Study

In order to assess teachers' satisfaction two different types of data were collected, analyzed and interpreted. Salient findings derived from the study are presented and interpreted in the following section.

Level of job satisfaction

Teachers' job satisfaction is measured by Brayfield-Rothe (1951) scale. Figure 1 represents the findings of teachers' job satisfaction level. Looking at figure1, it is found that greater percentage of teachers in the sample are satisfied with their job ranging from moderately satisfied (36%) to satisfied (33.4%).15.5 % teachers opine that they are highly satisfied, whilst a negligible percentage of teachers' job satisfaction level is between from very low (3.8%) to low (11.4%).
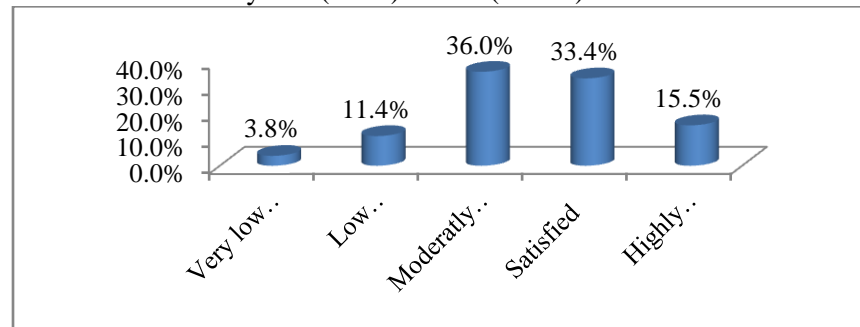

Figure 1: Teachers' Level of Job Satisfaction

In open ended part of the questionnaire, teachers in the sample were also asked overall how much they were satisfied with their job. The findings as shown in the following table 2 indicates that 52.5 % teachers are moderately satisfied and 35.3% are satisfied with their job, which are similar to the findings achieved from the Brayfield-Rothe (BR) scale though the variations in percentages differ largely, i.e. 36% were moderately satisfied as indicated in BR scale and 52.5% were found in qualitative part of the questionnaire. In BR scale 33.4% indicates that they are satisfied and 35.3% in the questionnaire. As a whole, as it is depicted from the findings, teachers are generally satisfied with their profession ranging from moderately satisfied to satisfy and the findings

are in line with other research findings. For illustration, Wangai (2012) found from his findings that teachers are generally satisfied with their job, whereas Abushaira (2012), Arathy and Pillai (2015) found that teachers are moderately satisfied with their job.

Table 2
Teachers' satisfaction level

Level of satisfaction	Highly Satisfied	Satisfied	Moderately satisfied	Low satisfaction	Very low satisfaction	Total
N (%)	12 (4.7)	91 (35.3)	135 (52.5)	11 (4.1)	4 (1.6)	253 (298.1)

Note: missing case were 5

Linking with the previous question, in open ended part of the questionnaire teachers were also asked to describe why they were satisfied with their job. The same questions were also asked the teachers, who participated in FGD sessions. Analyzing their views the following common factors were identified as the main reasons of their satisfaction.

- School location is near to my residence,
- Freedom of job,
- Good working condition,
- Skilled and caring attitude of the school managing committee,
- Enjoy teaching and like to spend time with students, and
- School's good image.

Teachers' voices derived from FGDs to explore the reasons of their satisfaction are given below, which in fact, reflected the above factors.

"I am happy to teach students. It brings honour for me. Apart from this, school's surrounding environment is job friendly. School administrators, staff and my colleagues are very co-operative and friendly. They honor me and evaluate my performance positively." (Assistant head teacher, urban school)

"I am satisfied with my job because I can practice and share my knowledge here. I can serve for my country and I can expose myself in my job area. People of my area respect me and they give importance to me. They come to me for suggestion whenever they face any critical times that really makes me proud." (Assistant teacher, rural area)

"My school work environment is friendly for female teachers. Teachers' interaction and behavior of school management committee

(SMC) are co-operative and friendly. So, I am satisfied with my job." (Female Assistant teacher)

Analyzing open ended part of the questionnaire, it is gleaned out that very few numbers of teachers (20.2%) in the sample reports in that they are not satisfied with their job. They were asked to identify the reasons that made them less satisfied and the same question was presented to the teacher participants, who were taken part in FGD sessions. The robust factors related to job dissatisfaction distinguished analyzing the questionnaire and FGD, are shown as follows.

