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**An Assessment of Service and Resource Needs of  
University Students with Disabilities**

by

**Pauline J. Hradil**

**Bachelor of Arts, Honours in Psychology  
University of Ottawa, 1988**

**THESIS**

**Submitted to the Department of Psychology  
in partial fulfillment of the requirements  
for the Master of Arts Degree  
Wilfrid Laurier University  
1991**

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## **ABSTRACT**

Two studies focusing on the need for supportive services and resources for persons with disabilities at universities are described. Both studies took place in the Kitchener-Waterloo community. In Study One, students and faculty at the University of Waterloo and community service workers were surveyed. In Study Two, students and staff at Wilfrid Laurier University and high school students and staff at the Waterloo County Board of Education were surveyed. In total, eighty-two participants were surveyed by interview or questionnaire methods. The results from the two studies provided information about needs and concerns specific to individual participants and settings as well as a number of shared concerns and ideas. From these results, recommendations regarding the future programming of support services were made. Included as recommendations were integrating existing special needs services and resources into the community, increasing awareness about disability within universities and more globally in the community, and implementing policies and guidelines for the use of special needs services and resources.

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## OVERVIEW

Throughout history persons with disabilities have had only limited opportunity to participate as full and active citizens in society. It was not until the mid-nineteenth and twentieth centuries that issues related to the welfare of persons with disabilities received any significant attention (Stainback, Stainback, & Bunch, 1989; Weber, 1988; Winzer et al., 1987). While humanitarian principles in dealing with persons who had disabilities were established by the early 1900's, the approach to welfare and education was custodial, focusing on the "care of" those who were less fortunate (Weber, 1988). As a result, persons with disabilities remained to be regarded as dependents rather than participants in society.

In the 20th century, the principal years in the education of persons with disabilities were the 1960's when integration into society and education became a focus. A number of important factors were instrumental in this change in ideology including the weakening of the eugenics and testing movements, the development of the normalization principle, increased activism on the part of persons with disabilities, the abandonment of the medical model by educators, and increased debate over education rights (Weber, 1988). It was not until this time that persons with disabilities were given some of the opportunities that were available to others to fully participate in community life.

The proposed research is based on the premise that persons with disabilities are valuable members of our society who have something to contribute just as anyone else does. It is recognized, however, that in some cases persons may have needs for services and resources that are required to be met in order for them to have equal opportunity to enjoy the facets of life that most others living in this society take for granted. This paper examines the needs for services and resources in university among persons who have disabilities. Persons with disabilities serve as



the experts in the research identifying their own needs and proposing strategies for action; my role is to highlight their voices.

The initiative for the current research comes from my past work with students who have disabilities and from the realization that while there is a new growth in service delivery there is very little research to date examining needs and serving as a model for needs assessments in this area of service delivery. It is my hope that this paper will ultimately be helpful to persons with disabilities by serving as a tool for service providers to establishing responsive support services at universities.

## LITERATURE REVIEW

The following literature review is intended to explain the concepts discussed in the current research as well as to inform the reader of societal trends affecting the treatment and well-being of persons who have disabilities: The term "disability" as it is defined and used today is explained and estimates of the number of students with disabilities are presented; the legislation that applies to persons with disabilities generally, as well as in education, are discussed; the current state of support services at universities and students' role in service growth are discussed; and the needs assessment process and how it can be effectively applied in the university context with persons who have disabilities are explained.

### Defining Disability

The Ontario Office for Disabled Persons (1989) uses the following definition of disability:

Any restriction or lack ... of ability to perform an activity in the manner or within the range considered normal for a human being." (World Health Organization, 1980).

Five basic categories of disability typically seen among persons enrolled at university have been identified.<sup>1</sup> While not all publications and articles necessarily consider these five categories when they refer to persons with disabilities, all of the following may be included under the disability term:

1. Mobility impairment - Limited movement or agility, resulting from spinal cord injuries,

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1. The division of "disability" into categories is somewhat arbitrary as different organizations and authors identify different categories. For example, The Ontario Ministry of Education identifies five different groupings, including emotional and/or social, communication, intellectual, physical, and social disabilities (Weber, 1988).

cerebral palsy, polio, spina bifida, multiple sclerosis, muscular dystrophy, or amputations.

2. Visual impairment - Limited vision that may vary in both cause and severity from color blindness to legal blindness (10% of vision or less).

3. Hearing impairment - Limited hearing that may range in severity resulting from sensory nerve, conduction, or central nervous system damage.

4. Learning disabilities - Limited ability to learn usually arising from nervous system malfunctions manifesting as auditory, motor, tactile, or visual difficulties.

5. Other disabilities - A number of disabilities do not fall into the above categories but are seen among the university population. These include medical disabilities such as epilepsy, allergic or sensitivity responses, and AIDS; disabilities associated with aging; and emotional and psychiatric disabilities (Office of Disabled Persons, 1990; University of Waterloo, 1988; Wesley, 1988).

In addition to defining disability it should be pointed out that both the use and the meaning of the term "disability" are controversial. As language and attitudes can be said to reinforce each other it is important to understand the controversies and to use any choice of terms with awareness and sensitivity (Czukur, 1987). While many people accept and use the term "disability" rather than the once used "handicap", other people and organizations may prefer the use of other terms such as "physically challenged" in place of "physically disabled", "persons with special needs", or "exceptional".

An examination of some of the definitions of "disability" help to clarify why this term has received attention. For example, the *Websters II, New Riverside University Dictionary* defines disability as "1. A disabled state: INCAPACITY; 2. Something that disables: HANDICAP; 3. A

legal incapacity or disqualification." The focus both of this definition, as well as the one used by the World Health Organization presented earlier in this section, is on the inability, or lack of normalcy of the person.

Many individuals prefer to avoid the use of any classification or term that sets them aside as different. Stainback, Stainback, and Bunch (1989) advocate that rather than incurring the consequences of labeling and classifying (e.g., negative connotations and stereotyping), each person should be treated individually, each as having a different set of physical, psychological, and intellectual characteristics and capacities. This is a key position typically maintained by advocates of integration of students with special needs into "regular" classrooms. Clearly this position has some consequences and implications for all levels of education.<sup>2</sup>

Throughout this paper I use the term "disability" interchangeably with "special needs". In order to be consistent I have chosen to use these terms in place of others such as "exceptional" or "challenged". In addition, I use the expressions "persons with a disability" or "persons with a special need" rather than "disabled persons" or "special needs persons", as I think that it is essential that all individuals are regarded as people first, rather than by the distinguishing characteristics that can be attributed to them.

### Students with Disabilities

In 1986, among Canadians 15 years of age or older 2,448,000 (13% of Canadians), reported

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2. It is not necessarily my position that the classification and identification of persons with special needs is necessary. However, within the current postsecondary educational system resources and services need to be developed to suit a wide range of students with a wide range of needs. In order to do this the students who have been identified, or identify themselves as having special needs, are key sources of knowledge to the development of these services. For this reason I have chosen to focus on those persons who are identified as "disabled".

one or more disability (Secretary of State, 1986). In Ontario specifically, approximately 14%, or 1,263,000 persons reported a disability (Office for Disabled Persons, 1986). More recent statistics indicate that about 937,000 adults and 114,000 children in Ontario have a physical, psychiatric, or developmental disability (Office for Disabled Persons, 1988).

Of the persons reported to have a disability there is no one set figure representing how many are enrolled at university in Ontario or Canada, or how many require support services. There are, however, a number of sources that can be used as estimates of the demand for services by university students with disabilities. The first of these is the reported number of students who have special needs that university personnel are aware of. Available data suggest that the interest in university education is strong and growing rapidly. In the United States particularly large increments in enrollment have been noted since 1980 (Walter & Welsh, 1986). In reviewing three studies looking at the number of first year college students self-identified as being physically disabled over a period of six years, Wilchesky (1986) reported an increase in enrollment of approximately 150%. Similar enrollment trends have been reported in Canada. For example, at York University the number of students reporting a disability increased from 19 in 1977 to 114 in 1984 (Wilchesky, 1986).

A second estimate of the demand for services by students with disabilities is the level of education attained by persons who have disabilities. A number of federal and provincial reports shows a large discrepancy between the education levels achieved by persons with disabilities, and those without disabilities. In the 1983 *Canada Health and Disability Survey* non-disabled Canadians were three times more likely to hold a university degree than Canadians who have disabilities (cited in Ontario Council on University Affairs, 1989, p. 133). According to the *Profile of Disabled Persons in Canada*, 4% of persons with disabilities held a university degree;

7% held a postsecondary degree; and 4% had some postsecondary education. In contrast, 11% of non-disabled persons held a university degree; while 12% had completed a postsecondary degree; and 4% had some postsecondary education (Secretary of State, 1986). In the more recent, *Statistical Profile of Disabled Persons in Ontario, Volume II*, the figures are more encouraging but still show a large gap between the levels of education attained by non-disabled Ontarians and Ontarians who have disabilities. According to this report 11% of non-disabled Ontario residents received a university degree; 14% received a certificate or diploma; and 18% received some postsecondary education. In contrast, 5% of persons with disabilities received a university degree; 9% a certificate or diploma; and 14% some postsecondary education (Office for Disabled Persons, 1990).

