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Research Article

A NEW VISION IN HIGHER EDUCATION: FOSTERING DIAGNOSTIC, SUMMATIVE AND FORMATIVE ASSESSMENT METHODS

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ABSTRACT

The aim of the current study is to draw attention to the different assessment methods. The study investigates and evaluates assessment practices and perceptions of three participants in higher education. A qualitative case study is used to collect data in the form of classroom observations, interviews and field notes. The results emerged from this study illustrate the need to re-think and reform the traditional conceptions and practices of assessment. This will motivate a critical shift in the teaching and learning modes.

Key Words:

Diagnostic assessment, summative assessment, formative assessment, traditional assessment, conceptions, case study.

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INTRODUCTION

Modern learning theory highlights the importance of learning with understanding. This indicates that teaching methods and curriculum must stress on understanding rather than memorization. Students must be given chances for in-depth study so that they can build a solid ground of knowledge and conceptual development. Moreover, teaching must reinforce the students' abilities to use and perceive the meaningful models of information. This meaningful learning in which students are actively demonstrating deep knowledge can be enhanced by using different and new assessment practices. Assessment methods must not only focus on a specific content, but also concentrate on the level and quality of students' understanding (Bransford *et al*, 2000). One of the basics in the educational system is to conduct motivating classroom assessment. This is done for the benefit of the students' learning specifically and the educational system generally (Popham, 2000).

Research Questions

1. What are the teachers' practices in assessment?
2. What are the teachers' perceptions in assessment?

LITERATURE REVIEW

Types of Assessment practices

There are mainly three types of assessment practices diagnostic, summative and formative:

Diagnostic assessment is used at the beginning of the study in order to assess skills, abilities, interests, experiences and levels of achievement or difficulties of a student or an entire class (Jang, 2008). Alderson (2005: 256-257) presents a definition for diagnostic assessment which shows its purpose and use; he states that "diagnostic tests are designed to identify both strengths and weaknesses in a learner's knowledge and use of language. Focusing on strengths will enable the identification of the level a learner has reached, focusing on weaknesses or possible areas for improvement should lead to remediation or further instruction".

Hence, diagnostic assessment facilitates making a detailed analysis and reports that will provide a sufficient feedback on which instructors can rely on. The content of diagnostic tests can include the material that has already been covered in teaching or will be covered soon (ibid). This highlights the importance of feedback in teaching. Diagnostic feedback equips instructors and learners with significant information to improve their performance and take remedial actions (Hattie

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&Timperley, 2007; Lee, 2003; Ferris, 2003; Butler &Winne, 1995).

This kind of assessment can include formal measurements such as different kinds of tests or informal measurement such as observations, discussions or questioning. There are four types of diagnostic assessments: A. Pre-test (on content and abilities), B. Self-assessments (identifying skills and competencies), C. Discussion board responses (on content-specific prompts), D. Interviews (brief, private, 10-minute interview of each student)

Summative assessment helps the teacher in making certain judgments about his students' achievement at certain points during the learning process or unit of study such as end of unit, semester or year. This kind of assessment is considered a periodical assessment that is used to know what did the students acquire. It is an accountable measure used by instructors to be part of the grading process such as state assessments, district benchmark or interim assessments, end-of-unit or chapter tests. It is used as a tool to determine the content of the students' learning at a particular point in time. Despite the fact that the gained information from this type of assessment is important, it is helpful in giving evaluation for specific aspects of the learning process. This is because it takes place every few weeks, month or once a year. It can be used as a tool that can evaluate the effectiveness of programs, improvement of goal, alignment of curriculum or student placement in certain programs. Summative assessments take place after long time during the learning process (Garrison & Ehringhaus, 2006).

Formative assessment is based on creating a cumulative record for the students' achievement. This is done during daily learning experiences by informal observations during the term, course, semester or unit of study. It is used for monitoring the students' continuous progress and providing instant and meaningful feedback (Angelo & Cross, 1993). It is considered part of the teaching process. After merging it into classroom practice, it gives the needed information for altering the teaching practices. Accordingly, formative assessment provides information for both teachers and students about the students' understanding at a certain point when alteration can be done. This alteration can help in ensuring that students can achieve the targeted learning goals within a specific timeframe. Formative assessment is regarded as a practice that can enable teachers to decide the needed next steps during the learning process before the summative assessment approaches (ibid).

Another difference that differentiates formative assessment is that it is mainly connected with student involvement. If the formative assessment is not applied, this means that students are not fully engaged in the assessment process. Students must be treated as assessors for their own learning and at the same time as resources for their colleagues. Engaging students in their assessment is significant in increasing their motivation in learning. This will not cause the absence of the teacher involvement; on the contrary, teachers play a critical role in identifying the learning goals, arranging criteria for success and planning assessment tasks to provide clear evidence for student learning (ibid). There are seven types of formative assessments: A. Observations during in-class activities, B. Homework exercises as review for exams and class discussions, C.

