In North America between 5 and 11% of students at postsecondary level in North America have one or more handicaps. These are the findings of a Pan-Canadian study carried out by our team. The research shows that almost all Canadian postsecondary institutions have handicapped students enrolled; that only one-third to one-half of students with disabilities are registered for services available for the handicapped at their college or university; and lastly, that there is a higher percentage of handicapped students enrolled in Canadian colleges (including cégeps) than in universities (3.74% versus 1.62%).

Québec has approximately ten times fewer students with disabilities enrolled at postsecondary level than all other provinces: 0.5% versus 5.5% for the remainder of the country (Fichten et al., 2003). These studies were recently reproduced for cégeps in 2004 (Fichten, Amsel, Barile, Fiset, Havel, Huard, James, Jorgensen, Juhel, Lamb, Landry and Tétreault, 2004). The latest studies also showed that these results cannot be explained exclusively by the lack of identification of learning disorders in Québec.

Given the small number of students with disabilities who reach postsecondary level in Québec, it is essential to ensure they have an environment that is as supportive as possible. Few studies have dealt with the needs of cégep students with disabilities. And yet, their numbers are growing (Bouchard and Veillette, 2005; Tremblay and Le May, 2005). It is important that their present situation in schools be looked into to identify intervention paths for the people involved in their academic success, that is, their professors and advisers in adaptation services for the handicapped.

By removing barriers and introducing conditions that are more favourable for their success, we can ensure greater access to higher education and help them succeed in their studies. The results of this research will allow us to provide answers to the following questions:

- According to handicapped students, what are the factors that make their studies easier or harder?
- What are the differences and the similarities between students with handicaps and those without?
- What can cégeps do to improve the quality of life and graduation rates for handicapped students?

PARTICIPANTS

Dawson College asked all students with disabilities who were registered with Adaptation services for the handicapped to complete a questionnaire. Students without handicaps were also recruited as they waited in line at the school store or to register for identity cards and lockers. Recruitment was carried out during the first two weeks of courses, when there are many line-ups.

The most frequently mentioned handicaps related to medical and mental problems followed by visual, auditory, and motor deficiencies.

The breakdown for the 213 Dawson College students who completed the questionnaire is as follows:

- 70 handicapped students (42 women and 28 men);
- 143 students without handicaps (98 women and 45 men).

Details of methods used are available in the report by Fichten, Jorgensen, Havel, Barile, Alapin, Fiset, Guimont, Juhel, James, Lamb and Nguyen (2005).

Characteristics of handicapped students

The majority of handicapped students have only one handicap (approximately 60%), almost one third has two (32%) and the remainder have 3 handicaps or more (8%). As the following list shows, the most frequently mentioned handicaps relate to medical and mental problems followed by visual, auditory, and motor deficiencies. It should be noted that even though we excluded all students who indicated they only had a learning disorder and/or attention deficit disorder, 31% of handicapped students questioned, said they had one of these disorders. We therefore retained the latter in our analyses so that the other reported handicaps would not be overlooked.

Student handicaps and disorders fall under various categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical problems/physical health (ex: diabetes)</td>
<td>34%</td>
</tr>
<tr>
<td>Mental health problems (ex: depression)</td>
<td>34%</td>
</tr>
<tr>
<td>Visual impairment</td>
<td>16%</td>
</tr>
<tr>
<td>Hearing impairment</td>
<td>8%</td>
</tr>
<tr>
<td>Motor deficiency (ex: use of a cane)</td>
<td>7%</td>
</tr>
<tr>
<td>Functional limitations in hands/arms</td>
<td>5%</td>
</tr>
<tr>
<td>Deafness</td>
<td>4%</td>
</tr>
<tr>
<td>Speech difficulties/communication</td>
<td>4%</td>
</tr>
<tr>
<td>Blindness</td>
<td>1%</td>
</tr>
<tr>
<td>Use of a wheelchair</td>
<td>1%</td>
</tr>
<tr>
<td>Other</td>
<td>11%</td>
</tr>
</tbody>
</table>

MEASUREMENT TOOL

The questionnaire contained the following two open questions: "What factors facilitated your studies at cégep?" and "What obstacles made your cégep studies more difficult?".

