Access to Information and Instructional Technologies in Higher Education II: Practical Recommendations for Disability Service Providers

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Abstract

This is an applied companion to our empirical article elsewhere in this issue (Fichten et al., in press) on technological needs and concerns of Canadian junior/community college- and university-based disability service providers. Here, we provide highlights of our findings as well as timely, practical recommendations to disability service providers about ensuring access to the growing array of information and instructional technologies on campus. The objective is to provide (a) an overview of the emerging landscape of information and instructional technologies appearing on campus, (b) campus-based disability service providers' views about these and how these relate to adaptive technologies, and (c) suggestions about how to be proactive on campus so that information and instructional technologies are accessible to all students, particularly those with disabilities.

The underlying premise of this article is that information and instructional technologies are part of the everyday lives of college and university students now, and for the foreseeable future. Whether it is registering via the Web for a semester's worth of courses, taking a university degree fully on-line, conducting complex physics experiments using a computer-based simulation tool, or downloading assignments from a professor's Web site, students are bombarded with multiple opportunities to use and to learn with technology (Birchall, 1999; Green, 2000, 2001; Landsberger, Krey, & Moorhead, 2001; Vachris, 1999). Some schools are experimenting with providing laptops to all of their students, creating a ubiquitous computing environment where all students are supposed to have access to electronic course material and digital resources anywhere on campus (Blurton, Chee, Long, Resmer, & Runde, 1999; McCoy, Heafner, Burdick, & Nagle, 2001). The greatest increase in the use of such technologies is by faculty who employ them to support their teaching (Green, 2001).

This development has a profound impact on students with disabilities, both positive and negative. We have documented the numerous positives in our previous research and publications (Fichten, Asuncion, Barile, Fossey, & Robillard, 2001a; Fichten et al., 2001b, 2001c, 2003). However, a key concern remains that faculty, in the rush to integrate technology into their teaching, do not necessarily consider the access needs of students with various disabilities (e.g., Bissonnette & Schmid, 2003). Therefore, issues such as how students without the use of their hands can use a laptop that is not outfitted with adaptations, how a student who is blind will participate in an on-line activity involving sharing graphs and charts with fellow students on an electronic whiteboard, or how a student who is deaf will learn using an uncaptioned educational CD-ROM videoclip are most probably not at the front of the concerns of faculty and staff during selection and implementation of information and instructional technology.

Such issues would more than likely surface at the point at which a student with a disability registers for and/or shows up on the first day of the course. A natural reaction would most probably include a call to the disability service provider, shifting the accountability from the hands of faculty into those of the campus-based disability service provider. The question then becomes, "Are

the professionals who work in campus disability services offices prepared to tackle accessibility-related issues resulting from the introduction of emerging information and instructional technologies?"

Highlights of Our Findings on Views and Concerns of Campus-Based Disability Service Providers

Our previous work focused on the technology-related views and concerns of students with disabilities (Fichten et al., 2001a, 2001b). To complete the picture, in the companion piece to this article our focus shifted to the needs and concerns of the professionals who oversee the delivery of disability-related services on Canadian junior/community college and university campuses (Fichten et al., in press). This structured telephone interview study involved 156 participants, representing 80% of Canada's public postsecondary junior/community colleges and universities.

Questions solicited information about the actual and desired accessibility of computer technologies on campus, institutional and external factors that help or hinder access to these technologies, and the situation of faculty and staff with disabilities. Results of this study form the basis for the recommendations that follow. For more in-depth information about the study, see Fichten et al. (in press). Key findings are listed below.

· Two thirds of professionals providing services to students with disabilities in Canadian higher education institutions are female
· Despite variability, on average, service providers had 9 – 10 years' experience providing disability-related services on campus
· In general, subjects reported that they were not very knowledgeable when it comes to computer technologies for students with disabilities
· Virtually all universities had specific/dedicated computer equipment for students with disabilities; however, junior/community colleges were less likely to have this
· Only 34% of universities and 17% of junior/community colleges had multidisciplinary advisory/steering committees dealing with the accessibility of computer technologies
· The presence of adaptive technologies in general-use computer labs was seen as an urgent priority
· A strong need was expressed for better technical support for adaptive computer technologies on campus
· Opportunities for disability service providers to learn about adaptive computer technologies were seen as inadequate

· Computer-based teaching materials used by faculty were frequently seen as inaccessible
· Faculty were seen as poorly informed about the computer-related needs of students with disabilities
· Accessibility of Internet-based distance education and Web-based "hybrid" courses was seen as problematic in some institutions
· There was massive confusion about who should provide computer-related access services to faculty and staff with disabilities

Recommendations for Individuals Responsible for Providing Services to Students with Disabilities

What follows are several practical suggestions that campus-based disability service providers may find useful in terms of beginning to proactively address the types of accessibility-related issues that result from the increasing use of information and instructional technology. Informing these suggestions are our research findings, formal and informal conversations with practitioners that occurred over the life of our study, and background gained from the literature.

