

RISE – The Pillars of Quality Assessment (Review, Identify, Strengthen, Evaluate)

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Abstract: In recent times, Class-room Assessment Techniques (CATs) have gained momentum in the engineering education. Class-room Assessment Techniques are intended to evaluate the depth of knowledge gained by a student in a particular subject. Class-room Assessment Techniques are understandably useful in development / improvement of curriculum, as these are critical to determine the effectiveness of programs. When first designing a curriculum, it is important to begin by designing the rubrics for assessment. The RISE (Review, Identify, Strengthen, Evaluate) will help to identify the primary goal of the assessment and how can they be modified to improve the quality of engineering education. A well carried out assessment will provide an observable outcome. Without conducting an area specific assessment, it is impossible to know with any certainty what factors are most responsible for not attaining the desired outcome. Therefore, it is likely that assessments created without specific rubrics may not target the appropriate problem factors and will fail. Following from this, it is important that in order for any program to be effective, a proper assessment technique should be designed before the program is rolled out. This paper summarizes the findings of a project investigating the impact of assessment

methods on the quality of engineering education. The key findings elaborated in this paper, concern the impact of existing methods of assessment and trends in the outcomes observed.

Keywords: Class room Assessment Techniques, rubrics, Review, Identify, Strengthen, Evaluate

1. Introduction

The fast changing technology is challenging the academia in designing the relevant curriculum and its effective deployment. The conventional teaching practices have proved to be less effective in terms of the effective delivery. All the accreditation bodies have shifted their focus on OBE which is emerging as a way forward for the academic community in addressing the challenges. In recent times, many workshops focusing the teaching methodologies for Engineering Education Transformations are conducted. Now the emphasis is on learning how to learn [1]. There is a paradigm shift in teaching and learning. These shifts involve the adoption of a new outlook on the part of teachers in teaching methodologies and assessment methods. If we look for connections between teaching methodologies and assessment methods there is a direct link between assessment method and the teaching and the former

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effects the later in a significant way.

Traditional assessment methods are test-based accountability systems and faulted for not capturing vital information about students' competence in the subject. These methods do not measure the higher-order thinking, problem solving, and creativity needed for students to succeed in the 21st century.

Traditional assessment methods involve multiple choice, true or false and fill-in-the-blank items (Goodman, Goodman, & Hood, 1989) and new assessment techniques complimenting the traditional methods are to be evolved. To foster and develop 21st century skills, assessment strategies should go beyond testing factual knowledge and capture the less tangible themes underlying all Key Competences. At the same time, assessment strategies need to be better harmonized with 21st century learning approaches by re-focusing on the importance of providing timely and meaningful feedback to both learners and teachers.

Attempts are to be made to develop assessment instruments that mirror real-life conditions and involve thinking skills.

Alongside traditional methods, faculty must also use evidence from projects, seminars, peer interaction and other "informal" sources to make assessments.

2. Why is Assessment important?

Assessment drives learning!

A student undertaking any form of study will be subject to assessment in one form or another [3]

Assessment is an integral part of instruction, as it determines whether or not the goals of education are being met. A significant determinant of what, when, how students learn is the assessment.

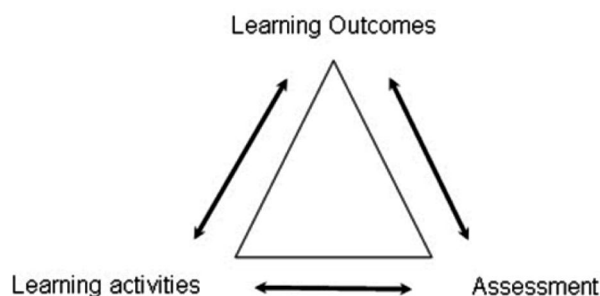
Assessment affects decisions about grades, placement, advancement, instructional needs, curriculum, and, in some cases, funding. Assessments inspire us to reflect on: "Are we teaching what we think we are teaching?" "Is there a way to teach the subject better, thereby promoting better learning?"

3. Good practices in designing assessments:

Effects of poor teaching can be escaped with difficulty but not the effects of poor assessment!

Assessment design can have as big an influence on what your students learn as your teaching [4,5,6].

Even if one follows the six C's for effective teaching [7] the outcome can be assessed only via effective assessment. The triangle of effective learning clearly indicates how learning activities, assessment and learning outcomes are linked.



Triangle of Effective Learning

Fig. 1 Triangle of Effective Learning

Establishing the link between what is intended from the assessment and the method of assessment is very crucial in designing an effective assessment. Before designing any assessment technique one has to identify:

- Why should I assess?
- What is expected out of the assessment?
- How should I assess?

2. RISE – The Pillars of quality assessment :

Many educators have begun to strongly criticize the measures used to monitor student performance and evaluate programs. They claim that traditional measures fail to assess significant learning outcomes [8]. Alternative assessment methods are seen as a tool for educational reform.

Quality Assessments are intended to help institutions as well individuals evaluate and improve their performance. The four pillars of quality assessment are Review, Identify, Strengthen, and Evaluate.

Review: One has to review the methods of assessment since they must do more than awarding a degree. Student's learning can be gauged using the assessments. Effective assessments provide the students a feedback on their strengths and weaknesses

while consolidating the learning.

Identify: No assessment is perfect. Understanding exactly what outcome is expected from student's learning can help designing effective assessments. One has to identify the problem with the current methods, their interpretation and where changes could be made to the current assessment practices in order for effective learning to take place.

Strengthen: A more positive view towards the system of assessment can be gained if an interactive method of teaching and evaluating is adopted in the classroom.

The use of technology in supporting teaching and learning in higher education is widespread. However, the use of technology to deliver and manage assessment is less common. So much so that in some instances there may be a disconnect between the modes and methods of learning and the ways in which students are assessed [9].

Some of the fundamental issues of assessment like mismatch between learning outcomes and assessments methods can be addressed by using technology like introducing 'Technology Enhanced Assessment' (TEA)[10].

Evaluate: One has to carefully evaluate the benefits of implementing TEA since it uses technology to handle some of the operational and pedagogic issues of assessment and encompasses diverse methods of using technology. Though TEA may automate the process and rapid delivery of feedback it may sometimes reduce the face-to-face interaction among students resulting in a feeling of isolation.

Pillars Of Quality Assessment



Fig. 2 Pillars of Quality Assessment

the real world: question asking and problem posing, reflection and self-assessment, decision-making and communication. Our experience shows that students can learn these skills only if regular feedback is provided. Problems with grading of the tasks can be avoided with the help of scoring rubrics.

3. Conclusions:

There is a direct impact on student's approaches to learning by the nature of assessment used. If we continue to use only theory based written examination as the method of assessment (as most of the institutes still follow)

then students are more likely to regurgitate the knowledge acquired.. Even the teaching methods become more effective with the nature of assessments. If we find ourselves bored marking piles of 60 essays and always desire strongly that students should read wide range of books then its time to RISE the pillars of assessment. Whether we use traditional method, online method or hybrid method of teaching, the best we can do is to make assessments of learning and infer that teaching and learning correlate.

For the 21st century learners both teaching and assessments have to be SMART (Specific, Measurable, Attainable, Realistic and Timely)

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