- Low salary level,
- Do not include in school's MPO system,
- Unfair promotion policy,
- Schools are situated in remote rural areas,
- Unfair attitude and behavior of SMC,
- Job stress and work (i.e. class) load, and
- Inadequate number of teachers.

Regarding less satisfaction or dissatisfaction voices of some teachers' obtained from FGDs are given below, which are very similar to the points as mentioned above.

"I am not happy at all with my salary. I think they pay me less according to my workload." (Assistant teacher, urban school)

"I am working in a rural school. I work hard and follow all instructions of head teacher but I do not get proper evaluation of my work from head teacher and school management committee (SMC) as well. In spite of this, I have been waiting for long time to include me in MPO system. I think school's MPO system is making discrimination among teachers." (Assistant teacher, rural school)

"We have honor but government do not evaluate us according to our performance. I usually spend my school hours under tremendous work load than others teacher, who are enjoying school's MPO system. They pay me less but assign more classes on me as I am not included in MPO system. All of these make me less satisfied with my job than others." (Assistant teacher, urban school)

Relationship between job satisfaction and variables related to teacher background factors, job involvement, job benefits and school management

It is believed that job satisfaction is correlated to a number of predictors at individual and organization levels. Pearson product moment

correlation was used to determine relationships between job satisfaction and factors considered in the study. Only significant findings are presented in table 3. Though weak but significant associations are found for variables teacher gender, school location, school type, job involvement and teachers' attitude to benefits they obtained from their organizations. Positively significant relation (0.218) is found between teacher job satisfaction and gender implying that male teachers are more satisfied than their counterpart, i.e. female teachers, which is line with the findings of other researchers (Sapiro& Stern, 1975).

Looking at table 3, it was found that teacher job satisfaction is negatively correlated (-0.241) with variable school location indicating teachers working in rural schools were less satisfied than teachers of urban schools. Similar findings were observed from the findings of other researchers (Tasnim, 2006; Arnold, Seekins, & Nelson, 1997, and Haughey& Murphy, 1984). One of the determinants of job satisfaction is nature or type of job (Schwartz, Jenusaitis, &Strak, 1963). It can be gleaned out for variable job type that teachers of government schools are more satisfied than teachers of non-government schools, which is line with the findings found by Serrano and Vieira (2005); Gupta and Gehlawat (2013); Arathy and Pillai (2015); Bakhshi, Sharma, Kumar, and Sharma (2008), Khalid, Irshad and Mahmood (2012).

Job involvement is an important factor for job satisfaction. It is evident that there is an association between the two concepts (Wendong, et al., 2008; Haque, 1995) that is employees like to be more motivated or involved in their job, when they are satisfied with their job. Focusing on this point an association between teacher job satisfaction and job involvement was calculated. Significant and a weak negative correlation (-0.128) between job satisfaction and job involvement revealed that teachers are less involve in their job, when they were not that much satisfied with their job. In case of teachers attitude to job benefits, positive correlation (.391) implies that if teachers' salary and other job benefits are at expected level then they are more satisfied, which is in line with the findings of Latif *et al.* (2011); Page & Page (1982); Giacometti (2005). Strong and positive correlation (0.458) was identified school management system as a robust factor for teacher job satisfaction in this study. School management factor includes items in this study good level of supervision, management principles, teachers' participation in management system, communication between teachers and school authority, which have significant impact on job satisfaction (Vroom, 1964).

Table 3
Correlation value(r) by teacher job satisfaction and variables related to teachers' gender, school location, school type, job involvement, job benefits and school management.

