

PROTOTYPING A WEB-BASED LEARNING AID

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ABSTRACT

We have developed a user-oriented learning aid that incorporates Web technologies in delivering instructional materials. A prototype of this learning aid is explained in this paper. It can be used as a learner-centered learning tool for students to enhance their learning experience. This learning aid is very easy for a teacher to create and it is also very easy for students to use. This prototype can be applied to courses in various disciplines. In this paper, we describe how to create this learning aid and demonstrate its applications using a specific course, Web Programming with JavaScript and Perl, as an example. Some issues are discussed to assist instructors to better develop their pedagogical strategies related to this learning aid.

Keywords: Web-based instruction, prototyping, instructor-centered aid, learner-centered aid.

INTRODUCTION

Good education depends on good pedagogical practice. The information technologies available for today's learning provide the instructors with the opportunities to adopt new approaches to teaching and learning. About 70% of four-year colleges and universities in the United States offer Web courses using WebCT, Blackboard, and related software (12). There are at least 74% of companies with 100 or more employees have used the Internet in training (6). Researchers have investigated the computer-based training methods with other instructional methods. Most of them have studied the usefulness of one or two computer-based methods in accomplishing some teaching objectives such as learning effectiveness. Most of the studies indicate that computer-based methods used appropriately can augment student learning (4), (10), (11).

The World Wide Web and multimedia technologies offer instructors the opportunity to reconsider and rewrite instructional content. Information technology allows them to think of ways to reach students and deliver curriculum as they never have before. Media as teaching tools have altered the conceptions of learning and instructing (1), (2), (13). Though information technology increases the efficiency of information dissemination, instructors should consider pedagogical strategies, learning styles, instructing modes, creativity, intellectual domains, and media characteristics when developing computer-based learning tools. Since most instructors are not technology savvy, we present a simple web-based learning aid in this paper. The purpose is to help instructors develop a learner-based environment to improve learning effectiveness.

WWW AND LEARNING MODELS

Technological advancement has driven universities and corporations to a great reliance on computers and emergent information technologies. The introduction of the World Wide Web into classroom instruction has been a recent and exciting trend in instructional paradigms. The