Chapter 2.38
Universal Design for Online Education:
Access for All

Rosangela K. Boyd
Temple University, USA

Bonnie Moulton
Temple University, USA

ABSTRACT

This chapter will discuss accessibility issues related to online education. It will provide rationale for designing online courses that cater to different levels of functional ability. It will also present an overview of the challenges faced by students with disabilities in accessing and interacting with online course materials and activities. In order to address the potential barriers to full participation, national and international guidelines will be examined, with particular emphasis on their implications for specific course components. In addition, mechanisms for validation of web accessibility will be suggested and resources will be listed for those interested in obtaining further information on the topic.

INTRODUCTION

Universal design calls for the development of information systems flexible enough to accommodate the needs of the broadest range of users of computers and telecommunications equipment, regardless of age or disability (Campbell & Waddell, 1997, p. 4)

In terms of learning, universal design means the design of instructional materials and activities that makes the learning goals achievable by individuals with wide differences in their abilities to hear, see, speak, move, read, write, understand English, attend, organize, engage, and remember. Universal design for learning is achieved by means of flexible curricular materials and activities that provide

alternatives for students with differing abilities. These alternatives are built into instructional design and operating systems—they are not added on after-the-fact. (Danielson, 1999, pp. 2-3)

At a recent faculty workshop on inclusive education, an experienced professor raised his hand and commented "Good teaching is good teaching." After a pause and a few puzzled looks from the other participants, he explained his statement in greater detail. He claimed that if teachers use effective pedagogical strategies in their teaching, they automatically reach out to diverse populations, including persons with disabilities.

In fact, a review of the Theory of Multiple Intelligences developed by Gardner (2000) points to a similar conclusion. This theory postulates eight different pathways to learning (linguistic, logical-mathematical, spatial, musical, bodily-kinesthetic, naturalistic, intrapersonal, interpersonal). Learners use different channels to acquire information; therefore, an effective teacher should ensure that his or her teaching is not based on only one mode of instruction. By utilizing a variety of ways to present course materials, the teacher will increase the likelihood that a broader range of students will access and process the information. Consequently, students with disabilities will benefit from teaching approaches that integrate various sensory, physical, cognitive, and social experiences.

Such a concept parallels the notion of "universal design." According to Bergman and Johnson (1995), universal design has gained visibility as the concept of accessibility[1] has expanded to encompass more than accommodations for people with disabilities. The Center for Universal Design defines this term 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" (2002a, p. 1). As the word "universal" implies, the emphasis is on designing for everyone, not just for persons with disabilities. It recognizes that there is no such entity as the "average" consumer and that good design should aim to fit the broadest range of user abilities possible. As a consequence of well-planned design, many individuals benefit. Experts in this area admit that to design any item to be universally usable is a great challenge. But it is the goal that matters, the effort to strive for products that can be useful to as many consumers as possible (Mace, 1998). This idea has gained momentum. It is possible to see examples of it everywhere around us. A walk along the aisles of a store selling household items will show items such a utensils with handles built up for improved grip, soda bottle and milk carton holders, jar openers, etc. These products could be considered assistive technology[2] for persons with disabilities who have difficulty with fine motor skills; for the rest of the buyers, they add to convenience and efficiency. And who nowadays would consider a remote control anything less than a daily necessity? Such a device allows a non-disabled person to perform several functions without lifting more than a finger; it also increases the amount of control an individual with a physical disability has over his or her environment.

Another very popular example that illustrates universal design is the use of "curb cuts" on sidewalks. Although currently mandated by accessibility related laws, curb cuts benefit not only wheelchair users, but also mothers with baby carriages, older adults with canes, and small children who have not learned how to climb steps yet. As a spin off of this easily understood term, the expression "electronic (or virtual) curb cuts" was born (WebAIM, 2002b). It communicates a similar idea for those interested in computer access. If we envision the Internet as an information highway traveled by millions of users, virtual curb cuts are ways to equalize access, thus offering persons with disabilities the same opportunities to use the Web independently as everyone else. And in the process, these virtual curb cuts benefit other groups of people who may have temporary limitations or who process information in less