Variables	Correlation value (r)	Total (N)	Significant	p
Gender	.218**	257	.000	.01
School location	-.241**	257	.000	.01
School type	.184**	257	.003	.01
Job involvement	-.128*	238	.049	.05
Job benefits	.391	252	.000	.01
School management	.458	251	.000	.01

Steps need to be taken to increase teachers' satisfaction

Teachers were asked to provide opinions what steps should be taken for their development that can increase their satisfaction and motivation to their job. Analyzing opinions collected from open ended part of the questionnaire and FGD, a number of suggestions were derived. Suggestions are presented below.

- Take initiative for nationalization of all schools,
- Include all teachers in school's MPO system and remove bureaucratic complexity for paying Monthly Payment Order (MPO) and other benefits. Teachers' salary & others monetary benefits must be increased,
- Create opportunity for CPD (continuous professional development) training for all teachers,
- Schools must have skilled & fair managing committee. They (School Managing Committee) should practice fair promotion policy and promote teachers according to qualifications, experience and performance. Teachers' performance, skill and qualifications should be fairly evaluated,
- Initiatives need to be taken to develop school infrastructure that include toilet, clean school premises, pure drinking water and provide game equipment and opportunity for students' extracurricular activities. Teachers in the sample believe that school's good infrastructure and environment, in some extent, related to their satisfaction,

- Recruit subject wise skilled teachers and for effective teaching teachers work load (i.e. class) must be decreased. For effective teaching teacher-student ratio must be within 1:40,
- Introduce retirement benefit, pension for private teachers and remove discrimination between the private and government teachers in term of payment, status and other benefits. Priority should be given to increase teachers' safety and job security, and
- School management system should be positive and friendly for teachers. Good communication and management principles need to be introduced, so that teachers can communicate with their authority without any struggle.

It is clear from the findings of the study that initiatives for nationalization of the schools, increase salary and other benefits, reduce bureaucratic complexity of Monthly Pay Order (MPO), opportunity for CPD training, infrastructure development, fair promotion policy, recruit subject base skilled teachers, reduce class load and teacher-students ratio were identified as the focal factors, which can contribute to increase teachers' job satisfaction. It is believed that if teachers are satisfied with their job and work environment then they can pay their attention and full effort for effective teaching, which ultimately helps to increase school performance.

Limitations of the Study

- The scope of this study was limited to only 314 teachers from 170 schools of 42 districts of Bangladesh. It did not encapsulate the whole picture of secondary schools of Bangladesh, since secondary schools located in other districts and rural areas were not investigated.
- Using a survey approach was another limitation of this study. Questionnaires and FGD (Focus Group Discussion) were used to generate data. Other methods, for example, case study, in depth face to face interview can be used to explore teacher' opinions about their job satisfaction.
- Sometimes teachers in the sample were not co-operative and to generate information from them was a matter of time. Many of them did not like to spend their valuable time to fill out the questionnaire. Most hard part of the study was to arrange FGD sessions. Researchers of this study had to knock the selected teacher groups

several times for FGD, which can be compared to a test of patience for the researchers. The researcher did not get any fund for the study. So, they carried out the study from their own finance source. From this point, time and money were a big strain for the researchers. However, researchers tried to generate information from the target group overcoming all of these limitations.

Policy Recommendations

Findings of the study indicate that most of the teachers are generally satisfied with their job. A number of areas are identified that are important for teachers'job satisfaction and welfare. The findings of the study have policy implications, which can help the educational policy maker in formulation policy for teacher betterment of life and satisfaction. The policy implications of this study are described as follows.

- As the participants in the study believe that they are involved in an honorable job and serving for the country, so they are largely happy with their job, where money is not a main motivator (Cardona, 1996). They suggested that education authority should take initiatives for nationalization of all secondary schools, which can increase their job security and job satisfaction as both of the predictors have enormous impact on their teaching quality. So, the policy makers should give priority on this focal point, while making policy for the teachers.
- Monthly salary and other monetary benefits are considered as good incentive for increasing employees' motivation and involve to their job. The education authority should formulate policy that must include honorable remuneration, health, safety and security, insurance, retirement and pension benefits, which need to be justified according to the job responsibility and designation of the teachers. As a consequent, they will be remained satisfy and happy with their job. In spite of these, initiative needs to be taken to include all teachers in school's MPO system and remove all bureaucratic complexity related to teachers' Monthly Payment Order (MPO) and other monetary benefits.
- School authority should recruit subject wise skilled teachers and create opportunity for CPD (continuous professional development) training for the teachers, which can increase their self-confidence

and teaching quality, which might have impact on their job satisfaction.

