

Computer and Information Technologies: Resources for the Postsecondary Education Of Students With Disabilities

Executive Summary: Final Report to the Office of Learning Technologies Fall 2001

Catherine S. Fichten, Ph.D., Jennison V. Asuncion, M.A., Maria Barile, M.S.W.
Adaptech Project, Dawson College, Montréal

With The Collaboration Of:
Chantal Robillard, M.A., Myrtis E. Fossey, B.A., Darlene Judd, D.E.C.,
Jean-Pierre Guimont, M.Ed., Ray Tam, B.F.A., Daniel Lamb, B.A.

And The Following Partner Representatives:

Christian Généreux, B.A.	Association québécoise des étudiants ayant des incapacités au postsecondaire (AQEIPS)
Jean-Charles Juhel, M.Ed.	Le Services aux étudiants handicapés du Cégep de Sainte-Foy
Joanne Senécal, B.A.	Service d'Aide à l'Intégration Des Élèves (SAIDE)
Joan Wolforth, D.Ed.	Canadian Association of Disability Service Providers in Post-Secondary Education (CADSPPE)

EXECUTIVE SUMMARY

Abstract

Results of an empirical study investigating the views and concerns about computer and adaptive computer technologies of postsecondary disability service providers are presented. The study was carried out in both French and English in the spring of 2000. Based on structured interviews with 156 Canadians who provide disability related services to students, the responses represent an 80% participation rate. Key findings in the following areas are highlighted: characteristics of postsecondary disability service providers; presence of students with disabilities on campus, availability and accessibility of campus computers to students with disabilities, important factors in meeting the computer related needs of students with disabilities, and the presence and needs of postsecondary faculty and staff with disabilities. An extensive listing of useful resources is provided and recommendations are made to guide decision making to ensure that Canadian colleges and universities are technologically welcoming of the whole campus community.

Objectives

Participation in the knowledge based economy of today means that Canadians must be comfortable using new computer and information technologies. This is true not only in employment, but everywhere in society. Postsecondary education is meeting this need by providing students opportunities to learn and use computer and information technologies. Examples include virtual classrooms, online courses, off campus library access, and the increasing availability of sophisticated computer labs on campus. The challenge is to ensure that these technologies are both physically and technologically accessible to learners with various impairments. Unless this requirement is met, people with disabilities face a real danger of being left behind.

The goal of our research is to provide empirically based information to assist in decision making. Our intent is to ensure that new learning and computer technologies and policies about their availability and accessibility, both on and off campus, reflect the needs and concerns of a variety of individuals:

- Members of the postsecondary educational community with disabilities
- Professors who teach students with disabilities
- Campus based disability service providers and professionals who make technological, adaptive, and other supports available on campus

This study is a companion to a previous empirical investigation where our focus was on the needs and concerns of over 800 Canadian college and university students with disabilities. In this companion work, we shift focus to the perspective of the professionals who provide disability related supports to people with disabilities on campus. Specific objectives for the present study were:

- Evaluate campus based disability service providers' computer technology related needs and concerns; find out what these are and propose solutions to problems so that people with disabilities are better served in postsecondary education
- Explore institutional concerns: evaluate how postsecondary institutions' computer and information technologies could better accommodate the learning needs of students with disabilities
- Assess the situation of faculty and staff with disabilities: explore how their computer and adaptive technology needs are met in postsecondary institutions

Methodology

In the spring of 2000 a bilingual structured interview consisting of 38 sets of questions was developed and administered by telephone to 156 postsecondary personnel who provide services to postsecondary students with disabilities. Participants were recruited by contacting all member organizations of the Association of Community Colleges of Canada (ACCC) and the Association of Universities and Colleges of Canada (AUCC). The 156 participants represent 146 postsecondary educational institutions: 91 junior/community colleges and 55 universities, including postsecondary distance education. Seventy-four percent of respondents represented anglophone institutions, 25% represented francophone institutions, and 1% represented bilingual institutions. The overall participation rate was 80%, suggesting that the findings are truly representative of the Canadian postsecondary environment. Interviews lasted between 5 and 25 minutes. The majority of questions used a 6-point Likert scale with response options ranging from “strongly disagree” to “strongly agree.”

