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Using Assessment for Improving Students Learning: an analysis of University Teachers' Practices

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Abstract

In the light of globalisation and reforms in higher education in many countries around the world, the concern for improving the quality of students' learning has come under focus. The traditional assessment system has come under scrutiny and the new term "quality assessment" has become the common currency in today's educational arena. The quality assessment is an ongoing, student- participatory activity and necessitates using a variety of assessment techniques, implementing assessment techniques effectively, providing good feedback to student and using assessment data to improve instruction. Teachers must strive to give students quality work to do if they want students to do quality work for them. This paper discusses the assessment techniques practised by teachers at higher education level, the way they implement assessment techniques and how effectively they integrate assessment in instruction for student learning. Results of the study involving 297 students and 37 teachers of a metropolitan university reveal that out of a vast variety of assessment techniques available to them, teachers use only very few of these. Results of the study lead to the conclusion that higher education teachers need professional and practical support for developing assessment skills and strategies, building assessment literacy, and ultimately helping students to improve their learning.

Introduction

Due to globalization and reforms in higher education in many countries around the world, the concern for improving the quality of higher education in Pakistan has increased. The traditional assessment - the end of the process activity that aims at grading and ranking students with little or no concern for improving students' learning is prevailing in our classrooms. In the quest for quality, this traditional assessment system has come under scrutiny and the new term "quality assessment" has become common currency in today's educational arena. One key element to understand quality classroom assessment is to view assessment as an ongoing, student-participatory activity, not just as something teacher "does" to students as an end of term activity to assign grades.

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One of the educational activities that ensure quality education is the purpose and ways in which assessment is integrated in the system of education. Assessment is an activity undertaken by every teacher at all levels of education during his or her professional life. Teachers may spend one third to a half of their professional time on assessment related activities (Crooks, 1988: Stiggins & Conklin, 1991). It is a process that provides information about the thinking, achievements or progress of students (Crook, 1988). If this activity is not well planned and effectively implemented it fails to achieve the qualitative goals.

There are two popular visions about assessment in recent literature: assessment *of* learning and assessment *for* learning. Assessment *of* learning is the kind of assessment predominantly used in our education system at all levels. This type of assessment, also referred to as 'Summative Assessment', is used for the purpose of grading and reporting about students' progress in learning. On the other hand assessment for learning has the central purpose of improving learning and teaching for both students and teachers through efficient assessment and feedback. Assessment *for* learning is often referred to as 'Formative Assessment'. Assessment *for* Learning shifts the emphasis from summative to formative assessment, from making judgments to creating descriptions that can be used for improvement of learning at the next stage (Lorna, 2003). This perspective requires us to focus on *how we use assessment* for student success and not on *how we assess* student achievement (Stiggins, 1999). Black and William (1998) rightly argue that assessment should be integrated in teaching for improvement of students' learning. A crisis in assessment is absence of assessment for learning (Stiggins, 2001a).

Assessment is an essential component of a coherent educational experience. It is a central and integral component of an institutional effort to improve the quality of teaching and learning at all levels of education including higher education. But such assessment needs to be well thought out, planned and designed, keeping in view students abilities, curricular expectations and aimed at developing students' higher thinking abilities and not just demanding rote memorization. Such kind of assessment also needs to provide opportunities to students to get proper and quick and effective feedback, self monitor their progress recognise weaknesses and adopt more effective strategies to improve learning (Black & William, 1998).

Recently, the Higher Education Commission (HEC), in its attempt to improve and assure the quality of higher education in the country, has focused on improving teaching and learning process through active learning and outcome based education (Standard 5-2, Manual Quality Enhancements Cells) which demands students' engagement and ongoing assessment. Moreover HEC has decided to introduce undergraduate studies in the universities as a measure in order to make it equivalents to international

standards and enhance quality of higher education. These steps by HEC have put challenges both for students as well teachers. These challenges become more pronounced as a result of rapid developments in ICT, globalisation and competitive environment. Quest for quality is demanding effective practices in learning, teaching and assessment.

