

Chapter 9

Dynamic, Online, Objective Assessment for Continuous Assessment

Justin Hatt

Independent Researcher, Canada

ABSTRACT

Continuous assessment can be helpful in getting students to practice what they are learning throughout a course. However, the task of administering continuous assessment, especially in a higher education setting, can require a significant amount of effort from teachers and lecturers; as a result, it is possible the quality of tasks encompassed in a continuous assessment strategy will be weakened or lessened. Good online assessment applications can help teachers and lecturers create suitable assessments whilst also providing relevant statistical information that helps them understand the progress students are making in their courses. This chapter will explore the potential for implementing objective, online assessment as a continuous assessment strategy in higher education. Focus will be given particularly to an application known as Maths (previously Mathletics) to explore the features that can exist to support and enhance the learning environment for students in higher education.

INTRODUCTION

In education, educational theories and concepts play a significant role in determining how to apply best practices to each lesson. One particular concept from Black, Harrison, Lee, Marshall, and Wiliam (2004) is continuous assessment, which focuses on measuring student achievement during the learning process (Sadler, 1989). In this concept, assessment takes place throughout the entire learning process to ensure students are learning and so, if students are unable to grasp particular ideas, assessments will expose this so that teachers may remedy the situation by recalling and reinforcing learning. Continuous assessment can give a better picture of a student's focus and determination throughout the course, but it is helpful to have an understanding of other concepts in order to implement continuous assessment more effectively.

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As shown by Gaytan and McEwan (2007), one method to support assessment and learning in the classroom is to assess using online methods, which can be used as part of an in-class assessment strategy or fully through online courses. One strategy that is often administered is objective, online assessment, assigning questions to students and asking them to complete tests in a given format, such as a time-limited, invigilated test session. Coll, Rochera, Mayordomo, and Naranjo (2007) have shown that continuous assessment is not only useful, but they also discussed how online assessment could be helpful in administering continuous assessment in higher education. Much work has also been done to provide teachers and lecturers with additional tools to support them in administering objective, online assessment, such as statistical data to review students' progress in answering questions.

In the classroom, particular details to relevant learning material need to be explained, especially when they are applying learning material in the classroom through various activities and exercises. To explain the use of detail, one concept, used by Hargreaves (2005) and OECD (2008), is employed and is known as formative assessment; in this concept, assessments provide feedback to students and the teacher, according to Black and Wiliam (2010), showing where students understand ideas and where students need additional guidance. However, it is also strongly hinted that formative assessment only occurs when assessments highlight the need for reinforcement, which then leads to teachers having to *adapt the teaching to meet student needs*; this differs to summative assessment, which evaluates student work and makes a suitable judgment about the work completed (Taras, 2005). Continuous assessment, when utilized properly, should make use of both formative and summative assessment (Hernández, 2012).

According to Earl and Katz (2006), this approach to formative assessment has become synonymous with *assessment for learning*, which is seen to occur through the learning process. However, assessment and learning comprises of more than just assessment *for* learning as it includes two additional concepts:

- *Assessment as learning*, where learning is interactive between learners rather than between the teacher and learners.
- *Assessment of learning*, where students demonstrate the learning they have obtained through strategic assessments.

Getting students to interact with their own learning allows them opportunities to grasp learning material in different ways, thus helping them to have a fuller understanding of what they are learning. Also, by demonstrating what they have learned, students can be validated in gaining new skills, which will enable them to progress towards future goals, including a career or further educational studies.

However, there is a real dilemma in that there can be competing or misunderstood understandings of the concepts. For instance, assessment of learning is often linked with examinations at the end of a given unit (OCED, 2008), but perhaps it could also be applied at the end of each section of a unit or repeatedly during a lesson. The demonstration of learning that Earl and Katz (2006) mention can occur throughout any assessment. Additionally, assessment of learning has become synonymous with summative assessment (Harlen, 2007), but summative assessments can occur frequently throughout the learning process, even with replicated assessments focusing on identical learning objectives, whereas assessment of learning has some degree of finality associated with it.

Also, it does matter who is doing the assessment. Most often, teachers are assessing students, but in peer assessments (Topping, 1998), students are assessing each other; in such a case, students can determine, on their own and without necessarily being aware of doing so, if they will assess formatively or summatively, but they should not conduct an assessment of learning on their peers as they, too, need to

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