- Teachers' performance, skill and qualifications should be fairly evaluated and there should be a fair promotion policy at school level and also government level. As a result, teachers can be promoted easily according to their academic qualifications, experience and performance. In order to ensure fair promotion policy, there is a need of skilled and fair school management committee (SMC). Teachers in the sample think that if they get their promotion in due time that certainly will help to increase their satisfaction and job involvement. Eventually, these two factors can help to boost up teachers' motivation and teaching quality.

- Teacher efficiency and satisfaction are associated with good working conditions and management system. School infrastructure is one of the conditions that should get most priority. For this purpose, school authority should pay their attention for the development of school infrastructure that includes toilet, clean school premises and pure drinking water. School authority should provide game instrument and opportunity for students' extracurricular activities. School authority should maintain good communication with teachers and practice effective management principles for the betterment of teachers. It is expected, such initiatives can make teachers more effective and teachers can perform their duty diligently and efficiently.

- For quality education, teacher-student ratio must be brought down in ratio of 1:40 and teachers' work load must be reduced appointing more skilled and trained teachers.

Apart from the above said implications, there is also a need to improve the level of job satisfaction and attitude towards teaching of the teachers by taking policy by the government for non-government teachers' salary structure, retirement and pension. Female teachers and teachers with rural background should provide more access to the changing scenario in the field of knowledge. Consequently, they can be more knowledgeable and apply their knowledge into instructional practice.

Conclusions

Satisfaction is a vital issue for the employee of any organization. Unless an employee is satisfied with their job, it is very difficult to

continue their duties honestly and efficiently. Job satisfaction is related with specific factors, for example, individual personal attributes, liking-disliking, salary, service conditions, recognition of their performance and skill, opportunities and so on. These factors are also important for teachers' satisfaction in similar manner. Focusing on this point, the current study intends to assess job satisfaction of secondary schoolteachers in Bangladesh. The salient findings derived from the study depicts that most of the teachers are generally satisfied with their job and the range of satisfaction level is from moderately satisfied to satisfy. Factors like gender, school location, school type (i.e. government, non- government with MPO system and non-government without MPO system), job involvement, teacher job benefits and school management are identified as robust factors, which are within the realm of education policy and associated with teacher satisfaction. If teachers are satisfied with their job they can teach effectively, which certainly has positive impact on students' academic attainments and school's overall performance. Moreover, satisfaction to job can make them more motivated to perform their duties sincerely and will increase their involvement in their job. These findings of the study are important for concerned authorities of education sector i.e. school SMC (Schools Management Committee), policy makers and education ministry because this information can help them to take appropriate measures improving teachers' job satisfaction by keeping uniformity in terms of salary and benefits, working conditions, workload, perquisites, promotion policy, transport facility and residence opportunity in the school compound etc. Such initiatives are important for the betterment of teacher life and effective teaching, who are real engineer of building our nation. Finally, it could be said that this study identified some aspects of teachers' job satisfaction. Further study, therefore, is recommended to identify other aspects of job satisfaction that might be useful for providing important guidelines for education policy and further research on job satisfaction.

References

Abushaira, M. (2012). Job satisfaction among special education teachers in Jordan. *International Interdisciplinary Journal of Education*, *1*(3), 48-56.

Arathy. C., & Pillai, B. V. (2015). An evaluation of job satisfaction among the teachers in government and private higher secondary schools in Kerala**.** *International Journal of Management and Social Science Research Review*, *1*(11), 194-197.

Arnold, N. L., Seekins, T., & Nelson, R. E. (1997). A comparison of vocational rehabilitation counselors: Rural and urban differences. *Rehabilitation Counseling Bulletin, 41*(1),2-14.

Bakhshi, A., Sharma, S., Kumar, K., & Sharma, A. (2008). Job satisfaction as predictor of life satisfaction: A study on lecturers in government & private colleges in Jammu. *Prachi Psycho-Cultural Research Association, 24*(2). Retrieved from http://ssrn.com/abstract=1408641.Access Date: 24 October, 2017.

