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### Recommended Citation

Klimczyk, Linda (2001). "Separate but (Un)Equal? A Critical Investigation of Disabled Adults' Access to Online Education," *Adult Education Research Conference*. <https://newprairiepress.org/aerc/2001/papers/39>

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## **Separate but (Un)Equal)? A Critical Investigation of Disabled Adults' Access to Online Education**

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**Abstract: Online distance education technology has the potential to include adults with disabilities by allowing for the use of adaptive technology in order to provide an accessible learning environment. Paradoxically, however, online distance education can also be a barrier to access.**

### **Introduction**

Literature suggests that online distance education technology has the potential to include adults with disabilities by allowing for the use of adaptive technology in order to provide an accessible learning environment (Coombs, 1992, 1998; Kessler & Keefe, 1999). This can allow for increased access to education and fuller participation of adults with disabilities than is possible in a traditional classroom. Paradoxically, however, on line distance education can also be a barrier to access when accessibility standards are overlooked and the online material cannot be translated or interpreted by adaptive tools such as screen readers, Text Display Devices (TDD), etc.

This study investigated the role of online distance education in creating and providing an accessible educational environment for disabled adults from two perspectives: distance education providers and disability advocates. The study examined this role at several locations: two major research universities and a center for teaching and learning with technology. For this research, online distance education was defined as that which uses an online environment for course delivery, assignments, submission and class discussion including such tools as e-mail, conferencing and Web-based instruction.

### **Theoretical Standpoint/Statement of Problem**

#### *Social Construction of Disability:*

Following the work of Gleeson (1997), Coombs (1991), and Gorman (2000), this study views disability as socially defined and constructed. This theoretical standpoint connects the rise of industrialization and its emphasis on the ability to perform work as criteria used to determine the question of who is disabled. Beginning in the 1960s the disability movement in the U.S.A., driven by the disabled, defined people with disabilities as an oppressed class of people and demanded equal rights. This social movement rejected the traditional medical model of disability where the problem is the individual's lack of ability and the solution is to institutionalize, care for or provide treatment so that the disabled appear more like people without disabilities (Read, 1998; Gitlow, 1999; Cooper, 1997). The social model of disability focuses on issues outside of the individual: physical barriers, oppression and discrimination (Johnson & Moxon, 1998;

Gitlow, 1999). From this perspective, it is disabled people who determine the definition of disability and have been in the forefront of anti-discrimination laws and who have demanded equal access (Coombs, 1991; Gleeson, 1997). Coombs provides a poignant example of the social construction of disability and its potential to change over time: "Eye glasses have become so For the purpose of this study, this means that adaptive technologies are not mere technical solutions but can remove or minimize barriers to make people more abled.

"I like to say that a disability is a functional mismatch between the person and the environment. And if I had a computer that's adaptive and lets me use mine as well as yours then while we are on the computer, there's no mismatch and I'm not disabled. So I tend to use a functional definition of disability ... dependent on the situation. Technology has the ability to change the environment in ways that the disability can become irrelevant in that environment" (quote from interview).

This study specifically addressed the following overarching questions: a) Is online education a viable alternative for the disabled and does it have the potential to reduce barriers? b) What are the special needs and accessibility issues in online distance education? c) How are online distance education providers including the needs of the disabled in the design process? d) How are those needs defined by online distance education providers and disability advocates?

### **Method**

This study was based upon reflective journals of the researcher, participant observation, and semi-structured interviews. Journal entries were examined, evaluated, and critiqued. Six semi-structured interviews were conducted that included two distance education providers, three advocates/service providers for the disabled and one person who is both a distance education provider and advocate. Unstructured interviewing in the form of follow-up questions continued after formal interviews were concluded. Notes and transcripts from the observations and interviews were coded and analyzed to discern the reality-constituting interpretive practices through which interviews made meaning of the notion of "accessibility" and the "disabled."

### **Findings**

*Is online education a viable alternative for the disabled and does it have the potential to reduce barriers?*

Online distance education is a viable alternative for the disabled because it can allow people to contribute irrespective of limitations imposed by their disability. Together with adaptive technology online teaching and learning tools can erase barriers particularly those involving communication problems. E-mail, online conferencing and online course materials increase the ability to participate directly and allow for improved exchange of information especially for those people with communication disorders (Amtmann & Johnson, 1998). Online course materials are beneficial to people with learning disabilities because all of the information is presented in one place and is often presented sequentially. People with motor problems who may find it difficult or exhausting to physically attend a class can participate online at a distance. Advocates stress that access to education is improved through online distance education as well because distance education programs are often lower in cost than on-site programs and because

the need to travel to an on-site program is not an issue. They see distance education in general as an economical, convenient and safe way for adults with disabilities to try continuing education before committing to a program.

*What are the special needs and accessibility issues in online distance education?*

Technology has the promise to open doors to disabled individuals by allowing them the opportunity to use adaptive technologies to translate information into a form that they can access and therefore increase their independence as students and speed up the educational process by eliminating their reliance on other people who function as readers, interpreters, etc. For example, screen readers and speech synthesizers "read" text to the user and are used by visually impaired individuals in place of the person who would be hired to read or tape record the material. Since much online material is presented as text, deaf participants have no need for an interpreter and can have spontaneous discussions with hearing individuals and spontaneous access to lectures in print through online communication. People with paralysis and motor problems find a rampless environment in online distance education with the additional advantage of not having to travel to a classroom.

Online and web-based instruction can be liberating or restricting. Course developers seek to develop enriched sites that are elegant in design. Often the enrichments amount to graphic intensive sites with multimedia components, frames, etc. When the information conveyed on the site graphically or audibly is not also represented in text, adaptive technologies such as screen readers fail because they cannot interpret images. Enriched sites often end up being busy and cluttered with small buttons and links that are problematic for people with limited hand motion and for those who cannot use a mouse to navigate.