Objectives of the Study

Present research aims at studying prevailing assessment practices in university classrooms to see if these assessment practices may qualify for quality assessment as perceived by university students and teachers. The study explores which out of a vast array of available assessment techniques, teachers use during their academic life. The study also investigates how teachers implement these assessment techniques at higher education level and what kind of feedback is provided to students to improve their learning. It notes how effectively teachers integrate assessment into the classroom and what vision they hold about assessment in general. The significance of the study lies in using results to help teachers and students develop their assessment literacy and to help teachers in integrating assessment into their instruction for enhancing the quality of education at higher levels. Results of the study may also be used to design professional development courses on assessment for university teachers.

Characteristics of quality assessment

Quality assessment necessitates using a variety of assessment techniques, implementing assessment techniques effectively by teachers, providing good feedback to student and using assessment data to improve instruction. When teachers are clear in their expectations for students regarding an assessment task, consider bias and purpose of the assessment, and share those expectations in advance of the assessment, they are practicing quality assessment" (Butler and McMunn, 2006, P.6).

Stiggins (1992), in an article published for assessment training in ITEMS (Instructional Topics in Educational Measurement Series) by NCME(National Council on Measurement in Education) highlighted the need for high quality assessment for enhancement of student learning and discussed key elements for 'sound assessment'. Later, based on same ideas Stiggins, et al. (2004) developed a model for quality classroom assessment which included five key dimensions (p.12). According to this model, quality classroom assessment;

- Arise from and be designed to serve the specific information needs of intended user(s
- Arise from clearly articulated and appropriate achievement targets.
- Accurately reflect students achievement

- Yields results that are affectively communicated to their intended users.
- Involve students in classroom assessment, record keeping, and communication.

Butler and McMunn (2006) developed a classroom assessment cycle based on their review of a large number of classroom assessment models proposed by different psychometricians. The cycle shows the elements of assessment that are under direct control of the teacher and at the heart of this cycle is the idea of students' involvement. Butler and McMunn (2006) have listed some essential characteristics of quality assessment. According to them, quality assessment tasks should;

- have a clearly defined purpose
- be aligned with the learning targets embedded in the curriculum
- function on a more general level to improve students' ability to comprehend, and to deal with more complex material
- improve students' meta-cognition.
- improve cognitive abilities and encourage higher order skills among students
- have more than one right answer
- lead to deep understanding and not surface learning

Black and William (1998) identified the following five key assessment factors in their synthesis of research in assessment that enhance learning:

- Effective feedback
- Students' involvement in learning
- Modifying instruction based on assessment data
- Recognition of assessment's influence on students' motivation and self-esteem
- Students' self assessment practices

Conceptual Framework

For this research study the characteristics of quality classroom assessment discussed by William & Black (1998), Stiggins et al, (2004) and Butler & McMunn (2006) were considered to develop an understanding of what quality classroom assessment may look like in a university classroom in the context of Pakistani higher education system. Following characteristics of quality assessment were found of immediate concern and hence used to develop instrument for assessing assessment practices of university teachers.

Effective Feedback

Feedback is information provided to students to help them improve their learning and achievement. It can be oral or written and should focus on

helping identify areas of strength and weaknesses. There are two types of feedback; descriptive or evaluative (Tunstall & Gipps, 1996) according to Black and William (1998) descriptive feedback is required for quality assessment (Black & William, 1998). Hawk and Hill (2001) found that students face problems to understand feedback provided by teacher. So effective feedback needs no further elaboration and relieves the students from seeking further clarification and guidance. Sutton (1998) suggested that effective feedback should be quick, specific, and descriptive. "The more motivating teachers used more informal unstructured feedback. The less-motivating teachers used more informal, unstructured feedback mechanism. The less-motivating teachers relied more exclusively on test scores as feedback for students" (Meece & McColskey, 1997, p.3).

Students' Involvement

Focusing on helping students to be successful learners is at the heart of being 'Learner Centred'. According to Guild (1997) all decisions including assessment decisions should be considered from the perspective of their effect on student learning. In a learner centered environment students will be involved in all stages of learning from planning through evaluation (Butler & McMunn, 2006).