While providing some indication of the demand for services, the above estimates should be interpreted with caution. There has been a general trend of increased enrollment in postsecondary institutions. In 1989, the Council of Ministers of Education reported that the full-time student enrollment rate at Canadian universities had risen from 114,000 in 1960 to approximately 464,700 in the 1985-1986 academic year. In addition, Wesley (1988) points out that not all persons with disabilities enrolled at university identify themselves or request special services. The provision of services to students with disabilities has only become an issue for many Canadian universities in the past five to 10 years. As a result, these figures may not accurately reflect the number of students currently enrolled in secondary school who have an interest in postsecondary education. With limited access and services available to persons with disabilities in the past (and still currently at some universities), postsecondary education may not have been a viable option for many individuals. Only recently have secondary students who have disabilities been encouraged to further their education beyond the secondary level (Wilchesky, 1986).

### Legislation

The past decade has been significant in Canada for persons with disabilities who are interested in pursuing a university education (Wilchesky, 1986). Legislation has been established to help ensure that postsecondary education is an opportunity for individuals who are disabled, just as it is for those without disabilities. In addition to the work of advocacy groups, perhaps one of the most significant factors to produce change in Canadian legislation has been preceding American legislation.

In the United States *The Education of All Handicapped Children Act (P294-142)* passed in 1975, enacted in 1978, requires that no child can be denied an appropriate public education in a minimally restrictive environment (Stainback, Stainback, & Bunch, 1989). One of the results of this legislation has been an increase in the practice of integrated education of children with disabilities with those who are non-disabled. Since 1973, section 504 of the *Rehabilitation Act* requires that access to colleges and universities based on academic ability is a right for people who are disabled. Discrimination against persons who have disabilities in admission, recruitment, or treatment is prohibited under the law (Wilchesky, 1986).

In Canada, Section 2 of the *Canadian Human Rights Act* states that "every individual should have an equal opportunity with other individuals to make for himself or herself the life that he or she is able and wishes to have, consistent with his or her duties and obligations as a member of society". Ten grounds are listed among which discrimination is forbidden. Disability is one of these grounds (Canadian Human Rights Commission, 1985). Similarly, Section 15 of the *Canadian Charter of Rights and Freedoms* guarantees all persons with disabilities equal treatment before and under the law. The *Equality Rights Statute Amendment Act* passed in 1986 brings Ontario legislation in accordance with the *Canadian Charter of Rights and Freedoms*

(Ontario Advisory Council for Disabled Persons, 1989). The amended *Ontario Human Rights Code*, 1981, intends to "guarantee to members of groups protected under the code equal treatment in the provision of goods, services and facilities, occupancy of accommodations, contracts, employment, and membership in associations" (Ontario Human Rights Commission, 1989, p. 1). This code further stipulates that the special needs of any of the specified groups must be accommodated unless this cannot be done without "undue hardship". Accommodation is explained as "a means of removing the barriers which prevent persons from enjoying equality of opportunity in a way which is sensitive to their individual circumstances so that we all may benefit from their participation in the community". Undue hardship is assessed by taking into account three factors: cost, outside sources of funding, and health and safety (Ontario Human Rights Commission, 1989)

More specific to education in Ontario, the *Education Amendment Act, 1980*, (commonly known as *Bill 82*), has been instrumental in changing the structure of elementary and secondary school education for persons with disabilities. *Bill 82* requires the establishment of programs for the inclusion of children with disabilities into primary and secondary school public education (Num, 1986; Silverman et al., 1987).

With improved access to publically funded education an increasing number of secondary school students who have disabilities are expressing an interest in pursuing postsecondary education (Ontario Council on University Affairs, 1989). Although clearly progress has been made where legislation is concerned, the Ontario Council on University Affairs (1989) reports that while the number of students with disabilities is increasing, "recent surveys indicated that the university sector has not kept pace with secondary schools in the delivery of services to the disabled" (p. 132).



### **Support Services for Students with Disabilities**

The provision of support services to university students with disabilities with a goal to provide equal opportunity for education is relatively new in both Canada and in the United States (Wilchesky, 1986). As a result, there is a paucity of research literature in this area, and the existing material is frequently American. This material has relevance to a Canadian context, but its applicability is somewhat limited when services are examined as legislative and educational systems and practices vary from country to country.

While the research material is limited, support services in postsecondary Canadian institutions have grown rapidly in the last decade. Initially a movement began with the intent to ensure that universities were physically accessible to students who have physical disabilities. While various Canadian universities are at different points in achieving physical accessibility to school campuses, a more recent realization has emerged. It is the realization that accessibility to the physical environment, while an important first step in realizing the goal of equal opportunity to education, is by itself inadequate. A number of services and resources need to be put in place to accommodate the broad range of needs that students who have disabilities may have. Among these may be included accommodations such as the use of assistive devices, flexibility in class and exam presentations, availability of supplemental class material, assistance from resource people, access to support groups, and advocacy on behalf of students with disabilities.

Murphy and Loving (1987) point out that in the United States, often as a result of limited resources, many universities provide only mandated resources and little else. According to Murphy and Loving, colleges and universities of the future will need to provide both mandated, traditional services, as well as non-mandated programs to create a "rich and successful" environment that is not only physically but is also culturally accessible. Accessibility to

education has come to mean the provision of services and resources, including physical accessibility, required by students enrolled in universities to have equal opportunity. Accessibility is not only the admission of students to a university but also the provision of accommodations to the special needs of persons to ensure that the students will be integrated both into social and academic university life (Walter & Welsh, 1986).

While a number of services and resources is available at most universities, as the student population changes and grows, and as technology is updated, the provisions made by each university will need to be similarly updated and flexible to the needs of a variety of students. Both universities and the government are taking action to improve accessibility to university. For example, the student body at the University of Toronto recently voted in favor of contributing almost \$3 million to upgrade the physical accessibility of the campuses. The Ontario government has shown a similar commitment to improving services for university students with disabilities. In June of 1989, the Ontario government announced that it would provide \$4 million to increase accessibility to students with disabilities who are seeking postsecondary education. The funds are provided for support services, including the establishment of special needs offices, the provision of supports and devices, and the provision of professional developmental activities (Brzustowski, 1989; Joseph, 1989).

While legislation and government funding have been instrumental in the increased attention to accessibility to education, the work of students and consumer advocacy groups should be noted. A number of organizations focusing on postsecondary education has been established in the past decade. For example in 1986, the National Educational Association of Disabled Students (NEADS), a "consumer organization with a mandate to encourage the self-empowerment of post-secondary students with disabilities" was started by students of Awareness Carleton. The

organization serves as a valuable resource by networking other existing resources, publishing a newsletter and a number of other resources (e.g., *The Resource Directory of Disabled Student Service at Canadian Universities and Colleges*), disseminating information, and advocating on behalf of students.

Other organizations focusing on the needs of students who have disabilities in the postsecondary environment have also been founded. For example, the Atlantic Centre for Disabled Students at Saint Mary's University serves as a resource and research centre while the Ontario Support Services for Hearing Impaired Students provides support services for students including sign language, oral interpreters, note takers, and amplification devices (Council of Ministers of Education, 1987). In the United States, the Association of Handicapped Student Service Programs in Postsecondary Education (AHSSPPE), established in 1978 with an aim to promote the full participation of students with disabilities in college life (AHSSPPE, 1989), now has an active Canadian sector. These organizations are essential in providing responsive services to students by networking people and the resources available in different communities across Canada.

### Needs Assessment

The Council of Ministers of Education (1987) recognizes that "needs studies offer a particularly focused avenue for establishing the education and training of a specific group" (p. 15). Needs assessment has been defined as a research evaluation aimed at the needs of a given community. Typically, this involves two broad steps : 1) the collection of data, and 2) the analysis and interpretation of data to identify the most salient needs and provide information for community action (Lord et al., 1987; Milord, 1976). Neuber et al. (1980) identify the primary

goal of needs assessment as the generation of usable information. Specifically, in community-oriented needs assessment, the goal is the facilitation of input from community members into service delivery.

Siegel, Attkisson, and Carson (1978) define the assessment process as a source of input to a broader planning process leading to: "a) the selection of and priority setting among problems and target populations to be addressed, b) the selection and operationalization of specific community program activities, and c) the evaluation of these program activities " (p. 221). McKillip (1987) identifies a number of uses of needs analysis including:

advocacy in grant preparation or other funding requests; budgeting to set funding priorities; description for understanding, for thesis or publications; evaluation as part of both formative and summative studies of an intervention; planning for decision making about program implementation; and testimony to create community awareness, to show action on a problem, to satisfy a legislative mandate (p. 19).

Siegel et al. (1978) state that within social areas, needs assessments serve to provide data that will enable planners to determine the extent and kinds of needs there are in a community; evaluate existing service resources systematically; and provide information for planning new service programs responsive to the community's needs and human service patterns (p. 210). As one of the key aims of a community needs assessment is to generate information that will ultimately lead to community action, it is important to regard the needs assessment process as more than research. As Heller et al. (1984) point out:

For community members, the products of research are often not useful. Though journal articles and books that contribute to building social science theory and knowledge are legitimate and worthwhile products of community research, they

do little to directly address the needs and problems of communities (p. 55).

A number of researchers have distinguished needs assessment from needs analysis or needs identification. McKillip (1987), for example, regards needs assessment as a step in the process of needs analysis which includes the identification of users and uses of the assessment, description of the target population, needs identification, needs assessment, and the communication of the gathered information. In this sense, needs assessment is the process where the problems and the solutions of a given population are evaluated to identify their importance and relevance. Siegel et al. (1978) define needs identification as describing the "health and social service requirements in a geographic or social area", and needs assessment as "an estimate of the relative importance of these needs" (p. 216). Although this distinction made between needs identification and assessment is an important one, it is frequently the case that the persons conducting a needs assessment will also be those involved in needs identification, as it is a necessary first step to conducting any analysis.

