



A COMPARATIVE STUDY OF SCHOOL TEACHERS' CONCEPTIONS & PRACTICES OF CLASS ROOM ASSESSMENT

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Abstract- Exploration of how teachers perceive and arrange assessment events has always been a worthwhile entity for educationists. This phenomena has gained attention of the researchers in the last few decades focusing teachers' conceptions concerning various educational variables such as classroom teaching, learning and assessment etc. Teachers' conceptions and practices of classroom assessment were investigated in the present study through COA (Conceptions of Assessment) III abridged survey developed by Brown (2002), and API (Assessment Practices Inventory) initially developed by Mcmillan, Myran and Workman (2002), and modified by Brown (2009). The study targeted school teachers teaching to elementary and secondary level classes. It was found in the study that teachers held strong agreement towards conceptions of assessment encompassing improvement, school and students accountability as a purpose of classroom assessment. However, they showed strong disagreement towards assessment as irrelevant conception of assessment. The study found significant differences of teachers' held conceptions and their reported classroom assessment practices both at educational level being elementary and secondary. The teachers of secondary classes were found to be dominant in the use of formal assessment practices while measuring surface level cognitive processing among the students whereas elementary level school teachers were significantly higher in the use of informal assessments following deep cognitive processing among students. Recommendations for the stakeholders such as policy making and school education authorities are given.

Key words: Teachers' Conceptions of Assessment; Assessment Practices; Elementary level; secondary level

I. INTRODUCTION

Actions performed by people reflect their inner ideas and conceptions. Conceptions are developed as a result of learned values set by the society. The conceptions about an event or phenomena may include beliefs, meanings, concepts and preferences (Thompson, 1992). These are defined as "the ability to form or understand mental concepts and abstractions" (Farlex, 2013). Theoretical explanations of teachers' experiences during teaching learning process that lie behind their inner ideas are shown through their conceptions (Pratt, 1992). According to Brown (2012), the conceptions are shown through language and describe the full understanding of the phenomenon. Conceptions are generally developed and communicated by the society. All conceptions are purposefully developed. A number of studies have shown the difference between held assumptions of teaching and the conceptions of learning. These differences are important to be explored as it affects the outcomes related to teaching and learning for teachers as well as for learners (Lewis & Gillan, 2004). Kagan (2010), defined teachers' beliefs as held expectations about student, content and teaching learning process. Pratt, (2001) investigated approximately 2000 teachers and found differences of beliefs among different teaching communities. These beliefs develop teachers' conceptions towards their professional activities.

As a professional, teachers perform different actions as their duties of teaching and assessment. The way in which teachers perform these activities show their inner concepts of teaching. The typical examples of teachers' beliefs are considered as being teachers' conceptions of teaching. The researchers' interest in exploring teachers' conceptions is about investigating their held beliefs for different segments of teaching (teaching methods, content, curriculum and assessment). Assessment of students' performance is one of the critical aspects of teachers' responsibilities. It affects almost all activities of a teacher (Mertler, 2003). The

studies exploring teachers' conceptions of assessment are of great concern as they revealed that conceptions of teachers have great impact on their teaching approaches, learning of pupils and assessment of learning (Asch, 1976; Calderhead, 1996; Clark & Peterson, 1986; Pajarees, 1992; Tittle, 1994; Thompson, 1992 as cited in Brown, 2003). Due to the direct linkage of their beliefs to teaching and assessment practices, its exploration is considered to be a vital entity (Azis, 2012).

In order to know the way teachers perceive assessment, Brown (2003), developed a model of teachers' conceptions of assessment. This model was based on repeated studies conducted through qualitative and quantitative modes at primary and secondary level. The model developed focused four different aspects that relate to assessment which are interacting to each other (i.e., improvement, irrelevance, school accountability, student accountability). These aspects are called conceptions which are based on purposes for which assessment is conducted in the classroom. It was found that possession of these varied conceptions among teachers lead to different types of assessment practices in classroom.