Findings And Conclusions

Who are they? Characteristics of individuals who provide disability related services to students with disabilities. Two thirds of participating disability service providers were women. They had, on average, between 9 and 10 years of experience providing disability related services to students. Despite this, they admitted to not being very knowledgeable about computer technologies used by students with disabilities. French speaking disability service providers rated themselves as less knowledgeable than did their English speaking counterparts. There were no differences in self rated expertise between college and university based individuals, nor between men and women.

Expertise in the use and deployment of computer and adaptive computer technologies for students with disabilities is rapidly becoming a necessity in postsecondary education. This suggests that money and time need to be invested in professional development opportunities, especially in the francophone community.

Enrollment. We estimate that there are well over 100,000 students with disabilities currently enrolled in Canadian postsecondary education. However, only between 1/4 and 1/2 of them are registered to receive disability related services.

Junior/community colleges generally had substantially lower overall enrollments than universities, although they had similar numbers of students with disabilities registered to receive disability related services. The average was 211 in junior/community colleges and 217 in universities. When it came to the proportion of the student body that was registered to receive disability related services, we found large differences between institutions. Proportions ranged from close to 0% to more than 35%. Although the average was between 2-1/2% and 3-1/2%, in most institutions the percentage was under 1%. In general, the percentage of students with disabilities was higher in junior/community colleges than in universities.

Our results also show that there is a substantially smaller proportion of these students in the mainly French speaking Québec postsecondary education system than in comparable institutions elsewhere. Our analyses show that most of the difference is due to provincial policies and practices, with a smaller but independent role for language.

Actual situation of computers on Canadian campuses. In general, computer related services constituted a moderately important priority within the full range of services offered to students with disabilities. Most institutions had some adaptive technologies for these students on campus (e.g., software that reads what is on the screen, adapted mice). Colleges were less likely to have equipment than universities. Less than 1/4 of institutions have a multidisciplinary advisory/steering committee that deals with the accessibility of computer technologies. Committees generally had individuals who provide disability related services to students, students with disabilities, faculty, and administration representatives. Only 1/4 of committees had computer services staff representation.

If information technology continues to be an important priority, then having these types of committees with the necessary mix of expertise is vital to ensure that specific disability related concerns can be addressed. This would also provide a more prominent role for computer adaptations for students with disabilities. Finally, such committees would go a long way toward ensuring that disability support professionals are consulted when campus wide computer infrastructure decisions are made.

Participants indicated that computer related needs of students with disabilities are moderately well met at their institutions. This was true for institutions with and without available adaptive computer technologies for their students. Institutions with no equipment were primarily smaller colleges with few students with disabilities. They were able to meet the computer related needs of their students with disabilities for three reasons: (1) minimal integration of computer and learning technologies in the curriculum, (2) the ability of some students to use equipment in the college's general use computer labs, and (3) extensive human assistance on campus supplemented by students' own equipment for off campus use.

With growing enrollment figures and rapid deployment of computer technologies across the curriculum, we expect increased demand for computer and adaptive computer technologies for students with disabilities on campus.

Evaluation criteria: Aspects important in meeting the computer related needs of students with disabilities. The following factors were deemed important in ensuring that the institution is technologically welcoming to its students with disabilities.

- Sufficient funding for computer and adaptive computer technologies
- Adequate training opportunities for students from agencies in the community
- Good access to adaptive computer technologies on campus
- Availability of support for adaptive computer technologies on campus
- Accessible computer based teaching materials used by professors
- Accessibility of the internet, online education and the library

Report card: Adequacy of aspects of computer technologies on campus in meeting the needs of students with disabilities. Approximately 1/3 of institutions reported that a provincial/regional centralized computer technology loan program was available to help them meet students' needs. In general, these appeared to work very well, as our participants expressed strong satisfaction with the equipment and responsiveness of these programs.