Course designers' chief concerns with online teaching and learning technology as it is used by people with disabilities designers were: that the commercial products available for course design do not produce accessible materials; time budget constraints leave little time available to convert course materials to an alternate format; need to find a way to provide an enriched environment that works for everyone (is accessible); institutional support in the form of resources and a safe place for dialogue between designers to share and learn about accessibility without fear of getting "busted" for non-compliance.

Disability advocates and service providers want course designers to provide accessible materials. One person commented "I think that what we need is one single platform that focuses more on quick easy simple communication and less on glitz and appearance.

"The typical professor walks into the classroom with a sweater on and the classroom doesn't have a bunch of lovely pictures on the wall and may have dull gray paint or something that isn't all that exciting. Its not an exciting room like an expensive restaurant or something that you are going to. So the "graphics" of a typical classroom are pretty mediocre" (quote from interview).

*How are online distance education providers including the needs of the disabled in the design process?*

Coombs, who worked with the Western Governor's University, reports that a goal throughout the development of this institution was to provide a barrier-free distance learning environment

(Coombs, 1998). This is not always the case. A problem for even well meaning institutions is the decentralization of the selection of software and hardware tools used for online instruction. Seventy-five percent of all institutions surveyed reported that the distance education course development occurred at the department level (U.S. Department of Education. National Center for Education Statistics, 1997). Individuals who do not design online courses as a full time occupation may be less informed of accessibility issues than information technology professionals. This decentralization makes it as difficult for institutions to track accessibility issues as it is for individual authors and instructors to keep informed of and to comply with them (Coombs, 1998; Young, 1998). After an encounter with a vision impaired student that change her way of thinking about her own course materials, Guthrie asks "do we not have an obligation, absent government mandates, to make our Web pages accessible?"(Guthrie, 2000, p. 14). Some distance education providers who were interviewed for this research state that they are constrained by the course design software that is available to them and that the software does not produce accessible resources. Others reported that web-based content had been modified to better meet special needs based on user feedback.

*How are those needs defined by online distance education providers and disability advocates?*

This research found differences between the two groups of people interviewed. Disability service providers are very aware of their audience because disabled clients typically come to them to request services. This group is people oriented and not as technically savvy as the distance education providers who are business oriented and high tech. The service providers lean toward the traditional methods of accommodation, tape recording, transcribing audio, etc. Their expectations of what is possible with online teaching and learning were low and their experiences with adaptive technology on the Internet as a whole was negative because so many web sites are not designed accessibly. One person offered a different perspective on disability service providers at his organization. He observed that they tend to shy away from technical solutions partly because they aren't comfortable with technology and partly because they saw it taking the needy student away from them. Their view of helping the student was their being there helping them and not the technology. Some students have become dependent on people and are frightened to work independently.

Educational providers often know very little about the characteristics of distance learners (U.S. Department of Education, National Center for Education Statistics, 1999). Distance education providers interviewed claim that they don't know their audience because they teach at a distance and either it doesn't come up or that disability service providers at the institution deal with requests for special accommodations separately. Popular distance education software technology is not accessible out of the box and distance education providers who are often driven by time and money to produce course materials and are not offered the extra resources that it would take to ensure that their online tools are accessible. They market to adult students who are bridging the demands of home and work and acknowledge that people with disabilities and special needs are part of this audience. One provider doesn't recruit people with disabilities because "we don't feel good about what we have to offer" and know that the online components are not accessible.

**Findings and Conclusions:**

"I think that teaching and learning online is a tremendous opportunity for any individual with access issues, disabled and non-disabled alike because I find it an environment of freedom. It reduces the barrier of time and distance and done right, done well, can be a very effective learning environment" (quote from interview).

*Accessible vs. Accessible:* Distance education providers and disability advocates have divergent stances on the definition of "access." The literature on distance education stresses the ability of distance education to greatly improve access to education (Owston, 1997; Lewis, 1999). Here accessibility is defined as making education available to more people by erasing barriers of time and distance. This notion of access is supported through distance education providers interviewed in this study. The bottom line for these distance education providers is revenue that is achieved by making courses accessible anytime, anywhere to anybody. From the perspective of disability advocates, the term "accessibility" is used in a fundamentally different conceptual way. Access from this perspective equates to a barrier-free environment that consists of well designed electronic teaching and learning tools that by the nature of the design are accessible to people accessing the material through adaptive technology. Just because education is available does not mean that it is accessible. These divergent stances provide a more thorough understanding of the social underpinnings of "accessibility" and its relationship to adult education carried on online.

The study found that online educators believe that users benefit from an enriched environment through the use of sophisticated computer technology. On the one hand, the study found that computer mediated communication decreases the segregation of the disabled because adaptive technology solves issues of support and thus they can participate fully in educational activities. On the other hand, the same technology can shut out the disabled by failing to consider the way the disabled define accessibility. Not understanding the social construction of disability has resulted in technical solutions to the notion of accessibility, rather than understanding accessibility and disability as a social process. Adult educators concerned with the disabled may, however unwittingly, further limit the disabled participation in online education by not offering accessible course materials.

Students with disabilities can benefit from the use of the Internet in schools when adaptive computer technology is available and the materials being accessed or exchanged are accessible. When these important variables are not present, students with disabilities will not receive the same quality of educational services provided to their peers (Scadden, 1998, p. 141).

For adult educators, the primary importance of this study is that questions of accessibility are primarily ethical and social rather than technical. Thus, an ethical and design debate ensues over exactly what is appropriate in accessible design and what amounts to segregation.

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