Students' Motivation and Self-esteem

According to Meece and McColskey (1997) factors related to assessment which have an impact on students' motivation are: appropriate difficulty level of work assigned along with relevant and meaningful instruction and diverse learning opportunities. Moreover, they reported that students had greater interest in assessment tasks that are cognitively demanding. To make assessment tasks motivating for students, Meece and McColskey (1997) recommend for these tasks to have clear goals and expectations, multiple methods of assessments, feedback for improvement, opportunities to improve, good methods of evaluating, and reporting students' progress.

Self Assessment and Peer Assessment

According to Black & William (1998) peer and self assessment is crucial for quality assessment and they believed that it should not be considered as less reliable than teachers' assessment. Moreover, they think that students cannot take an active role in assessment without clear knowledge of goals. Affective cooperative learning and group work also demand peer assessment. According to Boud (1995), self-assessment is a principal part of the student learning experience and is a transferable skill. Literature on assessment in higher education gives strong support to the use

of both peer and self-assessment (Boud, 1995; Brown & Knight, 1994; Gibbs, 1991; Brown, Bull & Pendlebury, 1997; Brown & Dove, 1990). Self assessment is more important in the present global scenario where students are expected to work in more challenging situations without much guidance. "Students will be expected to practice self evaluation in every area of their lives on graduation and it is a good exercise in self-development to ensure that their abilities are extended" (Brown & Knight, 1994). Reflections are necessary condition for self assessment. And “self knowledge is a cortically important component for metacognition” (Pintrich, 2002, p.225).

Clarity

According to Stiggins (2001b) one of the necessary conditions for integrating assessment into the teaching and learning process is to assess student achievement accurately. He thinks that teachers and administrators need to understand what their students have to achieve, what knowledge skills and competencies they have to master as a result of undergoing learning experiences provided by the teacher. They cannot assess, let alone teach, achievements that have not been defined clearly. For quality assessment clarity is demanded as for as purpose of overall assessment, purpose of the assessment task, langue used and standards required to complete the tasks are clear for students (Stiggins, et al 2004).

Higher order Thinking

In Bloom’s taxonomy, higher order thinking skills are Application, analysis and synthesis. Now metacognition has also been included in higher order thinking skills in extension of Bloom’s taxonomy by his students Lorin Anderson (2001). Problem solving skills which involve above higher order thinking are demanded by university graduates to become successful professional. So university students should be assessed for such higher order thinking skills instead of rote memorization. Assessment tasks like project work, filed work, writing research paper involve higher order thinking if implemented appropriately.

Assessment tasks to ensure quality assessment

We reviewed literature for assessment tasks that may ensure quality assessment. The most comprehensive work in this regards was found by Angelo and Cross (1993) who enlisted and discussed fifty (50) assessment tasks which can be used in university classroom for active learning and enhancement of quality. Among these following ten assessment tasks were chosen based on goals of instruction at university level and expected level of assessment literacy of participants involved. These assessment tasks are:

Classroom questioning, written assignment, oral presentations, project work, journal or log writing, portfolios, fieldwork, debate, panel discussion, research paper writing.

Methodology

Sample

The study is based on data collected from students and teachers of a well-reputed metropolitan university in Pakistan. The participants of the study were postgraduate students studying in various departments of six main faculties of the university in Lahore. These faculties were Commerce, Science, Social and Behavioural Sciences, Arts, Oriental and Islamic Learning and Education. It was decided to distribute questionnaires to students of these faculties making a sample of 300. Out of these, 297 questionnaires were received back. The high rate of response was achieved because the questionnaires were distributed to students in classroom settings in the presence of teachers and it was ensured that students return these instruments to researchers. Eight questionnaires were sent to teachers of the same faculty to facilitate comparisons between teachers' and students' responses. Out of a total of 48 teachers, 37 returned the questionnaire.