While there are no specific steps necessarily followed in a needs assessment, Siegel et al. (1978) recommend that a number of factors need to be considered when assessing service needs. These include,

- 1) Information - Consideration for what data are relevant, how they can be obtained, and their potential accuracy and usefulness.
- 2) Availability of resources - Consideration for what resources are available for the assessment, what the cost of the assessment will be, and what resources would adequately be able to obtain the information.
- 3) State of program development - Consideration for whether the program is new,

what the range of services available are, and whether there is a network of service systems and organizations.

4) Community attitudes - Consideration for how tolerant the community is to the range of assessment approaches available, and considered.

Bell et al. (1978) suggest four steps that are important when planning a needs assessment to ensure that the result will be useful and used. These include:

- 1) securing a commitment to use assessment data for planning purposes,
- 2) establishing a steering committee that includes the broadest range of community and professional representatives,
- 3) locating information sources and fiscal resources, and
- 4) selecting needs assessment approaches that are most appropriate for the agency or community that conducts or sponsors the assessment project (p. 254).

### **Assessing Needs Among University Students With Disabilities**

Orlansky and Leward (1981) emphasize the importance of elucidating the voices of persons with disabilities: "... in relatively few publications do disabled children and adults express their own points of view, based upon their experiences" (p. 2). Sharyn Duffin, one of the women interviewed in Orlansky and Leward's *Voices* (1981) states:

It is a good idea to have as many handicapped people speak for themselves as possible. I think you will find their views are as varied as the general population

in terms of how they want to be viewed and how they react to other people."

With response to the recent \$4 million that has been made available to improve services, the Ontario Advisory Council for Disabled Persons (1989) urges the Ministry of Colleges and Universities to "ensure that disabled students are consulted concerning the development of new initiatives to meet their needs" (p. 28). The involvement of students in determining their own services is an important one. Because the needs of each person with a disability will vary somewhat, in order for effective and responsive services to be put in place institutions and the government will have to work closely with the students, the consumers of these services. The Ontario Council on University Affairs (1989) states:

The disabled population is not a homogeneous group. Government initiatives noted earlier point to the variety of groups under the heading of "disabled". These include mobility impaired, visually impaired, hearing impaired, and learning disabled. Furthermore, within each group there is a wide variation in the extent and severity of disability. This diversity presents another difficulty in identifying and adequately servicing each of these students. (p. 133).<sup>3</sup>

*The Guidelines for Assessing Accommodation Requirements for Persons with Disabilities Under the Ontario 'Human Rights Code', 1981, as Amended* state that "there is no formula for accommodation to alleviate the barriers which confront people with disabilities. Each person's needs are unique and must be considered afresh when a barrier is encountered." (Ontario Human Rights Commission, 1989, p. 3).

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3. To the list of disabilities that have been outlined by the Ontario Council on University Affairs can also be added a number of other disabilities that have been outlined previously; For example, medical disabilities such as epilepsy, emotional disabilities, disabilities associated with old age, and temporary disabilities including accidents restricting mobility. All these groups may require some assistance or accommodation from a university.

Pollard et al. (1979) recommend a number of service planning options for persons with disabilities, including:

- Movement toward self-determination through greater involvement of consumers in the planning process and reduction of official regulatory barriers...

- Generation of higher responsibility, trust, and reliance on consumer judgement in identification and utilization of service and free market options to fulfill needs...

- Development of broader based coalitions among consumers and providers to maintain a service base during a period of restricted private and public expenditure (p. 40).

Due to the wide array of needs that service providers contend with on a daily basis, it is currently possible to address these needs only in a limited way. The provision of services at universities is typically reactive; student needs are met as they become present. While this mode of service provision is adequate when university personnel contend with a relatively small number of students with disabilities, it is questionable whether the provision of services can continue to be reactive in the future, addressing the needs of students on a one-to-one basis as they arise. Addressing needs on a one-to-one basis is inefficient both in terms of time and finances. Guidelines need to be made available to provide service providers with direction to planning proactive services. Services should be available and readily accessible once students are on campus. By reviewing research concerned with what students identify as being needs and by speaking to potential consumers of universities and support services universities can plan a more proactive approach to service provision. Only by listening to the consumer group can services be assured to be responsive to the needs of the consumers.



## RESEARCH OUTLINE

The following research describes two studies, Study One and Study Two, that examine the need for support services at universities for persons who have disabilities. Study One was conducted at the University of Waterloo in the 1989-1990 academic year as part of my work placement. The idea for a needs assessment study originated with the Coordinator of Special Needs at the University. The Coordinator felt that after a number of years in operation, it was important to let the students (the users of the Special Needs Office) express their thoughts and feelings regarding the services. The timing for this study was particularly suitable as the Ministry of Colleges and Universities had recently provided Ontario universities with funding for the development of support services.

Both the process and the content results of Study One were used to inform Study Two conducted in the 1990-1991 academic year. Study One served as a pilot project for Study Two in that what I learned from it was instrumental in designing the second study. Study Two surveys a broader range of persons including high school students who are the prospective consumers of postsecondary education, students who do not have disabilities, and university and high school administrators. In addition, the focus of Study Two was not specifically on available services and resources as it was in Study One, but more generally on student concerns and the transition from high school to postsecondary schooling. Included as persons with disabilities in this research are all those persons who may be likely to request accommodations from a special needs office at a university (as defined previously). Accommodations may include any requirement necessary for students to have equal rights and equal access to university education.

The scope of the research goes beyond the academic and physical needs of students. While fulfilling academic and physical access needs is key, satisfaction and success at university are also

related to the emotional well-being of an individual. Particularly because student populations are diverse, as are populations of students with disabilities, the service and resource needs are expected to reflect this diversity. As Walter and Welsh (1986) have identified, ensuring accessibility to university is not only providing the physical structures that allow students to access the classroom and the campus, but also providing the opportunity for students to become integrated into the social aspect of university life. Taking these factors into account, the student needs which are expected to be highlighted in this research fall into at least three broad categories: academic, physical, and socio-emotional needs. It is not my position that it is necessarily the special needs offices that are directly responsible for addressing the needs of students with disabilities. It is however the responsibility of the university at hand to identify the departments that are responsible for meeting particular needs.

The goal of this research is two-fold: 1) to assess the needs for support services at universities; 2) to document the process of the assessment. I consider both the process as well as the specific content of the results to be important. The role of the content results of the needs assessments is to be instrumental in both the provision of services to currently enrolled students, as well as in the planning of services for future students. The role of the documented process is to serve as a model for assessing needs among similar populations in other contexts. Four specific research questions serve to guide the research:

- 1) What are the needs for services at Wilfrid Laurier University (WLU) and at the University of Waterloo as identified by currently enrolled students who have disabilities?
- 2) What are the needs for services as identified by high school students who are interested in a postsecondary education?

3) What do the school professionals and community members working with these two groups of students identify to be the needs and priorities for services?<sup>4</sup>

4) What do members of the general student population perceive to be the needs for students with disabilities, and do they have any in-class teaching preferences of their own?

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4. Examining the needs from more than the one perspective of current consumers is especially important as not all potential consumer groups may be represented at the universities. For example, if a university has limited accessibility to the physical environment it is unlikely that students with physical disabilities will be enrolled there, resulting in poor representation of their needs in the assessment.

## RESEARCH FRAMEWORK

Both studies follow a qualitative, naturalistic framework that is meant to be flexible. From the beginning of the research to the end a year and a half later the research evolved and changed both in scope as well as in focus. Throughout the research I remained open to ideas and suggestions allowing the research to be molded by the participants. The framework that guided my work was a holistic one, aiming to get close to and to have as complete as possible an understanding of the issues that are salient to the participants. The context, in addition to the content and the process of the needs assessments, was regarded as valuable. The research occurred in a natural setting and involved the interaction of participants and myself, the researcher (Lincoln & Guba, 1985). The focus of the studies was on describing the needs expressed by participants rather than on quantifying them (Miles & Huberman, 1984). Understanding the whole picture in which needs arise rather than just the needs themselves was considered important.

Working from a community research perspective, participants were regarded as partners in research rather than as "subjects". The focus and process of the research was in both studies determined by the university and high school communities. As Heller et al. (1984) point out, the researcher as well as the participants should have something to gain from the research partnership. Often, research is unidirectional and noncollaborative ensuring only benefits to the researcher (Walsh, 1987). Research should be shared with the participants whenever possible from the start, the planning process of the research, until the end, the conclusion and feedback process (Walsh, 1987). In addition, research should be undertaken in response to a need (Heller et al., 1984). A need for research examining service and resource needs of students with disabilities at universities is present as the services are newly established and rapidly growing and as new funding and service options have become available. The current research is a means for the voices of those

persons who have disabilities and who are interested in university education to be heard.

## RESEARCH STRATEGIES

### Considerations for the Research Strategy of a Study

One of the key concerns when selecting a research strategy and designing a study is ensuring the "strength" of the research. In order for research to be considered worthwhile, a number of criteria need to be met. In qualitative research these have been identified as credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). Several steps were taken to ensure that these criteria were met. First, the research took place in natural settings. I was a student member at WLU and a working member of the University of Waterloo. While membership in a research setting has certain limitations in terms of my potential overinvolvement in the setting, the advantages are the extended time that I was able to spend in the setting and the richness of the descriptions that were likely to result. Both these advantages helped to ensure the credibility and the transferability of the results. In addition, since I was already a student member at WLU, I was less likely to interfere with the natural process of the university community.