Teachers' conceptions about assessment can be categorized into four segments naming (a) assessment improves teaching and learning, (b) assessment makes students accountable for learning, (c) assessment makes schools and teachers accountable and (d) assessment is irrelevant for students (Brown, 2002; Heaton, 1975; Torrance & Pryor, 1998; Warren & Nisbet, 1999; Webb, 1992 as cited in Brown, 2005). The objectives and intention of having assessment develops teacher's perception about assessment (Brown, 2012). These conceptions were found to be mutually related.

Teachers' conceptions of assessment can be approached through exploration of their agreement or disagreement with four purposes of assessment naming; (a) improvement of teaching and learning, (b) school accountability, (c) student accountability, or (d) treating assessment as irrelevant (Brown, 2004). The attention towards teachers' conceptions of assessment is a sign of their self-regulation of assessment beliefs and practices (Brown, 2002). Teachers' teaching practices are influenced by their hidden concepts and lead towards variation of performed actions in reality. Teachers were found to be agreed that assessment may influence their teaching and student learning with significant improvement (Brown, 2003). A qualitative study conducted by Jane (2012), found that teachers recognized assessment as a purposeful activity; however, these purposes may vary with regard to the pre-defined objective about students learning and assessment, and affects classroom assessment practices as well.

These practices of assessment are influenced by a number of factors. Qualification of the teacher leads to varied level of authentic assessment practices in classroom (Brown & Michaelides, 2010). The highly educated (postgraduate levels) teachers scored significantly higher on the importance of reliable assessments than teachers with graduate degrees (Sarah, 2010). A variety of forces within the institution influence the teachers' conceptions of assessment including obedience, time management, policy clarification and execution, over workload, paperwork and nature of official support and training (Jane, 2012). According to Leon & Tang (2009) the major conception held by teachers regarding students' performance appeared through the administration of tests and exams related activities. Therefore, it resulted in misconceptions concerning the use of formative assessment practices to provide constructive feedback to the students through questioning and discussing achievement standards.

Brown and Deneen (2011), Bonner & Chen (2009) and Green (1998) found a wide gap between understandings of assessment among English and non-English speaking countries. It was supposed that the culture in different areas may develop dissimilar conceptions and practices of assessment. Culture works as an important factor in the development of teachers' beliefs and objections regarding generalizations of teacher belief studies (Sang et al., 2012). Teachers' beliefs are perceived broadly as unconsciously held assumptions about students, classrooms and the academic material to be taught. It was recommended to follow up the studies focusing investigation of teachers' conceptions of assessment among different populations across different cultural backgrounds (e.g. Maori, Pacific Nation, or Asian) (Brown, 2002). These studies would be conducted on different levels in order to fully understand the similarities and differences of conceptions and assessment practices.

Teachers' held beliefs and practices in Pakistan would help learn what conceptions teachers possess about assessment. It is already made evident that our behaviors are the reflections of our inner feelings. Teachers'

assessment activities show their conceptions of assessment. In Pakistan, teachers are recruited and appointed in different schools where they perform their duties of teaching and assessment as well. Teachers' knowledge and skill in the use of assessment techniques is influenced by a variety of experiences including proper training during their periods of teacher training, qualifications and experiences during their own student life.

Present study is designed to explore the conceptions of assessment held by teachers and their assessment practices in classrooms at elementary and secondary level. The conceptions of assessment describe the intended purposes of teachers for an assessment event. The second variable assessment practices will explore the assessment activities carried out by teachers in their classrooms. Study will unfold any differences inherent in the conceptions and practices of teachers teaching to elementary and secondary classes. This would help in finding out the influence of level of teaching on the development and use of assessment practices at school level.

Objectives of the Study

The major objectives of the study are to:

- Explore the conceptions of assessment possessed by teachers at elementary level and secondary level.
- Compare the difference regarding conceptions of assessment among teachers at elementary and secondary level.
- Investigate the use of classroom assessment practices by teachers at elementary and secondary level
- Compare the variation of assessment practices among teachers at elementary and secondary level

Research Questions

- (i) What are teachers' conceptions regarding classroom assessment working at elementary and secondary level?
- (ii) How teachers are different in their conceptions of assessment at elementary and secondary level?
- (iii) What type of assessment practices are practiced by teachers in their classrooms working at elementary and secondary level?
- (iv) Do teachers differ in their practices of classroom assessment at elementary and secondary level?

