Chapter 11
Optimizing Learning Through Activities and Assessments:
A TPACK–Based Online Course Design

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ABSTRACT

Developing an effective online learning environment requires course instructors to integrate technology, pedagogy, and content knowledge (TPACK) into teaching. Focusing on a TPACK-based design for a fully online course in qualitative research methods, this chapter provides a detailed description of developing an online course in three stages: (1) planning and designing a course, (2) preparing an effective course syllabus, and (3) developing activities and assessments. Rubrics as assessment tools are used extensively for grading competencies in the core assignments, addressing the issue of how best to evaluate learning outcomes based on the criterion referenced assessment. The chapter describes that learning activities and assessments are so closely intertwined that it is almost impossible to discuss one without discussing the other, as one seeks to optimize online learning. The description thus supports the principle of instructors who not only become facilitators of learning but also motivators for students in online courses.

INTRODUCTION

In the past, college and university students largely depended on professors and textbooks for access to information. As described by Janicki, Schell, and Weinroth (2002), the teacher-centered or lecture-focused (an approach in which the professor would assume the role of the sage on the stage) twentieth century learning is characterized as follows: teachers as experts; textbooks as primary resources; facts as primary; information is packaged; emphasis on product; and assessments are quantitative. In the same way, Janicki et al. described the characteristics of the learner-centered or resource-based (an approach in which the professor is recognized as the guide on the side) twenty first century learning as follows: teachers as facilitators; variety of resources or media; questions as primary; information is discovered; emphasis on process; and assessments are both qualitative and quantitative. The shift from "teacher-

centered" methods to "learner-centered" methods is a tremendous change in higher education, essentially shifting from an emphasis on "teaching" to "learning." The challenges of the information age include restructuring the learning process to reflect the use of information in the real world—and thus, changing the role of teachers from presenters of prefabricated facts to facilitators of active learning as collaborators for the effective use of online resources. In Morris's (2004) words:

Higher education has changed significantly in the areas of technology, diversity, and expectations for faculty in teaching and learning in the past three decades. Technological advances have revolutionized the way students obtain information; the way students and professors interact; and the way information is taught, learned, and shared. (p. 3)

Higher education faculty members are more than ever expected to provide technology enhanced platforms for teaching and learning. According to O'Connor (2012–2013), instructors should develop their own understanding of the practices best suited to increasingly networked and social learning environments: mostly instructors should periodically and systematically consider and revise their methods for planning courses as part of their professional development. As online learning (also known as online education, distance education, or e-learning) gains increasing acceptance as a general format for courses in higher education, it becomes increasingly important to understand the design, development, implementation, and evaluation of online courses. An online course (defined as a built environment for learning and generally to be accessed anytime and anywhere) is in fact "attractive for students and teachers because they are not restricted by time and place. Moreover, with the rapid development of technology, the online learning industry is growing significantly" (Lee & Choi, 2011, p. 593).

"Blended" (also known as mix-mode, melted, integrated, multi-method, or hybrid) courses are classes where a portion of the classroom-based format is replaced by the online resource-based format, whereas "online" courses almost entirely rely on technology to mediate the learning environment. It is important to realize, however, that a fully online course is not just a matter of transferring portions of the existing face to face course to an online format: learning within a flexible online format offers a unique opportunity to integrate *pedagogy* and *technology* with the teaching and learning process (Smythe, 2012).

This chapter focuses on the Technological Pedagogical Content Knowledge—originally TPCK, now known as TPACK (Technology, Pedagogy, And Content Knowledge)—based instructional design in a research course. The chapter provides a detailed description of designing a fully online course in three stages. The first stage is the course design plan, which serves as a blueprint for development. The second stage involves developing an effective course syllabus. The third stage involves the alignment of assessments with learning activities. The description substantially demonstrates that learning activities and assessments are so closely intertwined that it is almost impossible to discuss one without discussing the other, as one seeks to optimize the practice of teaching and learning in the online classroom.

LITERATURE REVIEW

Certainly, "New and emerging digital technologies are more accessible for incorporation in educational programs with increased access and societal uses in day-to-day actions. Teachers are confronted with challenges and questions of how and when to incorporate such technologies for teaching and learning various subject matter topics" (Niess, 2011, p. 299). The increase in the use of technology has played a

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