One of the strategies recommended to ensure credibility and confirmability of the results is triangulation. Triangulation is described as the use of a combination of methods in one research study. Triangulation can apply to data sources, investigators, theory, as well as methodology (Patton, 1980). In selecting a strategy for the present research, in order to obtain a variety of data and to be flexible to individual needs, both the triangulation of methods and sources were chosen. In both studies student participants were given a choice in the manner that they could participate in the research. Additionally, a variety of participant groups were involved in both studies. The triangulation of data sources became particularly important in Study Two when the focus of the research became persons with disabilities who are interested in postsecondary education rather

than students per se.

### **Data Collection Strategies**

A number of factors was considered in the choice of data collection strategies, including the appropriateness to the questions asked (Bell et al., 1978), the tolerance of the community to the range of available assessment strategies (Siegel et al., 1978), and the time and financial resources available to the participants, the setting, and the researcher. Of the data collection strategies that were chosen each has distinct advantages and shortcomings, and each has specific data collection uses. The strategies chosen for this research include observation and a number of survey methods (both interview and questionnaire).

### ***Observing the Process***

#### ***The Participant Observation Strategy***

Participant observation is a strategy of systematically gathering data through observation and recording in a setting where the researcher is a member or a participant. The degree of participation by the researcher in a setting varies depending on the nature of the program studied and the degree to which full participation is desirable. Observational data can be used to describe the setting that is observed, the people and the activities in the setting, as well as their relationships (Kidder & Judd, 1986; Patton, 1980). This research strategy which has its root in ethnographic research is typically inductive and discovery oriented. One of the main advantages of participant observation is that the researcher shares the activities of the members of the community under study. Through direct contact and involvement with participants the researcher

is more likely to get a better understanding of the context (the community). One of the disadvantages of participant observation is that a great deal of self-awareness and monitoring are required on the part of the researcher in order to ensure that the researcher is aware of how his or her involvement in the setting may affect the natural processes of that setting and the observations that are made there.

### ***Documenting the Process Through Observation***

One source of data for this research was observation of the process. Observation of the process became particularly significant in Study Two. While conducting Study One I became increasingly aware of the importance of the process of the research. However, at the time I had not established a way of systematically documenting the process and thus could only comment on it retrospectively. In response, to properly document my observations of the process of Study Two, I promptly established a journal at the beginning of the study for the recording of my observations. As I spent a vast amount of time at WLU, I thought that unexpected events would arise that may be related to the research. In addition, I thought that documenting my observations would allow me to more accurately comment on the process of the research.

While my role as a researcher was not completely as a participant observer, I took into account many of the concepts identified as key in participant observation. The degree of direct participation I could assume in the two studies was somewhat limited. While I am a student member of the WLU community and a member of the Accessibility Committee there, and was a working member of the University of Waterloo community, I do not identify myself as having a disability. I am thus not a member of the community of persons who have disabilities. For this reason I identify my role to be one of a "quasi-participant observer".



### *Surveying the Participants*

#### *The Survey Method*

Surveys provide researchers with a flexible means of gathering information by providing the opportunity to either probe for attitudes or opinions or to measure behavior or population characteristics. The three most common survey methods used in needs assessments are face-to-face interviews, telephone interviews, and mailed surveys. Each of these methods has unique advantages and uses. Face-to-face interviews, for example, provide both flexibility and responsiveness to allow for people's perceptions, feelings, and knowledge to be highlighted through in-depth person-to-person exchanges (Patton, 1980). Interview questions can be both structured or unstructured, allowing the interviewer to respond to and to explore areas and issues as they arise (Steadham, 1980). Siegel et al. (1978) point out that in many cases face-to-face interviews produce a better response rate and information than other survey methods. However, face-to-face interviews are time consuming for both the researcher and participants and tend to be more costly than other methods. In addition, particularly if the interview is informal and conversational, the results may be difficult to summarize and interpret.

Telephone interviews have many of the same advantages as face-to-face interviews, but are a less costly option. The interviewer still maintains personal contact with the participants, but provides more anonymity. Opportunity for anonymity is particularly useful in situations where the participants may not want to be identified.

Mailed surveys, or questionnaires, are one of the most direct methods of gathering information on the needs of a community. Of the three survey methods, questionnaires are most likely to ensure participant anonymity. Participants have the opportunity for expression without

embarrassment. Questionnaires are relatively low in cost as they can be self-administered and are more easily summarized. Unfortunately, of the three survey methods questionnaires have the lowest response rate (Bell, 1978). Additional drawbacks are that questionnaires assume that participants are proficient in reading and writing, and that questionnaires provide less opportunity for free expression as personal contact with the participants is lost.

### *Surveying Student Needs*

The three survey methods described above were used in assessing the needs of current university students and high school students who are planning to pursue postsecondary education. Person-to-person interviews and questionnaires were used in Study One (see Appendices A and B), while all three survey methods were used in Study Two (see Appendices C, D, and E). Because the population in which the needs were assessed is very diverse and the needs of each student vary, it was important that the survey method was flexible. In both studies students were given the opportunity to choose the method by which they would like to participate in the needs assessment. This flexibility in method was particularly important to ensure that students had the opportunity to respond in a manner that was comfortable to them. For example, I thought that a student with a visual impairment may prefer to be interviewed rather than to answer a questionnaire while a student using a wheelchair may have difficulty arranging transportation to attend an interview and may prefer to be interviewed by telephone.

In each study the focus of the survey methods was similar although the method of response was different. The questionnaires, however, had an additional section enquiring about the participants' use of specific services. The interviews followed an interview guide format, including open-ended questions providing opportunity for participant input. The telephone

interviews followed the same format as the face-to-face interviews.

The focus of the survey questions was determined by the participants and members of the research settings. In order to determine the focus of the needs assessment in Study One the Coordinator and the Counsellor at the Special Needs Office were interviewed. Both had specific questions about the services and resources available and issues that they wanted to address to students. In addition, key informants identified a number of other research areas to be considered. Both these sources of information were used to determine the final interview and questionnaire questions. In Study Two, a small structured guiding interview was conducted with members of WLU and the Waterloo County Board of Education to determine the focus for that study.

In addition to the surveys that were conducted with high school and university students who identified themselves as having special needs, students without disabilities were also surveyed in Study Two. A person-to-person group interview was conducted with a small group of students at WLU. The interview was structured around two key questions. The focus of the questions was: 1) the needs of students with disabilities at the university, and 2) personal preferences for in-class teaching styles. These questions were determined by the persons attending the structured guiding interview.

### ***Key Informant Interviews***

#### ***The Key Informant Approach***

Key informants are members of the community who have direct contact and familiarity with the group who is the focus of the research (Neuber et al., 1980). The purpose of incorporating key informants into a needs assessment is to add to the perspective of needs. For this reason key

informants should be chosen to cover a full range of available opinions (McKillip, 1987). Key informants can be surveyed by a number of methods, including questionnaires and interviews. The degree of difficulty associated with the key informant approach depends largely on the survey method chosen. While key informants provide a valuable perspective to research, they frequently have a bias towards the activities or the organization that they are involved in (Patton, 1980). McKillip (1987) reports that key informants will often overestimate problems that are facing a community and underestimate the community's ability to solve these problems (McKillip, 1987; Patton, 1980).

### ***Key Informant Interviews***

Professors at the University of Waterloo and community members from agencies in the more global Kitchener-Waterloo community served as key informants in Study One, while professionals from WLU and the Waterloo County Board of Education were key informants in Study Two. Not all the key informants were identified prior to the beginning of the interview process, as it was expected that a number of important key informants would be identified through the process of interviewing. The purpose of the key informant interviews was two-fold: 1) to add to the perspective of students with disabilities, and 2) to identify the services and resources currently available to students. Interviews with high school and university staff in Study Two followed an interview guide derived from the guiding interview (see Appendix F). In Study One, the focus of the interviews with community members and faculty was largely determined from information obtained from some of the initial participant interviews (see Appendix G).

### **Data Analysis**

Patton (1980) states that there are no formal set rules in analyzing, interpreting, and evaluating qualitative data. Key components of the data analysis and conclusion process usually involve organizing data into patterns, categories, or descriptive units; attaching meaning to the analysis; explaining the descriptive terms and examining relationships between dimensions; and evaluating and drawing conclusions from the preceding steps.

Goetz and LeCompte (1981) identify four dimensions of analysis that need to be considered. In a naturalistic research design these dimensions include inductive analysis where categories and propositions are determined from the data rather than the reverse, where the research is discovery or generation focused rather than concerned with verification, where the units of analysis are determined from the data rather than prescribed prior to analysis, and where the analysis serves as a "reconstruction of the subjective realities of the participants" (cited in Kidder and Judd, 1986). Goetz and LeCompte (1981) discuss five ethnographic analytic strategies. One of these analytic strategies, and one which adheres most closely to the above dimensions, is analytic induction. In this strategy categories for understanding the data are determined by the data itself; categories and hypotheses are changed as subsequent cases are added. Cases which do not fit already developed classifications are used to redevelop the categorization system and reassess the data. The aim is to explain all cases rather than just a portion of them. Explaining all cases is particularly valuable in this research as data from each participant is considered important and is expected to vary somewhat from case to case. Data will be examined both separately from the different sources and data gathering strategies, as well as together. Finally the results from Study Two will be examined in relation to the results reported in Study One, and an overall discussion will ensue.

## STUDY ONE

### Study Design

#### *Research Setting*

The principal research setting was the University of Waterloo in Kitchener-Waterloo (K-W), Ontario. Kitchener-Waterloo has a combined population of over 200,000. In the community there are two universities and one college.