Bangladesh Education Statistics (2015). Bangladesh Bureau of Educational Information and Statistics (BANBEIS), 2016. *BANBEIS Publication No. 440*.

Blood, G. W., Ridenour, J. S., Thomas, E. A., Qualls, C. D., & Hammer, C. S. (2002). Predicting job satisfaction among speech-language pathologists working in public schools. *Language, Speech, and Hearing Services in Schools*, *33*(4),282-290.

Brayfield, A. H., &Rothe, H. F. (1951). An index of job satisfaction. *Journal of Applied Psychology, 35*(5), 307-311.

Cardona, M. M. (1996). Job satisfaction not due to cash. *Pensions & Investments*, *24,* 9-18.

Chamundeswari, S. (2013). Job satisfaction and performance of school teachers. *International Journal of Academic Research in Business and Social Sciences*, *3*(5), 420-428.

Cohen, L. Manion, L., & Morrison, K. (2011). *Research methods in education* (7th ed.). London: Routledge Falmer.

Comber, B., & Nixon, H. (2009). Teachers' work and pedagogy in an area of accountability. *Discourse: Studies in the Cultural Politics of Education*, *30*(3), 333-345.

Giacometti, K. S. M. (2005). Factors affecting job satisfaction and retention of beginning teachers. Doctor of Education thesis. Faculty of the Virginia Polytechnic Institute and State University, Virginia. Retrieved from https://vtechworks.lib.vt.edu/bitstream/handle/10919/29595/final.pdf ?sequence=1.

Gupta, B. D. (1988). Intelligence, adjustment and personality needs of effective teachers in Science and Arts. Ph.D. Thesis, Department of Education, University of Agra, India.

Gupta, M. &Gehlawat, M. (2013). Job satisfaction and work motivation of secondary school teachers in relation to some demographic variables: A comparative study. E*ducationia Confab*, *2* (1), 10-19.

Haque, S. M. (1995). Job satisfaction and job involvement of mid-level industrial managers. *Dhaka University Journal of Psychology*, *19*(1), 33-42.

Haughey, M. L. & Murphy, P. J. (1984). Are rural teachers satisfied with the quality of their work life? *Education, 104* (1), 56-66.

Indhumathi, S. (2011). *Job satisfaction, occupational and organizational commitment and performance of teachers at the secondary level.*M.Ed. Thesis, Tamilnadu Teachers Education University, Chennai.

Kanungo, R. N. (1982). Measurement of job work involvement, *Journal of Applied Psychology*, *67*(3), 341-349.

Khalid, S., Irshad, M. Z., & Mahmood, B. (2012). Job satisfaction among academic staff: A comparative analysis between public and private sector universities of Punjab, Pakistan. *International Journal of Business & Management*, *7*(1), 126-136.

Kirby, S. N., &Grissmer, D. W. (1993). *Teacher attrition: Theory, evidence, and suggested policy options*. Rand, Santa Monica, CA.

Klassen, R. M., & Chiu, M. M. (2010). Effects on teachers' self-efficacy and job satisfaction: Teacher gender, years of experience, and job stress. *Journal of Educational Psychology*, *102*(3), 741-756.

Klassen, R. M., Usher, E. L., & Bong, M. (2010). Teachers' collective efficacy, job satisfaction, and job stress in cross-cultural context. *The Journal of Experimental Education*, *78*(4), 464-486.

Kumar, P. (2014). A study of job satisfaction of B.Ed. trained teachers working at primary schools in Saharanpur District. *Journal of Indian Research*, *2*(1), 141-145.

Latif, K., Shahid, M. N., Sohail, N., &Shahbaz, M. (2011). Job satisfaction among public and private college teachers of district Faisalabad, Pakistan: A comparative analysis. *Interdisciplinary Journal of Contemporary Research in Business*, *3*(8), 235-242.

Malik, M. E., Nawab, S., Naeem, B., & Danish, R. Q. (2010). Job satisfaction and organizational commitment of university teachers in public sector of Pakistan. *International Journal of Business and Management*, *5*(6), 17-26.