Data collection Tools

Based on conceptual framework discussed earlier, an instrument was designed to collect data for this study. The instrument comprised of two parts. The first part of the instrument was an inventory of different assessment tasks, to identify and enlist kinds of assessment tasks used by university teachers. Both teachers and students were asked to fill the inventory. The purpose was just to check what kind of assessment activities teacher really practice during their teaching, both as summative as well as formative assessment tool and to what extent students are in agreement with their teachers. The second part of the instrument was a 5 point likert type scale consisted of 25 statements based on characteristics of quality assessment discussed above. Students and teachers both were required to give their opinion regarding these aspects on a five-point rating scale. However, the style of statements in questionnaires for teachers and students was different keeping in view the nature of respondents. Table 1 present some of the examples of the statements used in Likert type items and characteristic of quality assessment addressed.

Table 1
Examples of likert type items for teachers and students

Characteristic of Quality Assessment	Sample Statements
Clarity	The learning targets of most of the assessments tasks are clear to me. (item 1) – instrument for students
	My students are clear about what I want to assess in most of my assessment tasks. (Item 1) – instrument for teachers
Higher order thinking	The assessment tasks are usually challenging. (item 3) - instrument for students
	The assessment tasks I set are usually challenging. z(item 3)– instrument for teachers
Motivation and self esteem	I work seriously even if I know that the assignment will not be credited. (item12) - instrument for students
	My students work seriously even if they know that the assignment will not be credited. (item12) - instrument for teachers
Feedback	Teachers give detailed comments on classroom assignments which guide my learning in future. (item 13) - instrument for students
	I give detailed comments on classroom assignments which guide my students learning. (item 13) - instrument for teachers

Results

Results of the study are presented in tabular forms. Table 2 depicts teachers' and students' responses regarding various assessment tasks currently being used by teachers at higher education level, and Table 3 shows views or opinions of teachers and students about various aspects or elements of quality assessment.

Table 2
Comparison of teachers' and students' response regarding the use of assessment tasks

Sr. #	Assessment Task	Teacher Responses	Student Responses	(χ^2 value)
		Yes (%)	Yes (%)	
1	Classroom Questioning	97.2	90.9	1.705
2	Written Assignments	97.3	95.8	0.202
3	Oral Presentations	86.5	68.2	5.35*
4	Project work	59.5	38.2	6.384*
5	Journal writing/ Learning Logs	25	19.1	0.618
6	Portfolio	16.7	10.6	1.084
7	Field work	55.6	30.1	3.129
8	Debate	45.9	26.1	6.624*
9	Penal discussions	37.8	28.4	1.345
10	Writing research papers	38.9	20.6	6.054*

$P \leq 0.05$

Table 3
Comparison of teachers' and students' perceptions regarding the nature and various aspects of assessment

S.#	Assessment Practice Issues	Mean scores		t-value
		Teachers	Students	
1	Clarity about what to assess and what to be assessed	4.19	3.93	2.035*
2	Assessment tasks go beyond simple recall	4.14	3.47	4.302*
3	Assessment tasks are challenging	4.19	3.84	2.245*
4	Assessment tasks motivate students	4.35	4.26	0.589
5	Assessment tasks are interesting to do	4.11	3.92	1.130
6	Assessment asks are of appropriate level of difficulty	4.14	3.64	2.974*
7	Adequate time to do assessment tasks	4.38	3.73	3.843*
8	Opportunity to work in group and learning form peers	4.30	4.00	1.663
9	Provide opportunity to students to self assess	4.16	4.13	0.197
10	Are more than right or wrong answers	4.14	3.57	3.610*
11	Classroom assignments encourage students reflections	4.05	3.85	1.141
12	Students work seriously even if assignments are not credited	3.24	3.70	2.389*
13	Feedback is given in detail to guide students learning	4.03	3.74	1.466
14	Students are clear about the criterion of assessment	4.17	3.64	3.057*
15	Students have right o argue about their marks in tests and classroom assignments	4.43	3.81	3.185*
16	Teachers are available for discussion about classroom assignments	.4.41	3.81	3.117*
17	Students are satisfied with their grades in classroom assignments	4.19	3.66	2.698*
18	Teacher give required direction to do classroom assessment tasks	4.08	2.81	6.593*
19	Teachers use various innovative assessment techniques	3.62	3.39	1.237
20	Assessment should be once at the end of semester only	2.46	3.11	2.707*
21	Exam papers require students to write factual information from books	2.59	3.63	5.654*
22	MCQs used in test are based on textual material	3.14	3.74	3.262*
23	Question in final exam paper involve students higher order thinking kills	4.16	3.96	1.069
24	Final grades show true measure if students learning	3.97	3.59	1.87
25	Assessment is a continuous process to be carried throughout course	4.38	3.94	2.222*

$P \leq 0.05$

Discussion

Table 2 shows that all 10 assessment techniques included in the inventory are used in the university classrooms but with greater variation.