The University of Waterloo has an enrollment of approximately 25, 000 students across a broad range of undergraduate and graduate programs. The Special Needs Office at the University has been in place since 1984. Since that time both the services available and the physical accessibility of the campus have grown considerably.

#### *Participants*

In total fifty persons were participants in the study. The primary and focal participants were students who were on file at the Special Needs Office in the 1989-1990 academic year. Sixty-seven students were initially contacted by introductory letters requesting their participation, and asking how they would like to participate: group interview, individual interview, or questionnaire (see Appendix H). Two mailings of the letter were made through the Special Needs Office. Students were asked to return a signed consent form if they were interested in participating in the research. Only through contact made by the students returning completed consent forms did I as the researcher have access to student names.

In total 39 student participants, 20 males and 19 females, were surveyed in the research.

While the majority of students were in the age group of 18 to 25, age ranged from 18 to 50. Students were in both Arts and Sciences programs, both full- and part-time; several were enrolled in co-op programs; and some were taking correspondence courses. All the students, with the exception of two, were undergraduates at varying points in their studies. The groups of disabilities represented among this university sample were as follows: sight, hearing, movement/coordination, medical, emotional/psychiatric, learning, as well as others (not categorized as any of the above). Thirteen students were interviewed: 16 completed a questionnaire and ten completed both.

As an additional source of information, a number of professors who had been in touch with the Special Needs Office and a number of representatives of community organizations were interviewed. Five faculty and six community members were contacted by telephone. All consented to be interviewed. The professors involved in the study represented various departments in the University, varying degrees of knowledge about disabilities, and had had various degrees of contact with students who have disabilities. Community members were those representing six community agencies that serve persons who have disabilities.

Interviews with students were conducted at the Special Needs Office of the University unless otherwise requested. Questionnaires were distributed to students by mail. Faculty were interviewed at their offices on campus while members of the community were interviewed at their place of employment in the Kitchener-Waterloo region.

### *Surveying the Students*

Perhaps the most important observation that was made in this research is that the degree of variability in students' needs, and in their use of the Special Needs Office, is extensive. This

observation served to guide the data analysis. In other words, due to the variability, I thought it was important to recognize and include the full range of information obtained in the analysis of this research. The students who make use of the Special Needs Office cannot be regarded as similar or having necessarily similar needs simply because they can all be said to have a disability. Not only does the type of disability vary from student to student, but so do the degree to which the disability is limiting to the student, and the capacity and resources that that student has to deal with it. Thus the variability of the results obtained and reported reflects the diversity of the students who were involved in this research study.



## **Results**

### **Survey of Students at the University of Waterloo**

#### ***The Role of the Special Needs Office***

As a way of determining what role the Special Needs Office has in the lives of students, students were asked to identify the services that were most important to them and that were most frequently used. Through both the questionnaires and interviews students identified four main services that they used through the Special Needs Office. These include:

- Support/someone to talk to
- Advice on school related problems
- A place to study and/or take exams
- Help in making arrangements with professors

#### ***Student Use of Resources***

Presented with a list of 35 services that are available either at the University of Waterloo or at other universities, students were asked to identify the services and the resources that they are aware of; that they use; and those that they would use if they were available. Typically, students were most aware of the services and resources that were relevant to their own disability needs. When grouped according to disability, students identified making use of similar services and resources (see Appendix I).

It is important to note that a number of students identified an interest in the use of specific services which they were not currently using but that are available at the University. These results

suggest that some of students may not be aware of the full range of services that may be available for their use. In one interview, a blind student noted that since most of the information available about the school is presented visually, it is frequently difficult to obtain up to date information about school services (e.g., health services in this case), school activities and clubs, and academic issues (e.g., scholarships). A suggestion was made that perhaps a phone line presenting daily news and information might meet some of these needs.

A number of students in the initial key informant interviews indicated a concern that students, faculty, and the community were not informed about the services that are available to students with disabilities at the University. Because this study limits its scope to those students who are already affiliated with the Special Needs Office this issue cannot be fully addressed here. However, as a way of addressing the issue of awareness from the point of view of the students on file, students were asked how they came to know about the Special Needs Office. The results show that the majority of students found out about the Office prior to coming to the University of Waterloo from advisors or counsellors at previous schools, from written information or through their affiliation with community agencies. A number of students were also made aware of the Special Needs Office by professors, administrators or friends once at the University. This latter group, however, tended to be those students for whom physical access to the University was not a personal concern.

When asked how informed students with disabilities were about the services and accommodations available to them, students indicated that they were fairly well informed.<sup>5</sup>

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5. On a scale of one to five, with one as very well informed and five as not informed, the mean student rating was 2.48 (SD=.90).

Several suggestions for how information could be made more readily available to them were made. These suggestions centered on raising awareness about the Special Needs Office and increasing publicity by/about the Office and the services available.

### *Student Use of Central Services*

The use of four central services including counselling, health, the library, and sports and recreation was examined.

Students were asked about the available *counselling* services at the University of Waterloo. Of the 26 students surveyed, 15 had previously used or were currently using counselling services. The majority of these students found counselling to be useful reporting that counsellors were fairly knowledgeable and helpful.<sup>6</sup> While most of the students who had used these services reported using individual and academic counselling, many showed an interest in other types of counselling including vocational, time management, and study skills counselling.

Students' experiences using *health services* at the University were similar to those with counselling. While only eleven students said that they had used health services, most rated the services positively.<sup>7</sup>

Of the thirty-one students who were asked questions regarding *sports and recreation* facilities at the university, twelve responded that they had made some use of these facilities. Of the other

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6. On a scale of one to five with one as very knowledgeable and five as not knowledgeable, the mean student rating was 2.34 (SD=.75). On a similar scale of one to five, with one as very helpful and five as not helpful, the student mean rating was 2.37 (SD=.83).

7. On a scale of one to five (one as very knowledgeable, five as not), the mean student rating was 2.31 (SD=1.25). On a similar five point scale for helpfulness the student mean rating was 2.17 (SD=1.27).

students who responded that they did not use these facilities, four had an interest in using sports and recreation facilities but found them difficult or inaccessible to use. Students made a number of suggestions for upgrading these services including a ramp or angled steps into the pool, pool time for students with disabilities, and clearer publication of the services and facilities available. In addition, a number of students remarked that they were not aware of the activities that they could engage in with their particular physical disabilities.

Students were asked what services currently not available at the *library* would be helpful to them. The suggestions that students made varied with the individual needs of the students responding to the question. For example, students who have visual impairments were most concerned with visual aids and equipment that would make the library more visually accessible to them, while students with physical, movement restricting disabilities were more concerned with the physical structure of the library.

### *The Degree of Students' Satisfaction with the Services*

Students responded very favorably when asked how satisfied they were with the current services. Both the students who rated their degree of satisfaction on a five point scale in the questionnaire, as well as those commenting on the services in the interview reported being satisfied.<sup>8</sup> Similarly, positive results were obtained when students were asked how accommodating they felt that the University is in meeting the needs of students with disabilities or special needs. While this was an open-ended question many students took the time to respond.

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8. On a scale of one to five with one as "very satisfied" and five as "not satisfied" the reported mean rating on satisfaction was 1.77 (SD.72).

The following is a sample of some of the comments made:

the best place that I am aware of

University of Waterloo is doing a great job in helping students of any disability meet their needs.

I'm really happy with what the University of Waterloo is doing for us now.

Although they're new, they're really trying.

University of Waterloo is still young and needs to grow but I think that they are really trying to help the disabled and special needs students.

Pretty good providing the students say they have a need.

Encouraging trend but still a long way to go.

I feel at home.

### ***Support and Understanding by Faculty, Students, and Staff***

The purpose of this set of questions was to determine how supportive others at the University are of the needs and rights of students with disabilities. Students were either asked in open-ended questions in the interview or asked to rate in the questionnaire, professors', students', and staff's degree of understanding and support.

***Professors.*** While a number of students who were interviewed recalled having had some difficulties in making arrangements with professors (these, they felt, were due to the lack of the professors' understanding or the unwillingness to make accommodations), the majority of students rated professors as fairly supportive and understanding.<sup>9</sup> Particularly some students with

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9. On a scale of one to five, with one as extremely supportive and five as not supportive, the mean student rating was 2.20 (SD=.85). On a similar five point scale examining the degree of understanding, the mean student rating was 2.39 (SD=1.13).

less visible disabilities reported feeling frustrated because at times professors forgot about their disabilities or doubted their authenticity. A number of students thought that support and understanding varied from professor to professor:

Some professors are great while some don't want to know or don't care.

Some profs are very aware, some aren't; some are much more accommodating than others.

It all depends on the professors. Some are really understanding and others don't know what [specific disability] is.<sup>10</sup>

Faculty makes a big difference.

**Students.** Similar results were obtained when asked how supportive and understanding other students were of the needs and rights of students with disabilities. For the most part, students with disabilities felt other students to be fairly supportive and understanding.<sup>11</sup> In a number of cases, however, where students had less visible disabilities, frustration over the lack of understanding by other students was expressed:

Most cannot see my problem, therefore have a hard time understanding.

Very few of my friends know that I have a disability; not sure how they would react to it.

Since I have an invisible disability I would not expect a lot of understanding or support in this area.

**University Staff and Administration.** University staff and administration were also regarded as fairly supportive and understanding of the students.<sup>12</sup> In a number of cases these people were not

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10. In certain quotes, such as here, I have omitted mentioning a specific disability to protect the identity of the participants.

11. On the same five point scale as the one used for professors, students received a mean score of 2.18 (SD=1.21) for supportiveness, and a mean score of 2.42 (SD=1.36) for degree of understanding.