Mathieu, J. E. (1991). A cross-level non -recursive model of the antecedents of organizational commitment and satisfaction. *Journal of Applied Psychology, 76*(5), 607–618.

Mbua, F. N. (2003). *Educational administration: Theory and practice*. Limbe, South West Province, Cameroon: Design House.

Ostroff, C. (1992).The relationship between satisfaction, attitudes, and performance: An organizational level analysis. *Journal of Applied Psychology*, *77*(6), 963-974.

Page, F. M. J., & Page, J. A. (1982). Perceptions of teaching that may be influencing the current shortage of teachers. *College Student Journal*, *16*(4), 308-311.

Panda, B. N., &Mohanty, R. C. (2003). *How to become a competent teacher*. New Delhi, India.

Perrachione, B. A., Rosser, V. J., & Petersen, G. J. (2008). Why do they stay? Elementary teachers' perceptions of Job satisfaction and retention. *The Professional Educator*, *32*(2), 1-17.

Platsidou, M., &Agaliotis, I. (2008). Burnout, job satisfaction and instructional assignment-related sources of stress in Greek special education teachers. *International Journal of Disability, Development and Education*, *55*(1), 61-76.

Ramatulasamma, K., & Rao, B. D. (2003). *Job satisfaction of teacher educators*. India: Discovery Publishing House.

Robbins, S. P., & Judge, T. A. (2008). *Essentials of organizational behavior*. New Jersey: Pearson Education.

Rosser, V. J. (2005). Measuring the change in faculty perceptions over time: An examination of their work life and satisfaction. *Research in Higher Education*. *46*(1), 81-107.

Sapiro, H. J., & Stern, L. W. (1975). Job satisfaction: male and female, professional and non-professional workers, *Personnel Journal*, *54*(7), 388-407.

Schlechty P. C., & Vance, V. (1981). Do academically able teachers leave education, NC case. *Phi Delta Kappan*, *63*(2), 106-112.

Schwartz, M. M., Jenusaitis, E., &Strak, H. (1963). Motivational factors among supervisors in the utility industry. *Personnel Psychology*, *16*(1), 45-53.

Serrano, L. D. & Vieira, J. A. C. (2005). Low pay, higher pay and job satisfaction within the European Union: Empirical evidence from fourteen countries, *Discussion Paper No. 1558,* IZA. Retrieved from, http://ftp.iza.org/dp1558.pdf.

Shah, B. (1995). *Determinants of teacher's effectiveness*. Rohilkhand University, Bareilly.

Sharma, R. D. &Jyoti, J. (2009). Job satisfaction of university teachers: An empirical study. *Journal of Services Research*, *9*(2), 51-80.

Spector, P. E. (1997). *Job satisfaction: Application, assessment, causes and consequences*. California: Sage Publications.

Tasnim, S. (2006). *Job satisfaction among female teachers: A study on primary schools in Bangladesh.*Unpublished M.Phil. dissertation,

University of Bergen, Norway. Retrieved from http://bora.uib.no/handle/1956/1474.

Tillman, J. & Tillman, W. (2008). A study of job satisfaction among teachers. *Academy of Educational Leadership Journal*, *12*(3), 1-19.

Vroom, V. H. (1964). *Work and motivation*. John Wiley, New York.

Wangai, M. M. (2012). Factors affecting job satisfaction among secondary school teachers of Mwatate district, *Kenya*. Project paper presented as a partial fulfillment for the requirement of the award of certificate in senior management course, GTI EMBU, Kenya. Retrieved from https://profiles.uonbi.ac.ke/mwareriwangai/files/project_smc__2120 12_final.pdf.

Wendong, L., Kan, S., Dan, H., Jinying, Z., Jianchun, L., &Jianping, X. (2008). Effect of job satisfaction, affective commitment and job involvement on job skill ratings. *Frontiers of Business Research in China*, *2*(1), 137-154.

Zembylas, M., &Papanastasiou, E. (2006). Sources of job satisfaction and dissatisfaction in Cyprus. *British Association for International and Comparative Education. 36* (2), 229-247.