Null hypothesis

- i. There is no significant difference in the conceptions of assessment possessed by teachers at elementary and secondary level in public high schools of Punjab.
- ii. There is no significant difference in the practices of classroom assessment exercised by teachers at elementary and secondary level in public high schools of Punjab.

Design of the study

Quantitative survey design was adopted to carry out this study. All the teachers (25,195 in numbers) working in the public high schools consisted as the population of the study in the four districts (Lahore, Faisalabad, Gujranwala & Narowal) of Punjab.

Sample and sampling procedure

A sample of 1400 teachers from 25195 teachers was selected using proportionate cluster random sampling where schools were considered as a cluster. Overall, researchers randomly selected 64 schools in which each district represented the desired proportion (4% male and 4% female) of teachers in the sample. The number of schools (as clusters) was selected from each district until the desired number of teachers for that district was obtained. According to Cohen, Manion and Marrison, (2007), to have 95% confidence over the findings of study, the sample should be comprised of more than 400 respondents. Therefore, researcher selected approximately 700 teachers from elementary and 700 from secondary level.

The total sample selected for study comprised of 1400 elementary and secondary school teachers from which 1072 returned the survey forms. Data of 64 respondents were deleted from the analysis due to the provision of less than 90 percent information in the survey forms. The data of 1006 respondents was made ready for analysis after missing value analysis in the SPSS using expectation maximization modeling.

The frequency analysis of the data showed that 496 respondents belonged to elementary and 512 to secondary level teaching classes. At elementary level 242 teachers were working in rural area schools and 254 in urban area schools. At secondary level 204 teachers belonged to rural area schools and 308 to urban area schools.

Instrumentation

For the measurement of teachers' conceptions of assessment, a questionnaire with the title "Conception of Assessment Abridged Survey" (COA-III) developed by Brown (2000), was selected and exercised with the kind permission of the author. On the other hand for the assessment of the second variable "classroom assessment practices" another instrument titled "Assessment Practices Inventory" initially developed by Mcmillan, Myranand Workman (2002), and modified by Brown (2009), was selected to be used in the study.

Structure of the COA abridged Survey and Assessment Practices Inventory

The questionnaires measuring conceptions of assessment and practices of assessment consisted of two parts:

In the first part demographic information including background of the respondent (gender, years of experience, grade level, teaching assignment, level of education, and participation in assessment training) were asked. In the second part 27 items scored on a scale from 1 to 6 (1 = strongly disagree and 6 = strongly agree) mainly addressing conceptions of assessment (assessment for improvement, assessment for student accountability, assessment for school accountability, and assessment is irrelevant) were asked. The response scale for measuring conceptions consisted of six positively arranged formats with only two negative and four positive response categories. The researchers preferred this format when it is obvious that the subjects would have a positive attitude towards the concept (as cited in Brown, 2011). The instrument was checked for the reliability measures using Cronbach alpha that was .80 through SPSS.

The instrument focusing assessment practices comprised a total of 23 items majorly asking four types of assessment practices. The practices of assessment inventory was comprised of 23 items encompassing four types of assessment practices mainly addressing two types of formats used for assessment (formal and informal), and two for measuring level of cognitive processing of a given task (deep and surface). A closed frequency scale ranging from (1 = not at all to 6 = always) as options to respond was used. The inventory developed by Zhang and Stock (2003) was also reviewed but not selected as it was not designed to measure the assessment practices solely. The overall reliability of the instrument for this study was found .86 through Cronbach alpha.

II. DATA COLLECTION AND ANALYSIS

Before starting data collection formal Permission for the collection of research data was taken from the Directorate of Education. The Director Public Instructions schools (DPI) was formally requested to grant permission for the data collection from public high schools. On the approval from DPI schools to conduct this study, a letter was written to the Director Planning and Monitoring Unit Lahore for the provision of information regarding lists of functional boys and girls high schools in selected four districts. The lists containing information about total number of male and female teachers, location of schools in rural and urban areas and number of teachers in each school were obtained for the purpose of sampling.