12. Using the same scale university staff and administration received a mean score of 2.09 (SD=.85) for supportiveness, and a mean score of 2.32 (SD=1.00) for degree of understanding.

aware that particular students had a disability, and in many cases the students did not require any special considerations.

### ***Students' Social Involvement and Support***

***Social Involvement.*** Students were asked what they felt were some of the obstacles that may be preventing them from participating in nonacademic university activities. While a small number of students identified obstacles that tended to be structural and related to physical accessibility, the majority of students either felt that there were no particular obstacles or did not answer the question. Most students who were interviewed reported that by choice they were not involved in any extracurricular activities. The section regarding the physical accessibility of the campus has been integrated into the "Accessibility" section of this report.

***Social Support.*** In the initial interviews the question of social support was brought up by both students and community members. Particularly students who have "invisible" disabilities expressed a strong interest in having some form of contact with other students with similar difficulties. Due to this interest in social support or contact three questions addressing the issue were developed. In the first question students were asked whether they would make use of a "buddy system" which would put them in touch with other students who could serve as a source of company, support, and help. Half of the students who answered the question replied positively. Because many of the students involved in the research were not new to the University and had likely established a social network, a second question asking whether students would be willing to be a "buddy" to a new student with a disability was included. More than half of the students

answered that they would be willing.

I have no problem integrating into social activities. I am, however, aware that a "buddy" is the one that often breaks the ice when the two are together in terms of getting into any social activities- especially for the new student.

I would be happy to provide support but I don't need it.

As a number of people initially indicated that they would prefer group involvement over a "buddy system", in a third question students were asked whether they would make use of a support group where students with similar needs would meet to provide each other with help and advice. Again, over half of the students who answered this question said that they would make use of such a group.

I always find a support group helpful as I feel it is important to have a group of people who can understand what you're going through.

Forming [support groups] will achieve more dedication, enthusiasm, determination for each person involved.

A very informal support group, so you know what's going on (don't use the word support group).

I believe that support groups combined with stress management are extremely beneficial.

### *Accessibility of the Physical Environment*

While accessibility was not the focus of this study it still remains a central issue for many people with disabilities. As a result, I felt that it was necessary that this section be a part of the research report. However, rather than discussing accessibility at any length, I have included a map identifying some of the areas on campus that students either find inaccessible or difficult to access



(see Appendix J), and then discuss the additional issue of transportation. The map presented in Appendix J indicates that for some students many areas of the campus remain difficult to access. The extent of difficulties identified by students varied considerably with the type and severity of the disability. A number of suggestions specific to accessibility that have not previously been mentioned were also made. These include: increasing the number of automatic doors, increasing the number of accessible washrooms, lowering elevator buttons and water fountains, widening doors, and paying attention to the steepness of ramps. One student remarked:

Eventually, the entire campus should be made accessible.

One issue related to both accessibility and services, is transportation. A number of universities are now offering a campus transit service in the form of a minibus for students who have mobility difficulties. As the Coordinator of Special Needs was interested in seeing whether this service would be useful to students on campus at the University of Waterloo, a question concerning on-campus transportation was worked into both the interviews and the questionnaires. Six students in total said that if such a service was available that they would make use of it. In addition, in responding to the question about on-campus transit, a number of students made comments about the use of the off-campus public transit, Project Lift:

Project Lift is inconvenient for students who would like to be a part of other activities than studies.

Project Lift vans should be able to pick you up after hours, right at your building, especially in the winter.

### ***Other Student Ideas***

In addition to the issues and suggestions that were raised by students covered in previous sections, a number of other ideas were expressed. Most of the ideas that are presented here were

generated by questions asking students what they thought should be the priority for the spending of the funds available for service provision and how the University might be made more accommodating to students with disabilities. An additional area of focus is also covered in this section: that of the special needs of students enrolled in cooperative programs.

One of the main concerns to surface was the degree of awareness of professors and students about issues related to disability. A number of students suggested educational workshops that these groups could partake in to increase their awareness and understanding of the needs of students with disabilities and the services that are offered to them.

People may not be aware of this office.

Educate people about disabilities; that they're all different.

Get professors more aware of where they can make referrals.

Students also suggested a number of new resources/services. These included the following:

- increase student networks and organize support groups
- establish a resource centre where students can access information on disabilities and related education issues
- offer a place to study, spend time, eat lunch, ...
- network with vocational rehabilitation and the public school system
- provide more opportunity for counselling available through the Office
- offer facilities to assess learning disabilities
- make attendant care available on campus
- increase attendant care services in residence
- provide short notice assistance from volunteers
- provide a reader service
- increase accessibility to braille books

- gear lab facilities to students with disabilities
- provide volunteer helpers for each department
- increase attention to quality air in buildings
- increase focus on the special needs of people in emergency situations
- make available a directory of professors including the accommodations they have made in the past

### ***Co-op Students***

As a number of programs at the University of Waterloo provide a co-op option giving students the opportunity for work placement to be a part of their studies, I thought that it was important to address this issue in the interviews and questionnaires. Students who were enrolled in co-op programs were asked if there are any particular difficulties that they encounter as students with disabilities.

A number of students who had "invisible" or less visible disabilities reported that they did not tell their employers that they had a disability or told their employers only once they had established themselves at their placements. Other students expressed frustration at having to work extra hard to prove themselves due to their disability.

The majority of concerns that was raised surrounding practical issues at the work placement was related to the entry stage. Students mentioned that access to current postings and large print want ads was important and sometimes difficult. Similarly, accessibility to properly equipped telephones on campus, to arrange placements, was noted. Finally, the issue of arranging housing and transportation to and from work (especially when the placement is out of town) was also mentioned.

### **Interviews with Professors and K-W Community Members**

In the interviews with professors and community members a number of concerns regarding services and suggestions for the future were expressed. Many of the suggestions are similar to those made by students reported in a previous section.

One of the issues that most frequently resurfaced was the degree to which community members, professors at the university, and the students were aware of the Special Needs Office, were aware of the services available to students with disabilities, and were knowledgeable about disabilities. One person who was interviewed suggested more "education" of the faculty about disabilities via an information sheet specifying to them what they can do to be of assistance to students. Several participants thought that it was important that professors be made aware of the available resources in case they themselves want to use these to make direct accommodations for students (e.g., enlarge handouts). Related to this, one professor also thought that it was important to know beforehand that a person with a disability would be in the class.

A number of people maintained that accessibility to facilities at the university should be regarded as a priority; an aim should be to make the university barrier free. A suggestion was made that a transit system that would function on university grounds and in the nearby area would be useful to students. Related to accessibility, ensuring the university has adequate equipment to meet the diversity of students' needs was also mentioned. In addition, a number of specific new services were suggested. Two of the people who were interviewed suggested a need to have outreach attendant care available on campus for those students who may require occasional, but difficult to schedule, help. Tied to this was the idea of a volunteer bank that could provide aid to students on an on-call basis throughout the day. These suggestions arose from a concern that students with physical disabilities are often restricted in their daily activities due to the necessity

of planning and scheduling around services. Participants also thought that it was important to provide an opportunity to students to build a strong support network possibly including a "buddy system" and to provide the opportunity for students to meet other persons with special needs who could serve as role models.

### Conclusion

A number of issues related to the study should be pointed out to readers for consideration. First of all, 39 of 67 students (58%) who were initially invited to participate in the study did so. As a result, it is possible that a select group of students became involved in the research (e.g., students who were already satisfied with the services, or possibly those most concerned about them). Consequently, it is difficult to estimate to what extent the students who became involved in this study represent the population of students who are on file at the Special Needs Office. It is even more difficult to assess how representative these students are of students who have disabilities but who have not contacted the Special Needs Office, students who are enrolled at other postsecondary institutions, or those persons in the Kitchener-Waterloo community who are interested in postsecondary education but are not currently enrolled at university. These issues inspired research questions that became the focus of the next study, Study Two.

## **STUDY TWO**

### **Study Design**

#### ***Research Setting***

While the research study spans two settings, including Wilfrid Laurier University and the schools at the Waterloo County Board of Education, the former is the central focus of the needs assessment. Wilfrid Laurier University has an enrollment of roughly 7,000 students. While there has been a committee representing various University sectors working on issues concerned with disability since the early 1980's, to date the number of students with disabilities has been limited due to the limited physical accessibility of the buildings and the lack of existing coordinated services. In 1990, following the distribution of funding from the Ministry of Colleges and Universities an additional committee on accessibility was set up at the University, and a coordinator of special needs was hired. Currently, there are structural changes taking place at the University to make the buildings more accessible, and new equipment and resources being established.

The Waterloo County Board of Education is a public school board comprised of 14 secondary and approximately 97 elementary schools. In September of 1990 the school board had a total enrollment of 53,292 students, of whom 2,645 were identified as disabled. An IPRC program (Identify, Placement and Review Committee) has been in place since 1983 and is mandated by the provincial government. This committee, with the input of students' parents (or the student if he or she is of age of majority), serves to determine "exceptionality" among students; to provide recommendations to parents and the board regarding the placement of an exceptional student; and to review the education process of the student (Num, 1986; Silverman et al., 1987). While some

basic special needs services and resources are available at most high schools centralized services are available for students with more intensive special needs requirements (e.g., there are separate centralized programs for both hearing impaired students as well as the physically challenged).