Classification of answers

A handbook containing sixty categories of facilitators and obstacles was prepared. Here are a few examples: Adaptation services for handicapped students; the cégep environment; professors; finances … Each category could be considered a facilitator or an obstacle, depending on the student’s situation. For example, when asked "What factors facilitated your studies at cégep?", if a student indicated that his parents paid his tuition fees and school books, his reply would be classified under the “finances” category as a facilitator.

On the contrary, if the student is solely responsible for his school expenditures, his answer would be classified under “finances” as an obstacle. Each answer was classified according to context.

STUDY RESULTS

Data on handicapped students was compared to data on students without handicaps to see if needs and difficulties of the two groups were similar. Let us emphasize that several factors relative to disabilities are not applicable to students without handicaps, more specifically the adaptation services (interpreters, private examination rooms, note takers, etc.).
Approximately half the facilitators mentioned most frequently by handicapped students were not handicap related and these were also mentioned by students without a handicap. For example, some of the facilitators identified were: Professors who are receptive to course adjustments, the cégep environment, the availability and accessibility of computer technologies (computers and adaptive software), the availability of support and assistance at the cégep and the learning centre at Dawson College (study and writing techniques and tutors available).

Handicapped students

The various disability-related services for handicapped students provide the most important facilitators. Among these, the most impressive are the general adaptation services for the handicapped as well as specific services: Pre-registration (handicapped students can register in advance for courses); a private examination room to minimize noise disturbance; additional time to complete the examination or the work; note takers and lastly, policies that allow handicapped students to be assigned a reduced workload (decreased number of courses per session) yet maintain their full-time status as students.

Students without handicaps

Facilitators characteristic of students without handicaps are: Friends, library resources, time management, a favourable financial situation, the possibility of choosing their schedule and the presence of a large variety of course choices that match their interests.

The following tables (1 and 2) list the facilitators and obstacles for students with and without handicaps and their respective percentages.
**IMPORTANCE OF ADAPTATION SERVICES FOR THE HANDICAPPED**

It is generally students with hearing impairments who use the services of interpreters. On the opposite side, other handicaps such as mental health problems do not need these services.

---

**IMPORTANCE OF THE ROLE PLAYED BY THE PROFESSOR**

When it comes to facilitators, results show that professors play a determining role for the majority of participants. They are the third most important factor for handicapped students and the most important factor for students without handicaps. Professors also top the list of obstacles identified by the two groups, which suggests that good instruction may be the one key factor that demands our attention. Control is in the hands of professors when it comes to bringing about change and adapting courses to specific student needs.

Elsewhere, both groups indicated that heavy workloads, the difficulty level of courses, and inadequate schedules often cause them problems. These factors are probably aggravated by financial concerns and the need to work. It is important for professors to take these obstacles into consideration while structuring their courses.

---

**THE NEED FOR UNIVERSAL ACCESSIBILITY IN EDUCATION**

If professors were to adopt the nine principles of universal accessibility in education, teaching would be more effective. These principles take into account the vast diversity of postsecondary students including, among others, students whose mother tongue differs from the language of instruction, immigrants, and handicapped students. In the past, institutions ensured equal accessibility to studies by providing services to handicapped students only as the need arose. This was not effective as unforeseen circumstances often delayed the required changes or modifications. This is why a new approach was embraced: Universal accessibility in education. Its paradigm consists in making education accessible to all (not only the handicapped) by anticipating the varied needs of the population and focusing on accessibility from the get-go (Barile, 2003; McGuire, Scott and Shaw, 2005; Universal Design, undated). These principles are based on the concept of universal accessibility in architecture, which expresses...
the fundamental idea that a good concept takes into account the needs of all individuals. In addition, planning for general application from the very start, including the accessibility issue, is the most effective long-term strategy there is (Falta, 1992). For example, access ramps initially constructed for those with wheelchairs also benefited people with baby carriages.