Data from schools were collected personally as well as through mail. Accessible schools were visited and principals were requested to fill out the survey forms from their teachers for research purpose. Consent forms were attached to the instrument briefing about the topic, purpose of study and assurance of confidentiality for the provided information. Overall, 1400 copies were delivered in different schools selected for the study. The data of 1072 respondents were returned back with a response rate of more than 70%. All

the responses were entered into SPSS; data were analyzed by using descriptive and inferential statistics in order to find answers to proposed research questions.

III. FINDINGS OF THE STUDY

After analyzing the data, following findings were drawn from the study.

Descriptive statistics exploring the nature of conceptions of assessment among teachers discovered an overall positive attitude towards classroom assessment. The average values ranged between 3.02 to 5.1 that showed that teachers had positive tendency to have assessment events in the classroom. Highest mean values (above moderately agree) were obtained for student learning, teaching, and describe (sub factors of improvement conception), followed by school accountability, student accountability, valid and inaccurate ranging between 4.7 to 4.99 (the value above agree). The teachers showed less agreement towards irrelevance sub factors “ignored” and “bad” with values ranging between 3.02 to 3.3 (slightly agree).

Similar trend of agreement was found for teachers working at secondary level. The average values were observed to be falling between 2.81 to 5.1 for all the conceptions. Highest values (above mostly agree) were calculated for student learning, teaching and describe (sub factors of improvement conception). The mean values for school accountability, student accountability, validity and “assessment is irrelevant” were noticed to be between the ranges of 4.4 to 4.7 showing above moderately agrees. Teachers showed low level of agreement for the conception assessment is irrelevant and slightly agrees to mostly disagree for the sub factors “ignored” and “bad”.

Table 1.

Descriptive Statistics for Conceptions of Assessment at Elementary and Secondary Level

Teaching level (elementary)	n	Mean	S. D
Student Accountability	496	4.99	0.75
School Accountability	496	5.00	0.82
Improve Student learning	496	5.12	0.70
Improve Teaching	496	5.03	0.70
Improve Valid	496	4.48	0.84
Improve Describe	496	5.02	0.76
Irrelevance Bad	496	3.02	1.0
Secondary			
Student Accountability	512	4.96	0.78
School Accountability	512	4.96	0.83
Improve Student learning	512	5.12	0.77
Improve Teaching	512	5.00	0.79
Improve Valid	512	4.45	0.90
Improve Describe	512	5.04	0.80
Irrelevance Bad	512	2.84	1.11
Irrelevance Ignored	512	3.12	1.07
Irrelevance Inaccurate	512	4.79	0.83

Difference of conceptions of assessment among teachers at elementary and secondary level

Results of t-test for difference of conceptions among teachers at elementary and secondary level were observed and significant difference was detected for irrelevance conception of assessment as the p value is less than 0.05, level of significance. Elementary level school teachers are higher on average (above slightly agree) for the irrelevance conception describing that assessment information is inaccurate than secondary level teachers.

Table 2.

t-test for the comparison of conceptions of assessment among teachers at Elementary and Secondary level

Conception of assessment	Elementary		Secondary		t	Df	P
	M	SD	M	SD			
School Accountability	5.00	.82	4.96	.83	.63	1006	.52
Student Accountability	4.99	.75	4.96	.78	.59	1006	.55
Improvement	4.91	.61	4.90	.68	.21	1006	.82
Irrelevance	3.68	.70	3.58	.71	2.20	1006	.028

Descriptive statistics were run to find out average values for the usage of assessment practices as reported by the elementary and secondary school teachers. According to the values calculated, it was found that at elementary level, both of the assessment practices measuring surface level learning and informal assessment practices measuring deep processing of information were in mostly used in classrooms showing similar values (M. 4.32, S.D.0.85, the value was above often use).

