Internet-Based Distance Education: Barriers, Models, and New Research

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Abstract: The rate of success of a student in Internet-based distance education courses is usually attributed to several factors. One must examine all of these elements in order to assess how each facilitates or impedes the knowledge to be gained. In the new millennium, adult learners will become the fastest growing segment of higher education (Ben-Jacob, Levin, & Ben-Jacob, 2000; Galusha, 1997); this will call for a greater need to offer quality off-campus, Internet-based courses. With the rise of technological advances in delivery systems (Bonk & Dennen, 1999), we will see a unique meshing between student and telecommunications. The following observations involve adult distance learners.

Barriers

Contrary to the potential 'facelessness' of Internet-based distance education, there is no other teaching method that requires more collaboration between the student and the instructor (Galusha, 1997) than distance education. While traditional roles of student and teacher are ever changing, in distance education, instructor feedback is still extremely vital to the student for self-evaluation, task orientation, instructor support, and flexibility (Jegede, Fraser & Fisher, 1995). In place of the face-to-face meeting, students in a distance course can utilize 'low-end' videoconferencing to maintain a synchronous connection and still receive immediate feedback from an instructor (Kueker, Jackson & Walker, 2000). Text-based synchronous media also allow interaction from members of a class discussion in real time with any number of students. Telecommunications and Internet resources allow participants to share ideas and exchange scholarly work (McIssac, 1992). Individual e-mail and class e-mail discussion groups can also help to bridge the isolation gap by allowing the exchange of textual thought and documentation.

Distance learning also encounters the problem of supporting study skills. Two key factors play an important role. First, for success, the learner must feel the need to learn and accept a share of the responsibility for planning time wisely, searching out needed information or skills, and participating actively (Rezabek & Weibel, 1995). Secondly, instructors must embolden their students to manipulate the environments to be conducive to learning and establish an atmosphere where students feel secure (Rezabek & Weibel, 1995). Study skills are relevant to the individual, yet the tools for acquiring them are not as important as the person's inward drive to be proactive and assume responsibility for learning (Rezabek & Weibel, 1995).

The student's level of experience with technology correlates directly to whether or not it is a barrier in distance education. For success in distance learning, technical concerns must be made a non-issue (Galusha, 1995). The instructor must ascertain the level of technological expertise of each learner and then select tools or programs, which fit the users' abilities. Synchronicity is not a critical matter; the familiarity or ease of use becomes much more important. Tools such as message boards, class e-mail discussion groups, or newsgroups allow ease of use for students. Internet-based teaching tools which need special protocols such as Internet relay chat (IRC) or C-U-SeeMe, hinder a student's ability to become successful. Moreover, research suggests that diminishing the

requirement to rapidly respond by using more asynchronous tools and class interaction techniques "increases the quality of the learning environment and enhances learning" (Goh & Tobin, 1999, p. 170).

Models

The *distributed classroom* model may have small satellite groups of students at locations outside of the 'home' classroom. The instructor and school control these, with little control exercised by the student. This traditional system requires synchronous communications. However, visual contact greatly enhances learning and may be crucial to the success of the learning activity (Rezabek & Weibel, 1995). Direct e-mail, computer moderated classrooms (CMC), or message boards may aid in student learning through additional instructor feedback. The *independent learning* model relies on numerous telecommunication tools and Internet resources. A student may utilize e-mail, e-mail discussion groups, CMC, or a message board. Asynchronous tools allow for the learner to set their own pace, "although the learning goals should drive the selection and use of the technology" (Rezabek & Weibel, 1995). The *open learning plus class* model involves traditional printed text and computer disks or videotape. The class meets at appointed times for the instructor led portion, using online tools to enhance the model rather than act as the main tools for delivery. The use of both asynchronous and synchronous systems provide for a wide variety of applications by the student and instructor in this model (McIsaac, 1995). Distance learning provides for equity in educational opportunities. Most adult distance learners are more dedicated and tenacious; they are willing to learn new technologies or use different distance learning models because experience has taught them that education is the key to success (Ben-Jacob, Levin & Ben-Jacob, 2000).

Research

Research and evaluation in distance learning relies heavily on the assessment of a student's academic achievement and other outcomes that are valued in learning. However, traditional assessment does not give a complete picture of the process of distance education (Fraser, 1998). Walberg and Woos (in Maor, 2000) pioneered learning environment research (LER) independently in the late 1960s/early 1970s. LER utilizes the *beta press*, whereby the shared perceptions of the students and teachers are analyzed to extrapolate qualities of classroom learning. Often this is done using pre/post survey instruments. While these LER instruments have been validated, they have not been widely used in a distance education environment to measure the value of distance education models or realize the barriers outlined above. The psychological aspects of LER, combined with a consideration for Internet-based distance education barriers and models, should be the next step, reaching beyond traditional assessment of students' academic achievements, in evaluating distance education programs to increase achievement in adult learning in web-based distance education.

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