INTRODUCTION

In education, providing access to instructional materials and resources is important for any type of learning to occur. If students do not have access to the resources necessary for them to complete projects, perform research, retrieve data information, communicate with others, and so forth, then learning will be impaired. Universal access is a concept that describes the usability and accessibility to content and information by the largest range of people (Mills, 2006; Roblyer, 2006). Applied to the learning environment, universal design requires that the curriculum includes alternative methods for information access by individuals with different backgrounds, learning needs, abilities, and disabilities in various learning contexts. When this concept is applied to the design and development of Web pages, universal design is known specifically as Web accessibility. This overview discusses the importance of providing access to specific forms of computer and Internet technologies. In addition, the discussion will define technology accessibility (or universal access), why such access is needed, means of ensuring such access, and methods of evaluating accessibility.

BACKGROUND

Definition and Educational Role

Accessibility involves two key issues. The first is by investigating how users with disabilities (or without) access electronic information. The second issue is directed more toward Web designers in that they need to provide Web-based content to function with assistive devices or make the content available to everyone (Macromedia, 2007). When general computer use is concerned, certain operating systems such as Windows and Apple have integrated universal access features right into the system that learners can enable and use in conjunction with a variety of applications from the system itself and from other developers (Apple, 2006). These features can create learning experiences that are appropriate for individual learners that would maximize their abilities to progress through the curriculum. Accessible Web sites, on the other hand, ensure that a smooth transformation exists between the information and services to guarantee that the content is easily navigable and understood. In a sense, accessible Web sites can be perceived, navigated, utilized (with a keyboard or any other device than the mouse), and easily understood and read (Usablenet, 2006). Web-enhanced learning should accommodate the needs of all learners by providing “easy resource selection and delivery, alternative pathways to information, connections to experts and mentors, access to a variety of materials, multiple ways to publish work, and placement of widely varying content in structured curricular frameworks” (Mills, 2006, p. 19). Thus, accessibility encompasses meeting the needs of all learners that may have visual, auditory, physical, speech, cognitive, and neurological difficulties (Web Accessibility Initiative, 2006).

Justification

Technology is increasingly more evasive in the lives of learners today. Computer technology and the Internet play an important role in information retrieval that is necessary to complete course-related work. In a larger scope, accessibility is essential for ensuring equal opportunity to all learners and assumes a social responsibility on the part of educational institutions to make the information available to the public (Web Accessibility Initiative, 2006). In addition, accessibility not only affects learners who have certain limitations, but also helps improve access to those individuals without disabilities. For instance, accessibility is built upon the concept that the Web and associated software should be flexible enough to meet the needs of many different learners, their particular preferences, and physical situations. Therefore, if a person has a very slow Internet connection or uses older technology, principles used in designing accessible Web pages (e.g., using text descriptions for images in case the user turns
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