Similar level of assessment practices were reported at secondary level for formal formats of assessment measuring surface processing of information. The obtained mean score value was (M.4.18, S.D.0.9, the value above often use). On the other hand, deep processing assessment practices and informal assessment formats were found to be less in use by teachers at secondary level (M. 3.94, S.D.0.85, the frequency value above occasionally).

Table 3.

Descriptive Statistics for Assessment Practices at Elementary and Secondary Level

Elementary	Assessment Practices	n	Mean	S.D
	Informal	496	4.05	.75
	Deep	496	4.09	.89
	Surface	496	4.32	.85
	Formal	496	4.19	.69
Secondary				
	Informal	512	3.92	.76

Deep	512	3.94	.85
Surface	512	4.18	.90
Formal	512	4.09	.64

The results of t-test obtained for the comparison of practices among teachers of elementary and secondary level found significantly different scores. The use of informal formats for assessment showed significantly different mean values where elementary teachers' mean score (M.4.05, S.D= 0.75) was significantly higher than that of secondary school teachers (M.3.92, S.D= 0.76) ($t=2.79, P = 0.005$). The t-value is also significant at 0.05.

For deep processing assessment practices, mean values showed elementary school teachers as higher than secondary school teachers (elementary M.4.09, S.D = 0.89) (secondary. M. 3.94, S.D= 0.85) ($T=2.61, P = 0.009$). The t-value was found to be significant at 0.05 level of significance. Elementary school teachers showed significantly higher mean values for the use of surface (Elementary M.4.32, S.D= 0.85, Secondary M.4.18, S.D= 0.9) ($t=2.49, P= 0.01$) processing as well as formal formats of assessment (M.4.19, S.D= 0.69, M.4.09, S.D= 0.64) ($t=2.35, p= 0.01$).

Table 4.

t-test for Comparison of Practices among Teachers of Elementary and Secondary Level

Conception of assessment	Elementary		Secondary		T	df	p
	M	SD	M	SD			
Informal formats	4.05	.75	3.92	.76	2.79	1006	.005
Deep	4.09	.89	3.94	.85	2.61	1006	.009
Surface	4.32	.85	4.18	.90	2.49	1006	.01
Formal	4.19	.69	4.09	.64	2.35	1006	.01

IV. DISCUSSION

Present study was designed to investigate the held conceptions and used practices of classroom assessment amongst teachers working in public high schools of the province Punjab, Pakistan. The results revealed that both elementary and secondary school teachers possessed positive attitude towards assessment as a necessary event in educational process. This positive attitude showed that assessments should be taken for the purpose of bringing improvement in teaching of teachers and learning of the students. Similarly like improvement conception, assessment was viewed as a way of putting accountability measures on schools as well as on students. The results of this study were similar to that of Brown (2002), Brown, Lake and Matters (2006), Khan (2008), and Sarah (2010) who also found teachers positive attitude towards improvement and accountability conceptions of assessment.

The fourth conception "assessment is irrelevant" was found to be strongly disagreed by the majority of teachers except for one sub-factor of the conception that "assessment is inaccurate" because majority of the respondents reported strong agreement. It shows teachers lack of trust over the authorities planning and managing assessment at school level. Research studies by Sarah (2010), and Brown (2002), also reported

least mean scores achieved for irrelevance conception. Brown (2002) explored that majority of the teachers showed their strong agreement that assessment is not irrelevant as more than fifty percent were less agreed to the improvement, school accountability, student accountability and assessment is inaccurate conception of assessment. The study by Brown, Lake and Matters (2006), also found that teachers at both primary and secondary levels were least agreed with the conception of 'assessment is irrelevant' and 'assessment makes schools accountable'. Vardar (2010) found teachers least agreement with the conception of "assessment as irrelevant". Their irrelevance conception had the lowest mean ($M=3.88$, $SD= 1.31$) scores among other conceptions. The findings showed that teachers give due importance to assessment and consider it important for students.

The differences found at primary level were based on the conceptions developed on the basis of teaching experience to a younger age pupils where assessment is viewed as determining mile stones for next teaching levels and where students are not made responsible for their performance. Vardar (2010) investigated Turkish teachers' conceptions of assessment at elementary level and results showed that teachers were agreed with the conception of student accountability more than any other conception. These results are justified due to the competitive nature of the educational system for high stake examinations at the end of 6th, 7th and 8th grades. Thus, the conceptions are also influenced by the culture of assessment prevailed in a society.

