

Formative Assessment: Classroom Assessment Techniques

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Abstract

In today's education system, assessment has become as equally important as teaching- learning. Now, the focus of assessment practices is to assess what learners understand and can do rather than to know what learners do not know. Hence, "Assessment for learning" a formative assessment practice is gaining importance in all stages of formal education. Higher education is a no exception to this. In the present paper, an attempt is made to present about various classroom assessment techniques that can be used in formative assessment of students like memory matrix, Background knowledge probes, focused dialectical notes, defining feature matrix, one minute paper, chain notes. These assessment techniques not only help the teacher to assess various domains of learning but also play a crucial role in development of higher order thinking skills among the students.

Keywords: Formative Assessment, "Assessment for Learning", Classroom Assessment Technique.

Introduction

Learning is an important part of everyday life and is a lifelong endeavor. The dimensions of learning and its ways of measuring it can no longer be traditional and static. Hence, it is high time that the assessment practices should not only include just cognitive variables (critical thinking, reasoning etc) but it should also include non cognitive variables like teamwork, tolerance, tenacity etc. In current system of education, the assessment practices are still not able to assess the educationally valuable skills that are potentially suitable for success in 21st century (Shute and Becker, 2009). If this practice continues then the outcome of the education system would be of highly inferior quality. All this necessitates that the very nature of assessment i.e., "assessment of learning" should be supported with "assessment for learning" and "assessment as learning". The over importance given to "assessment of learning" has shadowed the real potential of "assessment for learning" and "assessment as learning".

"Assessment of learning" (summative assessment), which is one of the most dominated assessment practice in our education system comes generally at the end of the instruction to grade and certify the achievement level of the students and is quite useful for accountability purpose but it is hardly or marginally useful for supporting individualized learning. Hence, if the assessment has to be learner centric and support in individuals' learning it should be formative in nature i.e., "assessment for learning". "Assessment for learning" is most of the times informal or non-standardized continuous practices to collect and interpret information about the students' learning to determine the learning difficulties of the students and also to reflect on the practices of the teacher. It helps both the students and teachers. However, as it is often implemented in a non-standardized and less rigorous manner, it may have limited validity and consistency (Shute and Zaoata-Rivera, 2010). This less rigorous and non-standardized qualities gives the teacher/researchers to innovate new and effective techniques of assessment. "Assessment for learning" not only provides teachers with evidences about how their class is learning but also actively involves the learners in the process of assessment. These alternative assessment approaches stimulate the use of higher order thinking skills and help learners to understand more deeply (Shute, 2008).



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Time and again the need to bring changes in the assessment practices is being emphasized. Now, the focus of assessment practices is to assess what learners understand and can do rather than to know what learners do not know. Also, now the task of assessment is not just in the hands of a teacher alone but it is also the learners who can/have to assess their own learning and their peers learning. Now, it is felt that, assessment is not a one time activity rather it has to be ongoing and continuous practice. Assessment should not merely be done to students, rather, it should be done for students, to guide and enhance their learning (NCTM, 2000). Unlike measurement, assessment information can be used by a variety of stakeholders (eg: - teachers, students, parents, admin) for a variety of purposes (Shute and Becker, 2009). "Assessment for learning" provides the teachers a scope to use a variety of classroom assessment techniques for collecting information about the students learning which is influenced by factors like diversity in their experiences and background, levels of expertise etc. Whatever are in service and even if they get, the training would many times focus on "assessment of learning" and ignores the dimensions of assessment for learning and assessment as learning (Gary D. Phye, 1997). Classroom assessment techniques can help in assessing various aspects like content knowledge, critical thinking skills, creative thinking skills, synthesis skills, students' reaction to teachers, teaching methods, activities, assignments etc. In the present paper an attempt is made to present about some most useful and easy to use classroom assessment techniques for formative assessment.

Some classroom assessment techniques for assessing the subject matter learning

When it comes to subject matter, a teacher has to be aware about the current knowledge of the learner regarding the topic to be taught. A teacher after teaching the subject may also be interested in finding out about what students remember and what they understood about the topic taught.

Memory matrix

Memory matrix is a technique which a teacher can use as both pre-instructional and post instructional technique. As a pre-instructional assessment technique, a teacher can use this to know about the current knowledge of the students regarding the topic to be taught. In post-instructional stage, the memory matrix can be used to help the students to know the progress in their learning. In this technique, a teacher before teaching the topic can ask the students to list all the words that they know about the topic to be taught in a 2X2 or 3X3 or more higher level matrix and ask the students to preserve it. Once the teacher completes the topic, she/he can ask the students to repeat the same activity and compare it with the matrix they filled before the topic was taught. This would help both the teacher and student to know about their recalling and organizing ability. The memory matrix can be a smaller matrix (2X2 or

3X3) when it is used at pre-instructional stage and it can be of bigger size when used at post-instructional stage. To ensure that students do not get bored with this task when used repeatedly, teacher can make some adaptations like she/he can give column or row headings and ask students to fill the words accordingly. A teacher can also give it sometimes as a group activity. It can also sometimes be used as a whole class activity. The most important benefit of this technique is that it gives immediate feedback to both teacher and students regarding the learning and that too just with minimum of written information.