### *Participants*

Three groups of students, in total 21 student participants, were involved in Study Two. The first group was students who were enrolled at high schools in the Waterloo County Board of Education, who have been identified as having a disability, who were planning to attend university or college in the 1991-1992 academic year, and who were regular users of support services for special needs students. The students were contacted by a letter distributed to them on my behalf by the special education consultants or the guidance counsellors at their high school (see Appendix K). The letter explained the purpose, the methodology, and the envisioned use of the research.<sup>13</sup> Only if the students consented to participate and returned the signed consent form to me did I have access to their names and telephone numbers. All necessary information was provided to potential participants to ensure that if they agreed to participate they would be providing informed consent. Seven high school students, five male and two female, agreed to be interviewed.<sup>14</sup> All the students were in their final year of high school and were intending to attend college or university. The disabilities represented among this student group included learning, mobility, hearing, and visual.

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13. The introductory letter varies somewhat from the letter used in Study One as for each study a different ethics board, having different requirements, was involved.

14. Because the students were informally approached to participate by members of staff in their high schools and were requested to return signed consent forms sometimes directly to me and other times to staff it was difficult to determine exactly how many students were initially approached to participate.

The second group of student participants was students who were enrolled at WLU and who have identified themselves to the Special Needs Coordinator as having a disability or in need of supportive services. Twenty-nine students were contacted by a similar letter and consent form to the one sent to high school students. The letter in this case was distributed by the Special Needs Coordinator at the University. Nine students (39%), four males and five females, consented to participate. Six students agreed to be interviewed while three completed a questionnaire. The students were all undergraduates under the age of thirty who were at different points in their studies enrolled in a variety of fields. The disabilities represented among this group were learning, medical, visual, auditory, and mobility.

The third group of student participants was members of the WLU student population who did not identify themselves as having a disability. These students were selected at random from the participant pool in the Department of Psychology. Students were initially contacted by telephone. The research was explained and they were asked to participate. Six students consented to participate in a small structured interview. The participants in the interview were five females and one male, four of whom were enrolled in psychology, and all of whom were first year students.

In addition to student participants, ten academic professionals/administrators served as key informants. They were selected on the basis of their interest in service provision to students, likelihood to contribute to the research, and availability. Key informants were interviewed with two main purposes in mind: 1) to help determine the resources and services available at the university and at high schools, and 2) to identify the needs and priorities for services and

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14. While participation from ten to fifteen students was expected, due to the limited number of high school students expecting to pursue postsecondary education in the 1991-1992 academic year, fewer participants became involved.



resources from a different point of view. Five professionals, including resource teachers, consultants, and a psychologist were interviewed from the Waterloo County Board of Education. These professionals represented a broad range of responsibilities in the school board and had jobs related to one or several disability groups. Five administrators at WLU in some way responsible for taking into account the needs of students who have disabilities were also interviewed. Participants ranged from senior administrators to direct service providers. Each had a different role and set of responsibilities within the University.

### **Procedure**

The following section briefly outlines the procedure followed in the research and some of the considerations that I made while conducting Study Two.

### ***Entry***

The first step I took in the research at WLU was to contact the Dean of Students and the Special Needs Coordinator to discuss the research. The Dean of Students was contacted in addition to the Special Needs Coordinator because the Coordinator was new at the University when I began the research. The responsibilities assumed in the 1990-1991 academic year by the Special Needs Office were largely assumed at one time by the Dean.

An additional first step that was equally important was to establish an advisory/guiding committee for the research. Bell et al. (1978) recommend that establishing a committee representing members of the community and securing a commitment to use data for planning or action are important steps in planning a needs assessment. In order to provide me with some direction and to ensure that the needs assessment involved members of the University community,

a committee of community members was established. Included on the committee were the Special Needs Coordinator at WLU, a member of the faculty who is knowledgeable about the area of study, a student with a disability who has an interest in the research, and a member from the School Board. Initially, I met with the committee members individually to discuss the priorities for the research. Following several individual meetings a group meeting was set up to determine the specific issues that should be addressed in the participant interviews and questionnaires. The information that was generated at this meeting was then used to design specific questions that were addressed to the participants.

At the Waterloo County Board of Education contact was initially made with the Chief Psychologist and the Chair of the Research Committee to discuss the research and to obtain ideas on how to get staff at each high school interested and involved in the research. Upon recommendation, I requested that I be put on the agenda at two meetings, one for the school board consultants and the other for the school board guidance counsellors. At each of the meetings I made presentations about the research and handed out information letters and consent forms to be distributed to students. The meetings proved to be valuable sources of input into the research. People asked questions and provided suggestions for the research. A considerable change that I made in response to a recommendation made by a member at the meeting was to broaden the focus of the high school research sample. Following the two meetings all further contact was made with corresponding representatives within each of the high schools individually.

### *Data collection*

Once entry into the settings was completed, the research negotiated, and the proposal was approved by the ethics committee, data collection began. Following the initial interview with the

guiding committee, I began to interview high school students and some of the staff at the school board. When the high school student surveys were almost complete I also began to interview university students and university administrators. While initially I had intended to survey each population independently in sequence this became impossible to do as people returned consent forms at different rates and as people were available only at certain times to be interviewed. All interviews with students were tape recorded unless otherwise requested. In one case the tape recorder ran out of power in the middle of an interview. In this case notes were made from memory. Interviews with administrators were not taped but rather notes were made in the course of the interviews. I did not think that it was as important to obtain information verbatim from the school professionals and also thought that the use of a tape recorder might limit what they would say in the interview. Summary sheets were used to record general information and comments on the process following each interview.

Interviews with high school and university students took on average 20 to 30 minutes. High school students were more apt to just answer the interview questions and not to provide much supplemental information. On the whole, they did not appear to be as comfortable as the university students that I interviewed. University students were more talkative and provided more varied responses. This may have been in part due to the fact that university students were living and dealing with the issues that I was asking them to address, while high school students had to in many cases speculate about potential university or college issues. In addition, at WLU both the university students with disabilities as well as those without disabilities were well aware of the Special Needs Office and consequently some of the services offered there.

Over the course of the past year a number of very visible physical changes have taken place at the WLU campus. For example, a new ramp was built in front of the library to allow people using

wheelchairs to access the library more easily. In addition, new computers as well as other equipment aimed to meet the needs of persons with physical disabilities have become visible on campus. These visible changes and the key location of the Special Needs Office have likely heightened the awareness of persons at WLU to issues related to special needs.

### ***Feedback***

Information was provided to members of the guiding committee informally. Information was also made available to participants in the course of the research, and participants were encouraged to provide feedback to me. Following each interview I asked participants if they had any questions. In the case of high school students some had questions about the services available at colleges and universities. In the case of the student group interview at WLU, a discussion regarding special needs ensued with four of the student participants after the interview was terminated. I encouraged this kind of communication because I felt that in many cases I could serve as a resource allowing students to express ideas and also presenting them with useful information. In that way, I felt that students were able to take something away from the research.

Following the termination of the research a summary report was sent to all participants and settings that were involved in the two studies in the course of the past year. Participants are invited to contact me if they are interested in more detailed information. Should a large number of participants request more detailed information, a meeting where I will be available to answer questions and discuss the research will be scheduled.

## **Results**

### **Survey of WLU University Students**

#### ***Choosing University***

In order to determine at what point in their lives students made the decision to pursue postsecondary education students were asked when they decided to attend college or university. The answers students provided varied from before high school to grade 12 or 13. One student explained the following as being her motivation:

I always had the vision; its something that I always wanted. Maybe in grade 10 when I started to take business and accounting courses and I was just breezing through my business courses I thought why don't I take a chance. I was always saying that I didn't think that I'd be able to do it. A lot of people were shunning it off. One person at the school board was trying to get me to go to [ ] College. It's a college for [ ] people. I'm an intelligent person. I have something like an 80 something average so I wasn't going to go somewhere like that. Even the guidance counsellor said to me I don't think that you're going to be able to handle it. How do I know if I don't try? So, I kind of went against what everyone was saying and went in.

In order to find out what considerations students made when choosing a university questions inquiring why they chose WLU and what they were looking for in a school were asked. Among the students surveyed only two indicated that they had done any investigation of the special needs services and resources available at universities or at WLU prior to applying to university. The decision of the majority of students to attend WLU was based on other factors including the opportunity to live at home with parents, the availability of scholarship awards, the quality of the academic programs offered, and the size of the university. One of the students indicated that prior to attending WLU he was not aware that universities had any accommodations or services specifically available to students with special needs.

*Awareness of the Special Needs Office and Services*

Students were asked how they found out about the Special Needs Office and the services offered at WLU. The students who were surveyed began attending WLU at different points in time, a number of students having been at the university prior to the establishment of the Special Needs Office. The survey results indicate that students who had more recently begun to attend WLU were more aware of the available services. Only some of the students surveyed were identified to university administrators as having a disability or requiring special accommodation prior to the establishment of the Special Needs Office. The majority of students reported finding out about the Special Needs Office (or special needs services that were in place prior to the Office) from administrators or professors at the university. Two students found out about the Special Needs Office through their affiliation with community agencies, including Vocational Rehabilitation Services and K-W Access/Ability. Alternately, one student found out about the services by looking in the course calendar, while another student's high school had made contact with the Office of the Registrar explaining the special need and the need for accommodations.

Several students indicated that the noticeable location of the Special Needs Office in the Concourse was instrumental in raising their awareness, and was a catalyst for them to make contact with the Office. In contrast, another student made the following comment with respect to the location of the Special Needs Office: "The Special Needs Office is right in the open and I'm kind of embarrassed".

Students were asked how well informed they felt about the services and resources available to them and how they thought that information could be made more readily available. Students' response to this question varied from "very well informed" to "fairly informed". Among the students who felt that they could be better informed many also expressed that it was important

that the Special Needs Office is available to them as a resource but did not feel that they necessarily needed to be aware of all the services that the Office offers. The comments made by students varied. Two students commented:

I simply wish that I knew more about the resources so I could take better advantage of them.

