Chapter 3
A Theoretical Model for Designing Online Education in Support of Lifelong Learning

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ABSTRACT

The escalating infusion of online education to promote lifelong learning has triggered a re-examination of teaching and learning not witnessed since perhaps the advent of the printed textbook. Textbooks changed the landscape of individualized learning as professors added reading to their inventory of instructional strategies. Today, distance education, in all its manifestations from programmed instruction to Web-based courses, requires instructors to employ new strategies in course design and delivery in order to engage students and promote learner-centered activities. The rapid growth of distance education (especially for the adult learner) serves to challenge traditional methodologies in which education is designed, delivered, and assessed. This chapter introduces a new model for designing instruction using this state-of-the-art venue, an archetype for effective instructional design for lifelong learning.

INTRODUCTION

The rapid growth of technology now enables delivery of lifelong learning in ways that increase access and overcome traditional barriers of geography and time normally associated with conventional classroom instruction. The emergence of video and Web-based courses has thrust educational institutions into newer and more complex distance learning environments in order to link their students and instructors in cyberspace. The potential for sharing information, engaging in collective learning, and participating in reflective thinking has provided, according to Van Dusen (1997), opportunities for supporting “collaborative learning, heterogeneous groupings, problem-solving and higher order thinking skills—educational processes that a lecture format cannot facilitate” (p. 45). Such focus on student-centered teaching requires more than simply learning to use technology; it also requires learning new and different ways of teaching that
engage the student in a virtual learning environment (DeNigris & Witchel, 2000; Kearsley, 2000; Knowlton, 2000; Ko & Rossen, 2001; Palloff & Pratt, 2001; Simonson, 2000; Young, 2000). Some would say such reorientation requires an entirely new model for designing and assessing such new instruction.

The objective of the chapter is to propose a new model for designing online instruction that incorporates state-of-the-art technologies. The research-based methodology presented in this chapter describes a process for designing effective online education that involves a simple five-step process. The model is offered to assist educators in developing online instruction for lifelong learning.

REVIEW OF THE LITERATURE

History of Instructional Design: Problems and Their Solutions

The word “model” is often used to represent theoretical or abstract concepts that exist in the real world. A model may be a prototype of a real-world object (e.g., an architect’s model of a building) or merely represent an object with no real-world counterpart (e.g., a UFO spaceship). In the context of education, models have often presented fresh perspectives for educators seeking to construct a vision of new concepts or representation of experiences too large, too small, too dangerous, too distant, or, in the case of educational applications, too fragile for human experimentation. For the innovative educator, models have often served to provide the conceptual framework to pose solutions to practical problems.

Instructional System Design (ISD)

Designing instruction experienced its first taste of immediacy during the ramp-up of World War II. Military instructors needed a systematic, methodical, organized schema to produce training courses—and they needed it in a hurry. For the thousands of military instructors and the tens of thousands of their recruit-students, ISD was the answer to the problem quickly of creating results-oriented lessons.

ISD models have enabled would-be developers to tackle new lessons or curriculum in a systematic, methodical, organized manner. ISD models help visualize the interrelated tasks associated with the sequencing of discrete, manageable instructional units. Educational psychologists would ascribe behavioral learning styles to the ISD approach; that is, designers who prefer sequential, logical, hierarchical, and chronological instruction tend to steer towards using the ISD paradigm.

A variety of ISD models have been developed since the initial military ISD model came into wide spread acceptance in the 1940s. The Inter-service Procedures for Instructional Systems Development (often called the military ISD model) was approved by the Joint Chiefs of Staff in 1975 and remains the governing prototype for all military education and technical training.

The ADDIE model (Figure 1) represents the five basic phases of most ISD models, although terminologies may differ. Most ISD models propose an analysis phase followed by design, development, implementation, and evaluation. They begin with the analysis of tasks to be performed, content area learning objectives, time-lines, and priorities and constraints. Designing lessons via ISD demands an understanding of the target learner and a hierarchy of instruction from simple to complex, least to most important, past to present—basically, the behavioral approach to learning.

The development phase examines questions such as who will be responsible for the instruction, what resources will be needed to deliver the lesson, when the instruction will be delivered, where the lesson will be delivered, and how the instructor will know learning has occurred.

Implementation encompasses a critical distinc-