Chapter III

Summative and Formative Evaluations of Internet-Based Teaching

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INTRODUCTION

Teaching is a communication process in which a body of knowledge is delivered from an instructor to students (Gagne, 1985). This communication traditionally takes place in a classroom. With the proliferation of computer software and hardware at low costs and the ease of access to the World Wide Web, one should expect that the use of Internet and related information technologies will foster an alternative teaching environment. Previous works have reported on various Internet-based teaching aids such as using e-mail, posting information on a Web page and using the Internet to search for additional class materials. Integrating these teaching media in a larger framework of Distance Learning and Virtual Class (Hiltz, 1994), they would provide a synergistic effect in helping students acquire the desired body of knowledge efficiently. From this perspective, we discuss a framework for summative and formative evaluations of Internet-based teaching in higher education. The timely evaluation is necessary for the development and implementation of a new teaching/learning environment. It will assure that the technology meets the intended pedagogic goal of teaching by taking into account feedback from student-users.

INTERNET-BASED TEACHING MEDIA

In general, one may classify Internet-based instructional technologies in the following three types: electronic communication, electronic posting and course Web site. The classification represents an evolution of the use of these technologies. However, these types are not mutually exclusive since one can always aggregate them in a larger framework of Distance Learning and Virtual Class.

Electronic Communication

Some computer networks have the facility of allowing their users to communicate online between two parties or among a group. This feature is convenient when a group of students cannot meet at a same location but could be online at the same time to exchange information. A group member will access his/her network account and then "talk" to other party via teletyping.

E-mail is another electronic communication which has been widely used by instructors and students outside the classroom. The communication varies from a one-to-one message to one-to-many messages sent to a distribution list. The advantage of using e-mail is that both parties can send and answer messages at their convenience without physically disturbing the other party as in telephone calls. Electronic files can be attached to an e-mail message. A message can be edited and then forwarded to another party. However, the response to an e-mail may not provide necessary timely feedback if one party delays his/her response. In the current state-of-the-art of telecommunication technology, e-mail should be considered as another messaging medium like an answering machine. Nevertheless, e-mail can be incorporated effectively in a larger framework of Internet-based teaching.

Electronic Posting

An instructor may make the course material available in the storage of his/her own account or a group account on a computer network. Computer software is usually used for the management of message transactions within a group account. Certain files of an individual account can be made available for public accessing. With authorization, students can extract material from the instructor's account. Or students can have personalized identifications to access the group account where class material is stored.

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