One of our studies that provides recommendations to help professors increase their teaching effectiveness, shows that most suggestions for adapting courses for handicapped students also apply to the rest of the student population. (Fichten, Goodrick, Tagalakis, Amsel and Libman, 1990).

For example, using PowerPoint to teach subject matter (with the professor facing the classroom) benefits students with hearing difficulties, but also the other students in the classroom.

Table 3 represents the principles of universal accessibility in education. Examples illustrate how each principle can be applied in concrete situations.

When we become aware of problems caused by course material that is not adapted, we realize that significant time and effort is required to complete this task. However, including accessibility issues during the conceptualization of pedagogical material, helps decrease or eliminate this effort.
BENEFITS OF AVAILABLE CÉGEP RESOURCES

All students are aware of the benefits of the cégep environment, computer availability, support and the learning centre at Dawson College. For example, one student states that “extra-curricular activities helped me make new friends”, another indicates that the availability of various computer software helped him complete his work, and a third student thanks his tutors for helping him improve his grammar. These examples clearly illustrate the need to provide adequate resources for these services.

THE EXTENT OF LEARNING DISORDERS

Approximately one third of students with multiple handicaps state that they also have a learning disorder. This problem affects English-speaking students and also a third of students enrolled in French cégeps (Fichten et al., 2004, 2005).

Currently, learning disorders are not included in financing projects for adaptation services for the handicapped in Québec. The conclusions of our study suggest that students with learning disorders are more numerous—and more inclined to require services—than we originally thought.

In light of this data, professors, personnel and administrative staff must work together to find ways of increasing students’ chances for success. Helping handicapped students also benefits the entire student body. Our study shows that both groups have many of the same facilitators and obstacles. It is therefore doubly important to continue financing adaptation services for the handicapped and educating professors on the different types of handicaps and problems. In this way, professors will be able to provide for the needs of this growing student population thereby increasing the odds that these students will continue their studies.

RECOMMENDATIONS

• Ensure the financing of adaptation services for the handicapped in cégeps.
• Improve accessibility to financial resources for all students.
• Ensure accessibility to computers, training on their use and support for learning (tutoring).
• Recognize learning disorders as real handicaps and ensure adequate financing for adaptation services for these disorders.
• Consider including the principles of universal accessibility in education in teacher training programs.

CONCLUSION

Certain obstacles are out of the hands of professors but in many cases, positive changes are still possible. All that is needed to ensure that handicapped students have an equal chance for success at cégep is to consult someone responsible for providing adaptation services for the handicapped at your institution. The learning support and tutoring centres can also be sources of relevant information. In addition, the students often already know which services are appropriate for them. Just as professors are experts in their field of instruction, handicapped students know their own needs best. Don’t hesitate to ask them questions and everyone will benefit! 

BIBLIOGRAPHICAL REFERENCES


Mai N. NGUYEN recently completed her bachelor’s degree at Université de Montréal and is currently pursuing higher studies in psychology. She has been a member of the Adaptech Research Network for several years now.

mnguyen@dawsoncollege.qc.ca

Catherine S. FICHTEN holds a Ph. D. in psychology. She is a professor at the Faculty of Psychology at Dawson College and associate professor at the Faculty of Psychiatry at McGill University. She co-chairs the Adaptech Research Network and works at the Jewish General Hospital in Montréal.

catherine.fichten@mcgill.ca

Maria BARILE holds a master’s degree in social service and has been involved in issues dealing with the handicapped for several years now. She co-chairs the Adaptech Research Network.

mbarile@dawsoncollege.qc.ca

Jo Ann LÉVESQUE holds a Ph. D. in Education. She is currently Director of Research for the Faculty of Arts at McGill University and also assistant professor, Faculty of Education.

joann leveque@staff.mcgill.ca