Background knowledge probes

Background knowledge probes are the very carefully framed probes/questions that will help the teacher to probe the students pre-existing knowledge about the concept/topic to be taught. Teacher should use these probes before introducing the new topic. These probes can again be used by the teacher in between the lesson to assess changes in students' knowledge and clarity. This assessment technique helps the teacher to know should be the starting point for instruction and also to decide about the appropriate level of instruction. When the teacher uses the same technique repeatedly he/she should can make some adaptations in the technique like she can ask the students to write their responses on a piece of paper and during the instructional and post- instructional phases she can give the chance to the students to revise their answers. At the end, she can ask the students to analyze how their answers have changed over a period of time. In this way, this technique can be useful to both teachers and students also.

Some classroom assessment techniques for assessing critical thinking and skills in analysis Focused dialectical notes

During the instructional or post instructional phases of teaching, many times a teacher needs to expose the students to academic text/course related readings. The success of learning in this situation depends on how well students can reflect/question/make assertions regarding the academic text/course readings they are exposed to. To assess this, a teacher can ask the students to write focused dialectical notes about the academic text/course related readings that they read. A teacher can ask the students to have the dialogue with the text that they are reading and ask them to write about their agreement, disagreement or questions. The dialogues written by students in the form of notes provides the teacher with detailed feedback on how students analyze and respond to academic text they are reading. A teacher can easily identify both the general problems in students reading and also problems related to content of the text. To make the technique still more interesting a teacher can ask the students to divide a page into two half and write their dialogues in the first half of the page (during instructional stage) and write the dialogues once again in the second half part (after the post instructional phase). A teacher can also ask

students to write focused dialectical notes regarding a lecture/talk etc.

Defining feature matrix

When a teacher wants to assess students regarding their understanding about some closely related or seemingly similar items, she can use "defining feature matrix" technique. In this technique students can be asked to categorize items according to presence (yes or +) or absence (No or -) of some defining features or qualities. This technique helps to assess student's skills at categorizing information according to given set of defining features or qualities. In later stages the matrix can be increased from simple binary response to multiple categories like "always present", "never present", "often present" and "rarely present".

Some other techniques of assessment are discussed below:

One minute paper

This technique is also known as "half sheet response". It can be used at the beginning or end of a class session and can be considered as a warm up or wrap up activity. It is a technique which elicits timely and limited feedback from students. The questions that teachers pose may be about class procedures, content, materials, activities and assignments, or any other specific element that the teacher wants to examine. A teacher can pose one or two questions about that aspects that she want to assess and give liberty to students to respond in single word, phrases or short sentence as per the nature of the question. This is a very quick, short and easy way to get feedback and can be used in a variety of context.

Chain notes

This is a technique which is helpful to provide context and teacher specific feedback that can help in improving the teaching. In the instructional phase when a teacher feels that her teaching is not giving her the desired or targeted level of output in students learning, a teacher can use this technique. This technique is very effective when a teacher uses it immediately after the instructional phase in the same class session. In this technique, a teacher can pass on an envelope in the class on which she can write the question of that day. Each student has to drop the response in the envelope. This technique allows a teacher to view at classroom from students point of view. For this technique to be effective, teacher should frame the question to be posed very carefully and more specifically. To reduce the implementation time, a teacher can write the question on blackboard rather than on envelope and then collect the students responses and analyze it immediately on the same day.

Conclusion

A teacher has to select the assessment techniques carefully keeping in mind the aspects like nature of content, learning outcomes to be achieved, time available, activities in classroom

instructional phase etc. These classroom assessment techniques not only help in assessing the learning but also act as an output of documented set of self made/individualized notes which will prove to be very useful to students during their summative assessment. However, for effective implementation of these techniques, before applying these techniques in the classroom, a teacher has to try them on herself and try to identify its pros, cons and possible limitations. If necessary, a teacher also has to give practice to the students regarding these techniques. Also, a teacher has to continuously think about adaptations to these techniques so as to ensure that students don't get bored with these techniques. Also as these techniques produce a lot of written/oral content, a teacher should plan very carefully to convert them into effective academic notes and give it to teachers. The effectiveness of these techniques lies in various aspects like how well it was designed, how well it was explained to the students, how well it was implemented and last but not least how well a teacher analyzes the collected data and uses it to bring improvement in both teacher and learner.

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