Participants also felt that their administrations were generally supportive of the computer related concerns of students with disabilities in words, but many suggested that this often failed to translate into dollars. Other strengths included: good hours of access to computers; the extent to which campus based equipment was up-to-date; and the appropriateness of equipment provided by community agencies to students for off campus use.

Problem areas included:

- Inadequate availability of adaptive computer technologies in general use computer labs
- Poor technical support for adapted computer technologies
- Inaccessibility of computer based teaching materials used by faculty
- Lack of awareness of faculty about computer related needs of students with disabilities
- Few opportunities to learn about computer technologies
- No consultation when campus wide computer infrastructure decisions are made
- Inaccessible online courses
- Inadequate training by community agencies for students using adaptive technologies

The implications of not addressing these issues are self-evident.

Faculty and staff with disabilities. There seems to be very little information available to individuals who provide disability related services to students with disabilities about employees with disabilities. Indeed, many participants were unable to even estimate the number of these employees at their institution. When they were able to respond, the most common response was 0.

Considerable confusion existed about who should provide computer related services to employees with disabilities. Approximately 1/4 of respondents indicated that the office for students with disabilities would provide needed computer related services. Of the rest, the most popular response was Human Resources, followed by the employee's department. It was dismaying to find that the next most popular category was that the employee himself or herself was responsible or that the respondent simply did not have any ideas about who does or should provide computer related services to these employees. Clearly, standardized policies in this area will need to be formulated in the near future.

Recommendations For Individuals Responsible For Providing Services To Students With Disabilities

To help assure good access to computer, information and adaptive technologies on postsecondary campuses we make the following recommendations to disability service providers:

- Through ongoing evaluation of the current situation on campus, ensure that the minimal criteria for technology access are met - these are specified in the discussion section of this report
- Make computer and adaptive computer technologies for students with disabilities available on your campus
- Provide off-hours access to computer technologies and arrange to loan computer technologies to students
- Regularly inform students with disabilities about what equipment is available to them on campus
- Educate professors about the importance of ensuring accessibility of computer based materials and techniques used in their courses
- Make training a priority both for students and postsecondary personnel
- Include students with disabilities in all computer, learning, and adaptive computer technology purchase decisions
- Value and make use of the opinions of students with disabilities in decision making
- Make acquisition decisions that reflect the needs of all students with disabilities
- Advocate for discussion of accessibility during faculty training workshops on technology integration in courses

- Become informed and share information on government programs offering technology-based assistance to students with disabilities
- Make internet access for students with disabilities a priority
- Get involved in planning bodies responsible for institution-wide information technology purchases and systems development

It is important to ensure that postsecondary administrators, instructors and other campus based technicians and professionals incorporate accessible and inclusive design principles when planning and implementing learning and computer technologies. These need to be accessible to the whole campus community. Otherwise, postsecondary educational institutions will contribute to widening the digital divide and to disenfranchising individuals with disabilities by denying them opportunities to learn and prosper in the new economy. To help with this process our report provides a listing of useful resources as well as recommendations about what various campus groupings and departments can do to improve access to computer and learning technologies to all members of the campus community.

Contact Information

For additional information and the full report, consult the Adaptech Project web page or contact one of the principal investigators.

Catherine S. Fichten, Ph.D. catherine.fichten@mcgill.ca

Maria Barile, M.S.W. mbarile@dawsoncollege.qc.ca

Jennison Asuncion, M.A. j_asunc@alcor.concordia.ca

Adaptech Project

Dawson College

3040 Sherbrooke St. West

Montréal, Québec, Canada H3Z 1A4

(514) 931-8731 (voice)

(514) 931-3567 (fax)

<http://www.adaptech.org>