Identify the institutionwide committees and the key players who are driving campuswide instructional and information technology-related decisions. Encourage regular conversations about accessibility by having it added as a standing item on meeting agendas. Additionally, work to have someone from your office (i.e., yourself and/or your adaptive technology specialist) invited to the committee meetings. Finding out, for example, whether accessibility is a criterion used when choosing eLearning vendors, or whether accessibility is addressed within campus IT plans are among the first areas to examine. This is one method of ensuring that accessibility becomes an ongoing concern and that you/your office have a voice in influencing policy and technology implementation decisions (e.g., purchasing software from vendors that are Section 508 compliant (see Department of Justice of the United States, undated). More important, this is an opportunity for you to learn about and prepare for upcoming information and instructional technology developments on campus. Your school's chief information officer, VP of information technology, and/or the unit that provides faculty training and support in the use of technology in the classroom are good starting points for finding out what committees exist. This action also conveys a message that ensuring the accessibility of academic computing by all members of the college community is a shared responsibility that cannot be ignored or relegated solely to your office.

Help your institution's faculty training and support unit that deals with the use of technology in the classroom understand that they play a critical role in promoting accessibility. Many faculty members have to acquire the basic skills needed to teach with technology (cf. UCLA Graduate School of Education & Information Studies, 1999). In cases where institutions provide means through which faculty and staff receive training in how to use these technologies, it seems practical to use these forums to also address accessibility. Seek out those who provide this type of professional development on your campus and encourage them to integrate issues of accessibility by learners with disabilities in their workshops and teaching materials. For persons interested in a "readable" minimally technical presentation, the recent guidelines by the IMS Accessibility Working Group (2002) should be of interest. In addition, excellent user-friendly suggestions are made by Burgstahler (1998), Campbell and Waddell (1997), Do-It (undated), and the National Center for Accessible Media (2003).

Arrange to loan computer technologies to students. The institution may wish to develop a program to loan equipment to students. For example, students could benefit from being able to use laptops to work on assignments between classes, to take their own notes in class, give presentations, work in groups, or communicate with other students. Such technological solutions could also be cost-effective due to the decreasing price of laptop computers.

Make training a priority for both students and postsecondary personnel. Lack of knowledge about how to use specialized computer technologies on the part of both students and staff who oversee the technology is an important concern. If it is to be used effectively and in tandem with emerging information and instructional technology, systematic training must be seen as part of the overall investment in solving problems. Periodic inservice workshops, demonstrations by students or colleagues from neighboring universities and colleges, professionals, or representatives of adaptive technology organizations and companies should be explored. Some vendors of adaptive computer technologies may "loan" their products on consignment to community/junior colleges and universities for evaluation. Software products often have downloadable trial or demonstration versions. Some institutions have offered training programs to enable students with disabilities to use computers more effectively (e.g., High Tech Center Training Unit of the California Community College Chancellor's Office, 1999). Whether it is providing educational opportunities or allotting time to allow staff to learn on their own (e.g., on-line work-

shops provided by WebAim http://www.webaim.org and/or EASI http://www.rit.edu/~easi), learning about adaptive computer technologies must take place. Where adaptive technologies are placed at various locations and at different campuses, local staff (e.g., library staff, staff in computer labs) need to receive at least minimal training to enable them to assist students.

Conclusions

Three trends are evident in postsecondary institutions. First, community/junior colleges and universities are implementing information technology (e.g., portals, offering laptops to students). Second, they are adopting policies to ensure that their campuses are "wired." Third, they are experimenting with and introducing new methods of teaching with technology (e.g., adding computer-based components to courses, using tools such as WebCT, offering entire degrees online.). Failing to proactively address the accessibility of the technologies has consequences that affect the ability of many students with disabilities to take full advantage and to participate in the same learning opportunities as their nondisabled peers. It also puts them on an unequal footing when they graduate into a labor market hungry for new hires who are comfortable using technology.

These issues must be planned for and dealt with from the beginning, and not on an "ad hoc" basis, when it may be too late to do something for the student. The key is to identify and partner with those on campus who champion adoption of new information and instructional technologies and with those who support their use, and to press the case that these technologies must be accessible to all students.

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