Similar results were found by Peterson and Irving (2008). They explored the difference of accountability conceptions among primary and secondary teachers where teachers working at the secondary level viewed assessment as making students accountable rather than the teachers or the institution. In contrast to the findings of secondary level teachers, primary teachers took themselves more responsible for the assessment results than their students. The results were not shocking as it is linked with the practice of putting more responsibility over the students as the grade increases.

API developed by Brown, 2009 was adopted to collect information regarding the frequency and nature of assessment as practiced by school teachers both at elementary and secondary level. The asked information in the inventory focused two major types related to assessment; first one is the type of assessment developed whether it was formal or informal secondly, the nature of questions asked by the teachers focusing the cognitive level of the students such as surface or deep level of engagement. The findings of the study showed significant differences between elementary and secondary school teachers for the use of assessment practices. The teachers at elementary level reported the use of both formal and informal types of assessment in their classrooms while focusing both levels of cognitive engagement. The nature of results found shows the level of freedom on part of the teachers at elementary level. The results might be due to the freedom of taking internal assessments for promotion at elementary level as it is not compulsory for all the students to take and pass the Board exam held at the end of 8th grade. The teachers might have more autonomy of arranging assessment events according to their choice.

In contrast to elementary level teachers, the teachers at secondary level showed dominant use of (often) formal assessment types requiring surface level cognitive processing. Informal assessment types and those requiring deep processing cognitive level were reported to be occasionally used at secondary level. This result variation might be due to the nature of external exam pressures on secondary school teachers in order to prepare the students for high stake exams. These high stake exams focused formal formats and learning of factual information more than conceptual understandings. Results of the study are similar to those found by Zhang (2003), who investigated the teachers' assessment practices and perceived skills and found a significant difference for primary and secondary school teachers. The findings revealed strong relationship between the two constructs having a coefficient of 0.71. The teachers teaching at secondary level used paper pencil tests and were found conscious about the psychometric characteristics of the test whereas elementary teachers focused mostly on the use of performance assessment. It was found in literature that with an increase in grade, teachers become conscious about quality assessment and they use objective type assessment practices.

V. IMPLICATIONS OF THE STUDY

The results of this project would have implications for policy making, teacher education programs and agencies responsible for in service teacher trainings at school level. The study found that teachers possessed positive attitude towards assessment as required for improvement of teaching and learning and for the accountability of students and school, therefore, it is suggested that policies regarding assessment mechanism at school level should work efficiently if integrated with teachers' held conceptions about assessment. Knowledge of teachers' held conceptions would be integrated with the curriculum of teacher education programs so that teacher trainees would learn and develop their own conceptions of assessment and work accordingly.

Teachers' agreement towards accountability conceptions showed that they held the belief to evaluate the school or students by the results reflected through internal and external exam events. In Pakistan, it has been observed that school efficiency is evaluated on the basis of its results presented, thus it may be worthwhile to strengthen teachers' skills in the area of assessment through both in-service training and enhancement of qualification.

Teachers were not agreed to view that assessment is not a good indicator of student performance or their results are compiled for the sake of record only whereas the response of teachers against accuracy of assessment event was quite shocking as it was found strongly agreed by majority of teachers. It also make the hidden belief of school teachers explicit that there are deficiencies in the assessment system at school level. Institutions should consider the whole mechanism of assessment while reviewing its accuracy, transparency and reliability.

The study design was self-report survey exploring assessment conceptions and practices. In order to understand the teacher's conceptions and assessment practices, it is required to conduct research studies focusing conceptions of assessment through in depth interviews and classroom observations for the exploration of the constructs in reality.

Population of the study consisted of elementary and secondary school teachers' conceptions and practices. It is suggested to explore the conceptions at primary and higher secondary levels. It would also be beneficial to carry out a study on conceptions and assessment practices of teachers working in public and private school systems.

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