Reflections, journals that are reviewed periodically during the semester, D. Question and answer sessions, both formal-planned and informal- spontaneous, E. Conferences between the instructor and the student at various points in the semester, F. In-class activities where students informally present their results, G. Student feedback collected by periodically answering specific question about the instruction and their self-evaluation of performance and progress (Bardes & Denton, 2001).

Conceptual Framework

The teachers' conceptions refer to the mental structure, beliefs and propositions. All the educational experiences are practiced by teachers according to their conceptions. Hence, studying the teachers' conceptions of teaching and curricula is important because they highly affect their teaching and the students' learning and achievement. This ultimately influences the teachers' choice of evaluation techniques. In fact, all the pedagogical acts that include evaluations of students' behavior and performance in assessments are influenced by all the teachers' conceptions of all the educational artefacts such as learning, assessment and curriculum (Pratt, 1992).

The four major teachers' conceptions, as presented by Brown (2003), will be used as the conceptual framework to interpret how teachers view and interact with the teaching environment. The four conceptions will be used to illuminate the teachers' practices in assessments. The first conception is called the improvement conception. In this conception, assessment is used for improving the students' own learning and the quality of teaching. This improvement is based on two basics. Firstly, the nature of the students' performance must be identified by assessments. Secondly, the provided information must be reliable, valid and accurate to describe the students' performance (Crooks, 1988).

According to this view, several techniques can be used such as informal teacher-based intuitive judgments, formal assessment tools, identifying the content and processes of students' learning. The second conception of assessment is used to interpret the usage of the society's resources by the teachers. In this conception, the assessments results are used to illustrate that teachers or schools "are doing a good job". Thus, this will build a certain impact for schools or teachers for reaching or not reaching the required standards. This conception is based on two rationales. The first rationale stresses on publically demonstrating that schools and teachers are delivering quality instruction. The second rationale stresses on the improvement of quality instruction (Guthrie, 2002).

The third conception is based on considering the students responsible for their learning through their level in assessments. This accountability can be clearly seen in determining the students' performance according to a certain criteria; it is the criteria for a given curriculum level (Brown, 2004; Dixon, 1999). The performance of such assessments is significant because it has many consequences such as retention in a year, grade level, graduation, streaming or to be considered publically as gaining a certain grade or level (Guthrie, 2002).

The premise of the last conception is based on rejecting assessments. The essence of this conception is considering

assessments as "irrelevant to the life and work of teachers and students" (Brown, 2004). A significant point that must be taken into consideration is the sufficient teachers' knowledge of their students which is based on long rapport and full understanding of the curriculum and pedagogy; this shows the negative influence of the "sizing up" assessments (Airasian, 1997). Accordingly, assessments are rejected because they have "pernicious effects" on the autonomy and professionalism of teachers. In addition, assessments have a distractive power on the main target of teaching (Cooper & Davies, 1993).

METHODOLOGY

This study is a qualitative case study. The method of case study is considered to be a field of research. The activity in the field is based on gathering the needed data (Becker, 1970). Case study helps the researcher to examine the data of a specific context. This method explores and investigates a contemporary phenomenon by providing a detailed contextual analysis (Yin, 2014). This method is used prominently in dealing with issues related to social studies and education (Gulsecen & Kubat, 2006). In this study, the data was collected by using in-depth interviews, classroom observations and analysis of assessment documents.

Data gathered from participants about their conceptions on assessment were collected by asking them whether, over the previous years, they had read about different assessment techniques, heard about it in meetings, conferences or had discussed it with colleagues. Beliefs were collected by asking the participants whether they agree/disagree that traditional assessment, as a part of the educational system, must be modified.

Participants

The study includes three participants from the University of Basra-Iraq; they were chosen from different faculties. The permission was taken before starting the study. The participants were from different majors. Pseudonyms were used in the study to avoid mentioning their real names. The full information of the participants and their background is mentioned in table 1.