Students' and teachers' responses differ significantly on 5 out of 10 assessment techniques: oral presentations, project work, filed work, debates and writing research papers though teachers' responses were little exaggerated. According to both students' and teachers' responses, most frequently used assessment techniques are: classroom questioning, written assignments and oral presentations while less frequently used assessment techniques are: journal writing, portfolio, and writing research papers. Regarding the use of remaining three assessment tasks, i.e. project work, fieldwork and debates, opinions of teachers and students differ to a great extent but we can safely say these techniques are also used to some extent. The less use of assessment techniques like journal writing, portfolio, and writing research papers which address learning outcomes related to practical and professional lives of the university is disquieting. Journal wring and portfolios are major students centred tasks (Stiggnis, et al., 2004) and provide opportunities for metacognitive learning (Pintrich, 2002).), and also play important role in self assessment. University teachers may not be fully aware of the learning potential of these assessment techniques or may have concerns to use these techniques in their classroom. For both the cases professional development of university teachers may be suggested for ensure better assessment practices in university classrooms.

Table 3 shows comparison of mean scores of students' and teachers' responses on 5-point scale for all 25 statements regarding the nature and practice of various assessment techniques by the university teachers. Although the mean values of all the statements about implementation of assessment are more than a value of 3, showing the appropriate use of assessment tasks by teachers, but we can notice again that teachers responses are little exaggerated. Moreover the statistical comparison of mean scores of teachers and students reflects vast disagreements for some statements. There are significant differences on 16 statements out of 25 of varied amount, showing difference between teachers and students thinking about implementation of the assessment tasks. Considerable discussion is needed for few items. For example item 18 about clarity of assessment tasks have huge disparity in students' and teachers' responses: Most of the students find less clear directions to complete the assessment task while teachers believed that their instructions are clear to be followed by students. Similarly, item 20 which is about desirable view of assessment (which is ongoing and formative) and as expected teachers have better view as compared to students because most of the teachers did not agree that the assessment should be carried out only once at the end of the semester while most of the students are of the view that assessment should be an end of the semester activity. Students' response to item 20 is not consistent with their response to item 25 which involves the same aspect. Item 21 which addresses the need for assessing higher order thinking skills

and this particular item is about questions set in exam papers asking for factual information. Teachers are of the view that they set tasks for students that are not based on factual or textual information while students are of the view that most the questions in examination papers require recall of factual information from textual material. Moreover, disparity between students and teachers' responses is generally seen in another items related to addressing higher order thinking (item 2, 3, 6). This refers to the need for teachers to consider assessment tasks which are more challenging for students. Teachers must strive to give students quality work to do if they want students to do quality work for them.

If we believe that both students and teachers clearly understand the exact nature of statements, the results and above discussion leads to the conclusion that most of the tasks that teachers claim to use for assessment purposes instruction, are perhaps not in fact used, or less frequently used, as reflected by students' responses. The university teachers need to improve their knowledge of assessment techniques and quality practices. We recommend 'assessment literacy' which according to Siggins (2001b) "comprises of two skills: first is the ability to gather dependable and quality information about students' achievements; the ability to use that information effectively to maximize students' achievements". (p.20). So if a teacher uses feedback from observation and completed assignments to inform future instruction, this information will certainly have a positive effect on student learning. This is what is referred to as differentiated instructional practices (Butler & McMunn, 2006). Modifying instructional strategies in response to assessment not only enhances students' learning (Butler & McMunn, 2006) but also develop instructional skills of the teacher.

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