Chapter XXI

Using Modulization Approach to Design Instructional Systems for Computer Literacy Courses

Kuan C. Chen
Purdue University, Calumet, USA

ABSTRACT

In this chapter, the guiding principles of the modularization content arrangement that some instructors use is offered. Eight planning steps in module instructional design are summarized. A general strategy of these principles and applications in a case study is discussed in this chapter as well. A new modularization approach in instructional design, defining the course goals and arranging the course content, are two important issues for instructors. The author hopes the process of the module instructional design through essential knowledge and skills in the computer literacy course development will not only be a valuable synthesizing experience for instructors, but also the modularization approach may be preferable to students with a variety of backgrounds.

INTRODUCTION

We are in the midst of a technological revolution that is changing our way of life. The cornerstone of this revolution, the computer, is transforming the way we communicate, do business, and learn (Long & Long, 1990). In the mainframe and minicomputer era, computing was used for transaction processing and related business applications. Given their size and cost, computers were nearly always kept locked away in safe, separate computer facilities. Only computer professionals dared enter these secured premises. Computer usages and learning were limited in certain environments. Computers today are found in millions of homes and just about in every office. As a matter of fact, most office workers have a computer connected to a local area network and the Internet. Eventually, all of us will have at least one computer, and we will use it every day in our work and leisure. Thus, learning computer usages is not an expensive and special discipline. There are a number of significant changes in learning about computers today, such as learning styles and age. Many learners and users start at an early age to use computers. Some elementary schools provide computer labs for pupils to gain basic computer skills. Most high schools also provide computer application courses for students, ranging from typing classes to basic software development. Some students even start to use computers in childhood by using game software for fun. During the growing process, they learn how to use the system, how to use different inputs and outputs, how to process data to turn it into information, etc. Furthermore, some students even have the capability to write their own programs, design their own Web sites, or build their own computer systems. The students we mentioned here are "a lot of them" or "some of them." This implies that not all students have a strong background. Some may do well with hardware, some may have strong knowledge in software, or some may be comfortable with both. Then again, some may have limited knowledge in computer information systems. However, computer literacy courses, in general, are required for college students with different majors. In other words, computer literacy courses need to be taught to students with a variety of backgrounds.

Instructional design for a computer literacy course becomes a big challenge to instructors or course designers. In a computer literacy course, for example, an instructor may find that some students have not yet mastered the concepts of hardware and software; others may just be beginning to learn to use the mouse and simple word processing; still others may be building their own computer and home networking. Obviously, these different sets of students need to be taught different sets of enabling knowledge and skills. It would accomplish nothing to present data management to students who are still struggling with the concept of binary codes. And, it is not likely to be of advantage to those students who already have written their own computer programs to have to suffer through lessons that require them to learn how to save and open files. Some instructors implement the cooperative learning style to have the students with strong computer backgrounds teach those with fewer background skills. However, from the viewpoint of educational resources, resources for instructors and learners are wasted. A practical solution is to adopt a modularization approach to the course. The purpose of this chapter is to investigate the adaptability of the modularization approach to the design of instructional systems. Module instructional design (MID) is examined to determine the potential utility of this technique in the design and delivery of computer literacy instructional systems. To examine this potential utility, a demonstration is provided for how it might be used in a computer literacy course.

11 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/using-modularization-approach-design-instructional/7348

Related Content

CTE Distance E-Learning Application: A Learner-Centered Approach
Brenda C. Ledford (2009). *Handbook of Research on E-Learning Applications for Career and Technical Education: Technologies for Vocational Training (pp. 408-420).*
www.irma-international.org/chapter/cte-distance-learning-application/19989

Fostering a Global Mind: Challenges and Best Practices in Higher Education
Erika Cornelius Smith (2018). *Handbook of Research on Cross-Cultural Business Education (pp. 68-88).*
www.irma-international.org/chapter/fostering-a-global-mind/205945

Serving Rural Communities Using Blended Technology
Jules K. Beckand Bobbie T. Biggs (2009). *Handbook of Research on E-Learning Applications for Career and Technical Education: Technologies for Vocational Training (pp. 681-694).*
www.irma-international.org/chapter/serving-rural-communities-using-blended/20009

E-Business Education for Everyone: Developing and Implementing Breakthrough Strategies (Or How Can IT Practitioners and Educators Make Computer Morons Surf and Steer on E-Business Space)
Rumel V. Atienza (2003). *Current Issues in IT Education (pp. 313-322).*
www.irma-international.org/chapter/business-education-everyone/7353

Mentoring in an Online Environment
Margaret Moodian (2022). *Handbook of Research on Future of Work and Education: Implications for Curriculum Delivery and Work Design (pp. 269-281).*
www.irma-international.org/chapter/mentoring-in-an-online-environment/288168