Chapter I

Integrating Technology to Transform Pedagogy: Revisiting the Progress of the Three Phase TUI Model for Faculty Development

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ABSTRACT

In a previous article, the authors illustrated a three-step staff development program for linking technology training with theory to transform pedagogy. Essentially, the model identified three key phases: the training phase, application phase, and the integration phase. The focus of this chapter is to update the research on the three-phase model and to highlight the progress Robert Morris University has made to transform the teacher-centered classroom into a technology rich, learner-centered environment. This transformation process will be explained and illustrated for the reader.

INTRODUCTION

Currently, colleges and universities have the obligation and have rightfully assumed the responsibility to provide both their faculties and their students with a knowledge and application of the latest instructional technologies for the enhancement of learning. Wiske (2004) advocated the use of a pedagogical framework that provides criteria for productively using technologies for deepening understanding, while the International Society for Technology Standards, through its National Educational Technology Standards (NETS) project (Thomas, 2004), started to provide educational leaders with guidance in developing national standards for technology. Further, in a study from the U.S. Department of Commerce (2000), the Economics and Statistics Administra-
tion, and the National Telecommunications and Information Administration, it was noted that “raising the level of digital inclusion by increasing the number of Americans using technology tools of the digital age is a vitally important national goal” (p. xv). Hence, effective use of technology is being elevated to the highest level of importance on the education continuum.

A common approach to meeting this demand is to provide hardware and software training with the anticipation that faculty and students will see both applied and residual value to this training. Many schools and departments are requiring courses focused on the attainment of specific technology core standards of achievement and mastery of technology tools. In fact, Fox (2005) reports that technology use and access to new and current technologies is on the increase in most schools throughout the United States. However, much of the current research (Oppenheim, 2005) suggests that placing computers in a classroom has been a waste of time and money in many cases. Specialized training and faculty commitment are extremely important for the effective integration of technology throughout the instructional and learning processes. As noted in a previous article (Graham & Semich, 2006), Robert Morris University has developed some courses to meet specialized technology course requirements with the primary goal to effectively integrate technology across the curriculum. In order for successful technology integration to occur, the authors feel there needs to be a strong link between content and delivery and that the use of technology will be most effective when technology use is based on sound instructional theory. Consequently, the authors’ basic contention is to show how educators can bridge training with theory to transform pedagogy. In their article, “Pedagogy and Innovation in Education with Digital Technologies,” Johnson, Chapman, and Dyer (2006) connect pedagogy to outcomes as follows: “It is difficult to predict how education will change over the next decade let alone the next century, but there will most certainly be changes in pedagogies which more readily recognize the way young people learn with new technology. Learning outcomes and measurable outputs will need to reflect this” (p. 5).

PROBLEM STATEMENT

Given the increased emphasis and national priority placed on technology, the authors gathered information related to the use of technology for instructional purposes at Robert Morris University. With this data and support from research, they formulated a model faculty can follow to effectively integrate technology across the curriculum and help to transform pedagogy to a more constructivist as opposed to behaviorist model of classroom instruction.

BACKGROUND

Robert Morris University (RMU), in recognizing the importance of technology, has been proactive about providing state-of-the-art presentation classrooms for faculty and students. In these classrooms, faculty has access to an LCD projector, a computer, and a VCR for instructional purposes with the addition of wall-mounted Smartboards, DVD player, and Smartboard software. Digital cameras and specialized software have also been purchased for student use. Likewise, other classrooms on the campus are equipped with appropriate technology resources. For instance, a smart cart, a touch screen, a document camera, cabling for a laptop, and recording equipment are typical devices available for faculty use. By providing these resources, the overall RMU goal remains the same, which is to use technology to transform the learning environment so that it is participative, customized, and student-centered. Recently, the university purchased two laptop carts for classroom use, which include 24 win-
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