# Trends and Perspectives in Online Education



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## INTRODUCTION

Although the Internet has been in existence since 1969, it was not widely used for educational purposes in its first two decades. Few students had access to e-mail, and few educators could visualize its value as a teaching tool. Programs to serve students from remote locations, often called "distance education," became popular; these were generally delivered synchronously through television broadcasts and did not involve the Internet. When the World Wide Web was created in the early 1990s (Berners-Lee, 1999) and the first browsers became available (Waldrop, 2001), the enormous potential for education began to be recognized. New global users came online at a fantastic pace, and the value of all this connectivity was increasing even more rapidly in accordance with Metcalf's Law (Gilder, 1996). Nearly all students used e-mail regularly, and college professors were putting syllabi and course assignments online and creating Web pages with increasing sophistication. Soon entire programs were offered completely via the Internet, with students from all over the globe taking courses together.

According to a major survey conducted by Allen and Seaman (2003), there were more than 1.6 million students who took at least one online course during the Fall 2002 semester and 11% of U.S. higher education students took at least one such course. These numbers were projected to increase rapidly, and most institutions considered online education as a critical long-term strategy.

## BACKGROUND

At first, online courses tended to be offered sporadically, often by a few technically savvy faculty members exploring how best to use the Web. Developing the courses to fit this new medium was difficult and time-consuming, and these professors began to demand some recognition for their efforts. Soon, university administrators noticed that the online courses were very popular, that they could attract students from distant locations, and that programs in other institutions were proliferating. The need for uniform policies was recognized. What is a reasonable class size? Should development of a new Web course count toward promotion and tenure? Should Web courses be taught the same way as face-to-face classes?

It soon became clear that there were major differences between face-to-face classes and online classes in providing high quality instruction. Online, at least with the currently available technologies, must be almost completely asynchronous, whereas face-to-face is primarily synchronous. The term "virtual university" (Morrissey, 2002; Schank, 2002; Stallings, 2001) has recently come into vogue, but with varying meanings. The term is often applied to an institution with no physical campus and that is completely online; Jones International University, Cardean University, and University of Phoenix Online are examples (Mason, 2000). These are usually for-profit companies and may be spin-offs from private universities. The term can also signify an institution that has a large physical campus but that has a coordinated approach to online education and devotes significant resources to its online programs. Some of the largest of these include Penn State's World Campus and the University of Maryland's University College (Stallings, 2001). There are also a large number of Virtual University Consortiums (VUCs) that have been formed to offer online programs in multi-institutional partnerships. A recent study identified 63 of such consortia, primarily state-based (Twigg, 2003).

There are many reasons for the rapid growth of VUCs. In many countries, including the U.S., governmental funding of education has decreased in recent years, forcing universities to look for new markets and new sources of revenue (Mason, 2000). Lifelong learning has become much more critical for the workforce as skills and careers become obsolete at a rapid clip. There is high demand from adult learners for retraining for new careers or for upgrading of skills, and online programs are ideal for this.

Twigg (2003) lists several factors motivating the growth of VUCs and other online programs: increased demand for adult education and training; the educational needs of underserved communities; coping with the increasing frequency of interuniversity transfers; streamlined access to the state's institutions via a portal; providing increased variety of degrees; lowering costs, and "overcoming the possibility that the state's institutions

will be left behind in the new, highly competitive online environment" (p. 5). She comments that most states have decided that "stand-alone virtual university initiatives are too expensive to initiate and sustain both fiscally and politically" (p. 7). Most VUCs do not offer degrees because that would put them in direct competition with the other state institutions. Instead, they have adopted the collaborative model, which can mean anything from a passive posting of available courses or library sharing to a fairly aggressive stance as an alternative degree path.

Twigg notes that the most successful VUCs have adopted the following policies (2003, p. 10): (1) focus on increasing access for new students that might not otherwise attend; (2) find out what students need and create a viable response rather than merely aggregating what the member institutions can offer; (3) do not get involved in irrelevant higher education policy issues; (4) create a business plan for long-term viability without reliance on state aid, and (5) use a cost-effective development and delivery model.

Morrissey (2002, pp. 460-461) cites the following conflicts which may inhibit achieving the virtual university's full potential: compensation and ownership issues; lack of recognition for course development; poor course support; push for large classes, which may result in fewer faculty positions, and possible adverse impact on research.

## ISSUES OF QUALITY

The societal benefits of a first class online education program are obvious, in providing quality instruction for those in remote locations or the physically handicapped or those whose daily responsibilities do not permit them to attend on-campus classes. It is not clear that the programs are being established for such altruistic objectives. Schank (2002) is skeptical, and suspects that Web courses are developed primarily for revenue and academic prestige. He also believes that courses are being modeled to fit existing programs and are not taking advantage of the unique characteristics of the Web.

Are online courses equivalent in quality to courses in face-to-face classrooms? Quality is of course dependent on many factors, and each medium has both advantages and disadvantages. A major difference is synchrony; physical classes are largely synchronous, and current virtual courses are almost completely asynchronous. This characteristic severely limits student interaction and team activities. Chat rooms are synchronous, but quickly become confusing. On the other hand, asynchrony makes it possible to maintain availability 24 hours a day, seven days a week (Pittinsky, 2002). Schank (2002) argues that Web courses would be superior to face-to-face if the design were less dependent on our current concepts, such as performing tasks rather than listening, and length of course and material covered based on student need.

Spicer (2002) warns university presidents that they must be prepared to expend significant resources over long time periods to maintain high quality and avoid shortcuts. The view of online education as a source of revenue and profit is misguided, and costs are typically underestimated (Niederman & Rollier, 2001). Teaching Web classes is difficult and labor-intensive, and huge classes are not feasible if quality is to be preserved. The required faculty skills are not the same as in the classroom, and the necessary faculty development is often overlooked (Agee, Holisky & Muir, 2003). Procedures must be established and controls enforced to ensure that instructors are responding quickly to student needs and evaluating student learning effectively (Hall, 2002; Stein, 2001).

## FUTURE TRENDS

Market share is much more important on the Web than in traditional businesses. A large firm has a major marketing advantage, especially in advertising. The largest virtual universities of the future will offer programs in almost every discipline, at every level, and will compete for students in every locality and most languages. The competition is global; note that the largest distance education institution in the world is in China (Dunn, 2000). These schools will gradually lose their identification with a particular country. Most universities will adopt a niche strategy, competing in those markets for which they perceive a competitive advantage, or markets thought to be underserved.

With continuing advances in technology it seems likely that Web teaching techniques will change greatly. Online education will continue to be basically asynchronous, but with the availability of synchronous capabilities to provide far more interaction. When a critical mass of online students has access to broadband, the instructor will be able to see the students on screen, and the students to see the instructor. Highly interactive group assignments will be possible. The instructor will be able to demonstrate concepts and skills visually and audibly rather than just describing them. Examinations can be monitored visually. Although keyboards may still be necessary, voice will be the primary means of communication, thus reducing the importance of typing skill. Simulations and virtual reality will be widely employed for user interaction and feedback (Morrison & Aldrich, 2003).

Wireless will be a major communications technology (PriceWaterhouse Coopers, 2001), greatly increasing flexibility of location. Internet2 will make digital video available, bringing large-scale indexed video archives and