Chapter 3
Enhance Student Learning with PowerPoint Games: Using Twenty Questions to Promote Active Learning in Managerial Accounting

Victoria A. Fratto
Robert Morris University, USA

ABSTRACT
Stakeholders encourage accounting educators to provide active learning opportunities, to integrate the creative use of technology into the curriculum, and to emphasize learning by doing. The principles of good teaching practice can use technology to promote active learning, to provide prompt feedback to students, to increase student time on task, and to make learning more effective and efficient for the student. Technological tools can permit students to become active participants and can improve student learning by giving students convenient access to review material with immediate feedback. This article describes the use and development of a PowerPoint game in an introductory accounting course (managerial accounting) that provides the student with immediate feedback and is designed to be accessed by the student outside of the classroom. This technological tool can be used in other undergraduate academic disciplines.

INTRODUCTION
Stakeholders realize that accounting educators must focus more on the broader skills necessary to help students become self-regulated learners so they may effectively cope with changes in technology and regulations in the field (Wyer, 1993). Recognizing the need for change in accounting education, the Accounting Education Change Commission (AECC) (1992), and the American Institute of Certified Public Accountants (AICPA) (1999) encourage accounting educators to provide active learning opportunities and to integrate the creative use of technology into the curriculum, particularly in introductory accounting courses (AECC, 1992; Saunders & Christopher, 2003).
These pronouncements acknowledge the impact of technology on business operations and the need for accounting professionals to become more proficient in the effective use of technology. However, they do not provide specific recommendations on how accounting educators should meet these initiatives.

In spite of the recommendations from the AECC (1992) and the AICPA (1999), accounting faculty members remain resistant to innovative teaching and learning strategies that encourage students to actively participate in their own learning and to the effective use of technologies in the delivery of subject content. Saunders and Christopher (2003) found in a survey of 106 accounting chairpersons from mostly AACSB accredited institutions that few accounting programs require students to attend a laboratory session (15.1%), few require completion of a simulation (20%), and approximately one half (54.3%) require completion of a computer assignment as part of an introductory accounting course.

Also, in an effort to determine which technologies had widespread application among accounting educators, Ahadiat (2008) analyzed data collected from 288 respondents from across the country. The participants were randomly selected from the 2004-2005 Accounting Faculty Directory (Hasselback, 2004). He found the most popular applications of technology in accounting education were email for communication with colleagues (90.2%), the Internet for information retrieval (90%), word processing for student assignments (88%), spreadsheets for grades (86%), presentation software (71%), and data analysis software for personal use (54%).

**Theoretical Background**

Various approaches to enhance the teaching and learning process have been advanced such as the “Seven Principles for Good Practice in Undergraduate Education” created by Chickering and Gamson (1987) and Barr and Tagg’s (1995) learning-centered paradigm. Both of these models recognize student engagement and active learning as important factors in teaching and learning. Chickering and Gamson (2001) argue that Chickering and Gamson’s (1987) seven principles as well as more progressive approaches do not necessarily need to be modified for web-based or technologically enhanced courses. They state that good teaching practice can use technology to promote active learning, to provide prompt feedback to students, to increase student time on task, and to make learning more effective and efficient for the student.

Researchers indicate that educators are now teaching a generation of learners who are no longer simply visual or verbal learners (Oblinger, 2003; Tapscott, 1998). Students prefer learning opportunities based in the technologies they are comfortable using and the creative use of technology is now expected, at least on the part of the students (Proserpio & Gioia, 2007; Ueltschy, 2001). Proserpio and Gioia (2007) argue that educators need to be sensitive to these patterns and behaviors in order to design and deliver curriculum that is appropriate for this digital-savvy generation.

The introduction of technology into the curricula allows teachers not only to change the way they deliver information but also the way they interact with students (Briggs, Nunamaker, & Sprague, 2007). Technological tools can permit students to become active participants in the learning process rather than passive recipients and can improve student learning by giving students convenient access to review material and immediate feedback (Gaston, 2006).

Games can be used to promote active learning and to support the information the educator is trying to convey. Well-designed computer games can offer a number of benefits over traditional, lecture based teaching. Recent research indicates that educational computer gaming can increase students’ motivation (Michael & Chen, 2006), permit students to engage in interactive learning.
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