Table 1 Participants' background information

Name	Field	Level of Education	Graduation Faculty
Amy	English	Doctorate degree (PhD)	Faculty of Arts
Julia	Sports	Doctorate degree (PhD)	Faculty of Educational Sports
Janet	Engineering	Doctorate degree (PhD)	Faculty of Engineering

RESULTS

The observed data in all the participants' classrooms, Amy, Julia and Janet, illustrate that instructors share the same attitude in using the previously structured assessments. They all value the traditional modes of assessments. Ultimately, they all follow the same scenario. It is clear that the participants employ rudimentary approaches to assess their students. They do not have a clear guide for selecting effective assessments. They have misconceptions about the value of using more effective assessments

The results of the participants' interviews showed that the main focus is on one assessment technique which is the standardized assessments; the participants assess their students by using one assessment technique rather than multiple assessment techniques. This matches what they said in their interviews. Amy said, "I follow the traditional tests given to us by the ministry to evaluate students and give grades whether in the mid-year exams or final exams as given to us. I carry out the systematic methods as used in all colleges and universities." Julia mentioned, "I use the traditional assessments with my students. I think it is the best way for evaluation which is the mid-year test and final test with using some quizzes; I try to create a fair evaluation for all my students". Janet states, "The primary objective for assessment is to evaluate students fairly; this is done by using our traditional practices in assessments".

The interviews showed that there is a lack of knowledge about assessment methods that research has shown to be most effective for identifying the students' abilities. It is evident that instructors should be more educated regarding the types of assessments to ensure bringing more developed and effective assessment methods.

There is a strong belief that freedom is associated with planning for new methods. Instructors opted for change; however, this change is truly connected with offering an amount of freedom. This was mentioned by two of the participants, Amy and Julia. Amy states, "It is important for us as instructors interested in fair evaluation for our students to enhance new assessment methods. However, we need to have degree of freedom in creating new methods". Julia said, "I truly believe that freedom is connected with achieving new methods in assessment. Lacking freedom has a significant influence on us to take any step for changing our assessment methods".

DISCUSSION

Lack of clear strategies in assessments represents a serious disconnection for our education to have a focus on increasing the students' abilities. There is an urgent need to familiarize the instructors with the array of assessment methods that are more effective in creating a new atmosphere for yielding better results in assessing students. This finding is congruous with numerous researchers who underscored the importance of the familiarization with all the assessment methods, considering it a significant factor in evaluating students and improving learning to intensify the students' abilities (Zwick *et al*, 2008; Black & William, 1998; Delandshere & Jones, 1999; Brown, 2003; Campbell *et al*, 2002; Popham, 2005; Stiggins, 2002; Harris *et al*, 2008). The instructors have a poor attitude towards using new methods; this means that they need improvement overall to make them more capable in using progressive methods. An important step that must be worked for is removing the confusion and mystique that lead instructors to avoid implementing new assessment methods. This goal can be reached by providing tutorials on the new techniques. This will provide them with a roadmap for selecting the new useful assessment methods and will ensure that instructors will work at the highest levels. This point is consistent with what was mentioned by Waterfield & West (2006) and Pratt (1992); they highlighted the importance of setting tutorials for instructors on different assessment methods. This will have a significant

impact on instructors because they will have an intrinsic interest in utilizing new assessment models.

The traditional methods should be replaced by using effective tools that help in building high-quality students who will perform effectively to achieve better result. This can be done by showing the students the value of the different types of assessments. A necessary step in the progress of assessment methods is implementing a new belief in our students about the core concept of education and illuminating new methods in assessing their understanding of their courses and getting students to become actively engaged in their own learning. The quality of their assessment education may therefore have a lasting impact on their scientific knowledge and their attitudes towards education. This finding is in agreement with what was mentioned by Price *et al.* (2012); they stressed that students must be involved in the assessment process by giving them an in-depth understanding on the value of different assessment techniques. Students must be acquainted with all assessment methods and how they influence their learning.

It is significant to note that assessment reforms should be preceded by an amount of freedom given to instructors in assessing their students. Restructuring assessment methods is dependent on educational freedom. The main point is that as the level of freedom increases, the reforms of assessment methods also increase. Educational systems with low level of freedom will have low tendencies for any change, not only the assessment methods change. Total domination of stakeholders is associated with lacking any tendency for change. This finding was emphasized by many researchers who pointed out that freedom for teachers is a requirement for creating improvement in education. It promotes exploring and applying new techniques in teaching generally and assessment specifically (Worgul, 1992; Freire, 1985; Finkel & Arney, 1995).

CONCLUSION

In my paper, I am not condemning traditional assessment methods. I advance the evolutionary perspective in the context of providing guidance for a new agenda by highlighting the importance of new techniques. My attempt is to present the fundamental role for different assessment techniques. This cannot be reached by using a magic wand that can create ready answers for the difficulties faced in using 21st century assessment techniques, but by showing the present assessment methods and recognizing more elaborate models of assessment. There must be a long-term goal in performing professional-development programs that can help creating instructors to effectively employ developed assessment methods. Performing such a plan would culminate in a national educational development.

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