Chapter 20

The Integration of Educational Technology for Classroom–Based Formative Assessment to Empower Teaching and Learning

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ABSTRACT

As educational technology continues to change the face of educational contexts in the digital age, the way in which teachers can incorporate various existing online resources and applications within their everyday classroom activities deserves closer attention. In particular, it is important to explore how interactive Web 2.0 tools might be integrated into classroom-based assessment practices. This way, the efficacy of online tools and their ability to both facilitate teacher assessment practices and empower student learning can be adequately assessed. This chapter aims to explore, showcase and discuss how Web 2.0 tools can be integrated into teachers' classroom-based language assessment to get information that can be used diagnostically to adjust teaching and learning with reference to current literature, explore challenges and focus on suggestions and avenues for further research. Furthermore, examples of web tools that could be used for formative assessment will be briefly enlisted.

INTRODUCTION

Teachers spend a considerable amount of time in the classroom on assessment-related activities. Indeed, it has been estimated that teachers spend anywhere from one third to one half of their professional time engaged in assessment-related activities (Stiggins, 2005). It is commonly argued that understanding and implementing efficient and effective classroom assessment is pivotal to driving effective instruction and increasing student achievement (Marzano, 2000). Therefore, acknowledging the different purposes of

assessment is of vital importance for enhancing the effectiveness of both teaching and learning. Within this context, two main areas of assessment emerge: formative and summative. With formative assessment, information gathered through a process of testing and evaluation can be used as a means to determine further classroom work that better caters for the particular needs and difficulties of individual students, grounding the subsequent learning in more appropriate teaching learning methods, activities and tasks. In other words, formative assessment empowers teachers to use information gained from assessment about a learner's progress as a basis for necessary instructional modifications. With summative assessment, testing and evaluation can be used to determine learner progress or express learner achievement at the end of a course or study. The purpose of this chapter is to: 1. Explain the differences between summative and formative assessment in the classroom. 2. Review research studies which examined impact of m-learning and ICT on teaching and learning. 3. Demonstrate the ways in which various Web 2.0 interactive user-focused tools can be used for formative assessment purposes. 4. Highlight the importance of assessing students formatively and how twenty-first century technology can assist in this process since use of digital tools can promote greater learner involvement in their own educational process, enhance opportunities for student self-reflection and empower student's independent decision-making about how to optimize their progress.

RELATIONSHIP BETWEEN FORMATIVE AND SUMMATIVE ASSESSMENT

Researchers and educators have voiced different conceptualizations regarding the relationship between formative and summative assessment. For some, formative and summative assessment are mutually exclusive (Biggs, 1998). "By definition, summative represents high stakes for grading which significantly reduces the stakes for learning. Formative assessment needs to be high stakes for learning and zero stakes for grading" (Sadler, 2009, p. 1). Summative assessment mandates strict requirements on test development and administration because it has serious decision-making implications, while formative assessment can make use of a variety of assessment practices ranging from a formal test to informal ones such as systematic observation. In Sadler's account (1989) formative assessment entails how judgements about the quality of student outcomes such as oral and written work can be used informatively to improve their competence, achievement and attainment of course objectives. If the information gathered from an assessment practice is not used formatively as a basis of feedback for further classroom work, then it becomes a summative grade (Sadler, 1989). In addition, Taras (2008) focused on the constructive use of feedback in formative assessment, and argued that rather than an isolated assessment task, a cycle of work or an array of assignments are required for students to build up expertise. Therefore, the learner's uptake of such information and teacher's modifications in instruction differentiates functions of summative and formative assessment.

As summative assessment uses assessment procedures at the end of an instructional phase (e.g., end-of-grade tests), it can be used to make decisions about the effectiveness of previous instruction. However, formative assessment consists of day-to-day activities used in the classroom that allow a teacher to continually adjust instruction (Popham, 2009). For Light, Cox, and Calkins (2009) formative assessment refers to development, improvement and learning, while summative assessment entails accountability and performance. The difference in the uses of the results of each assessment type necessarily creates distinguishing features between the two. For Rea-Dickins, for instance, formative assessment is prepared and conducted routinely by the class teacher based on what has been taught in order to generate student

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