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# **Access to Internet-Based Instruction for People with Disabilities**

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Internet-based instruction promises to make learning accessible to almost everyone, everywhere, at any time. Internet use, however, raises a number of issues. One of them is equitable access. The Americans with Disabilities Act (ADA) of 1990 requires that those making programs and services available to the public provide the same programs and services to people with disabilities that they provide to people without disabilities.

Increased access is commonly given as a key justification for offering educational programs through a distance learning format. For the most part, when this argument is made, proponents are focusing on students unable to participate because of geography. Rarely is the argument made for students unable to participate because of disabilities.

Providing access to students with disabilities can be considered from several angles. Making assurances that individuals with disabilities can participate in distance learning courses is an ethical issue (Woodbury, 1998); some say it is just the right thing to do. It can also be seen as a legal issue. The ADA requires that people with disabilities be provided equal access to public programs and services. According to this law, no otherwise qualified individuals with disabilities shall, solely by reason of their disabilities, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination in these programs. When people think of the ADA they often think of elevators in buildings, reserved spaces in parking lots, and lifts on buses. However, the ADA accessibility requirements also apply to educational opportunities, and more specifically, to programs offered on the Internet. As the United States Department of Justice clarifies:

Covered entities that use the Internet for communications regarding their programs, goods, or services must be prepared to offer those communications through accessible means as well (ADA, 1997).

Specifically, if a qualified person with a disability enrolls in a distance learning course offered via the Internet, the course must be made available to the student.

But, what is required to assure that a distance learning class taught over the Internet complies with the ADA? This chapter discusses access issues, presents design guidelines, and provides an example of an accessible course at the University of Washington. The

chapter explores the feasibility of offering this course online and of making it accessible to potential instructors and students with a wide range of abilities and disabilities. The field of universal design provides a framework for the discussion of the case.

Offering a course via the Internet presents unique challenges to the course developer. This case addresses a few of these challenges. It considers content that is typically taught onsite with printed materials, videotapes, lectures, demonstrations, discussions, and field experiences and explores the feasibility of offering it in a distance learning format using the Internet.

### **CASE QUESTIONS**

- What are the challenges for making a distance learning course accessible to individuals with a wide range of disabilities, and how can these challenges be overcome?
- How are accommodations needed for people with disabilities in an online course different as compared to those needed in a comparable on-site class?
- What benefits do people without disabilities gain when an Internet-based course is designed to be accessible to individuals with disabilities?

### **UNIVERSAL DESIGN**

Designing a product or service involves the consideration of a myriad of factors that include aesthetics, engineering options, environmental issues, safety concerns, and cost. One issue that designers often overlook is “universal design.” Universal design is defined by the Center for Universal Design at North Carolina State University as “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.” At this center a group of architects, product designers, engineers and environmental design researchers collaborated to establish a set of principles of universal design to provide guidance in the design of environments, communications, and products (Connell et al., 1997). General principles include a design that: is useful and marketable to people with diverse abilities; accommodates a wide range of individual preferences and abilities; communicates necessary information effectively to the user, regardless of ambient conditions or the user’s sensory abilities; can be used efficiently and comfortably, and with a minimum of fatigue; provides an appropriate size and space for approach, reach, manipulation, and use regardless of user’s body size, posture, or mobility.

When designers apply these principles, their products meet the needs of potential users with a wide variety of characteristics. Disability is just one of many characteristics that an individual might possess. For example, one person could be tall, 15 years old, a poor reader, and blind. All of these characteristics, including the person’s blindness, should be considered when developing a product that might be used. In the case of distance learning, a goal should be to create a learning environment that allows a person who happens to have a characteristic that is termed a “disability” to access the content of the course and fully participate in class activities.

When universal design principles are applied to the design of Web pages, people using a wide range of adaptive technology can access them (e.g., Burgstahler, 1998; Burgstahler, Comden, & Fraser, 1997; Dixon, 1996; Kautzman, 1998; Resmer, 1997; Waddell & Thomason, 1998). Adaptive technology includes special hardware and software that allow individuals with a wide range of disabilities to make productive use of computers (Closing the Gap, 1999).

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