[the Special Needs Coordinator] made it very clear that anything that I needed I should just come in and ask.

More specifically, students were asked to identify from a list of services and accommodations available those that they currently use, use/d elsewhere, or would be likely to use. The results show that while students use a variety of services and accommodations some of their needs still likely remain unmet (see Appendix L). When asked if students were satisfied with the services and resources available to them and whether they had any ideas for improvement most students reported that they were satisfied but had either some concerns or suggestions:

I would like to know all the special services available to me at Laurier as a visually impaired student. Maybe the Special Needs Office could send a pamphlet showing all the services available for impaired students.

computers with large print

volume control on phones

larger Office with more options (ie., computers, brailers and other equipment to meet the needs of all students)

a pamphlet of available services

opportunity for learning disability (LD) assessment

increased physical accessibility

support group

### ***Support to Attend University***

As a means of finding out who influenced students' decisions to attend a postsecondary institution I asked students who was most supportive in their decision to attend university. The majority of students indicated that friends and family were the key source of support. A number of students also indicated that the decision to attend university was solely theirs as they were interested in pursuing careers for which further education was necessary. None of the students indicated that staff at high school were the key source of support in their decision to pursue higher education.

### ***Transition From High School to University***

Students were asked about the experiences they had with the transition from high school to university. Among the students surveyed, two students had spent time working prior to attending university. In all cases the students did not find the transition to university particularly difficult, although some noted an increase in work load. Among the students who commented on the difficulty of the workload, most had found that they were able to adjust by making changes in their life styles or work habits.

I was quite surprised. I thought the transition would be greater, but due to the small size of Laurier and the fact that I received a fairly good education, I found the change to be not so frightening.

Well it wasn't that much except that there was so much work to do. That was one of my main problems. So, what I ended up doing is that I took four courses in the first year and after that I switched down to part time ...

Several students commented that the transition was in some ways more difficult to make socially than academically. Having to make new friends and in some cases explain or justify the



accommodations they received or claim their disability were identified at times as difficult. One student remarked that other students did not always know how to approach a person with a physical disability. Most students felt that the small environment of WLU may have made the transition easier:

I think that the small environment here helps ... that's one difference between a large school and here. In some places you feel like a number.

### ***Faculty and Student Understanding and Support***

In order to determine how supportive and understanding faculty and students at WLU were of students with special needs two questions regarding understanding and support were asked: one pertaining to students, the other to professors.

**Professors.** Generally, students had good experiences with professors when they had to request accommodations. However, students did not always feel that professors were very informed about or knowledgeable about special needs.

It depends on the professor ... but so far I've had good experiences.

profs are concerned

I would say in general [professors are not informed]. Many of my professors were very surprised to know that I had a special need. Once they were aware of the problem, there was no difficulty in getting them to make accommodations for me.

Actually, I didn't have many problems. Any of the problems that I had I could talk to my profs about.

Professorwise, I don't think that any of them are that bad.

In one case a student had difficulty making a specific accommodation with a professor:

Like I said the professor totally refused to ... It was in one of my important courses so I just said look, I'm sorry but if you're not going to cooperate with me than I can't cooperate with you ... So, I just switched classes.

**Students.** In the case of non-disabled students, students with special needs generally found students not to be very well informed. While most of the students that I interviewed had established social networks and were comfortable at WLU, many of them also related stories of unpleasant encounters with other students:

I would say that other students at WLU aren't informed about students who have special needs, but if they were, I believe that they would no doubt be supportive of them.

It's a matter of people just avoiding me. People just don't know how to approach you.

Sometimes you run into people who are very rude to you. But there's going to be some of those in every bunch... I like to be treated like a normal person. I'm sure everyone else would like that. As soon as they start making me stand out I think why are you doing that to me because it's not nice.

... students think 'What are you doing at university if you can't [ ]?'

Students are not always very understanding.

### **Survey of High School Students**

#### ***Deciding to Attend a Postsecondary Institution***

Students were asked at what point in high school they decided to attend college or university. With the exception of one student who indicated that he had always intended to attend six of the seven students reported that they had decided to pursue postsecondary education in their upper high school years. For four students the motivation or influence to attend a postsecondary institution was prospects for employment. For two other students the reasons indicated were more personal including encouragement from the family and the desire to set an example for other people who have special needs:

Nobody in my family had been to college ... and I had this image of this thing that I wanted to accomplish ... I wanted to open new doors for [ ] people ... I wanted

to show them that you could do it too.

### *Awareness of Special Needs Services*

When asked how well informed high school students were of the available special needs accommodations and how much investigation they had done of special needs services a broad range of responses were given. Responses varied depending on the disability of the students. Those students requiring specific accommodations (e.g., physical accessibility or certain auditory or visual aids) usually reported that they were well informed about the services and resources available. The three students for whom this was the case also reported that they intended to contact the special needs department either once at college or university or prior to beginning of the school term. Two of four other high school students receiving accommodations for learning disabilities/difficulties reported that they had not done any investigation into the special needs accommodations available. One of the two further indicated that he was not even aware that such accommodations were available at a postsecondary level. One other student reported that he was aware of the services but had not done any investigation as he was not planning to use the resources or services of a special needs office until he felt that he needed them. In contrast, one student with a learning disability who was interested in attending a specific university and being considered for special admissions reported being very well informed about the program and having done a lot of investigation. The majority of students who reported being well informed had not made direct contact with the special needs officers at the schools where they were applying. The students found out about available accommodations through brochures or calendars, or through resource staff in their high schools.

*Support to Attend a Postsecondary Institution*

Students were asked who was most supportive of their decision to attend college or university. Among the students for whom employment was the motivator for pursuing higher education, two reported that there was no one person who was particularly supportive in their decision to attend college or university. The decision to attend was their own and they served as their own source of support. Two students indicated that family members, predominantly parents, were most supportive, while two other students reported a resource teacher and a counsellor as being the main source of support. Some of the students clearly indicated that the support staff with whom they had contact had an influence in their decision and in their planning for future schooling. Other students did not feel that support staff had any bearing on this decision.

*Transition from High School to College or University*

When asked whether they were concerned about the transition from high school to university or college, three students reported that they had no concerns or thought that the transition would not be very difficult. While some students did not express any specific concerns, other students did:

I think that there will be an adjustment period. I'm not sure what to expect. I will have to use a [ ] which I haven't used so far in high school ... another transition will be with exams and work load ... I'm dealing with a lot right now.

I heard that it isn't that difficult but I expect that it will be ... I expect that it will not be easy.

I [do have concerns about the transition]. The fact that it's going to be all lecturing and notetaking, and that there's going to be such a high ratio of students to teachers. It sort of worries me that there's not much of the relationship that you have with professors in high schools ... Yeah, I have some concerns with the transition. I think that it will be a lot of work but I guess it will have a lot of

benefits out of it.

Only one of the seven students had ideas on how the transition from high school to university could be made easier. The suggestions that he made were specific to his learning difficulties including the accommodations that could be made in the classroom such as taping lectures and taking a reduced work load.

### ***Other Student Ideas***

In order to give students the opportunity to highlight issues that are important to them in the research, students were asked what questions they would ask if they were doing the research that I am doing. The suggestions made by students for questions were the following:

Do you feel fairly comfortable meeting new people and approaching new people?

How are the students' parents feeling? Are they happy about what has happened for the students in high school?

What makes people decide what university they apply to?

### **Group Interview with WLU Students**

As a means of finding out how well-informed members of the non-disabled student population at WLU are about students with disabilities, and whether the students identify having any special in-class teaching needs, a structured interview was conducted with six students. In addition, a brief questionnaire requesting demographic information and asking students to rate their degree of familiarity with disability was completed by students. Five of the six students who were interviewed knew someone who had a disability. Two of the five specified that the persons they knew who had a disability were students at WLU. On a scale of one to five, with one as very

familiar and five as not at all familiar, the students gave an average rating of three when asked how familiar they were with the needs of persons with disabilities. When asked to rate how familiar the student were with the the needs of university students with disabilities on the same scale, students gave an average rating of 3.4.

The first question presented to the students was: What issues do you think are important for students with special needs or disabilities at WLU? Students provided a vast range of responses focusing mostly on physical accessibility. The student answers that are related to physical accessibility are listed below:

- reaching high shelves in the library
- ...getting up the stairs in the Arts and Sciences Building
- having wheelchair access to all areas
- cleared walkways in the winter
- pop, candy, and bank machines for people who are blind and those using wheelchairs; there are no tactile sensors and the machines are too high for people using wheelchairs
- tactile sensors in elevators
- the ramp in front of the Registrar's Office is too steep
- provide visual flashing alarms for people with hearing impairments
- provide computers that are accessible to varying special needs
- better, more accessible, layout in the cafeterias, especially the Turret
- usage of the CTB elevator by custodians and mail services limits use by students
- all night washrooms in the SUB are far from the elevator
- Athletics Complex is inaccessible; no hydraulic lift in pool, no access to sauna, etc..
- the Arts Lecture Hall is difficult to access.

- the floors are wet in the winter
- the counter in the library should be made to accommodate persons with disabilities
- increase the number of accessible washrooms

Several other issues not directly related to accessibility were also identified. These include:

- different types of food in the cafeteria for religious or health reasons
- a group for the "handicapped" to discuss issues and share problems
- counselling for the academic and social needs of the disabled
- permission for any person with a disability to partake in any activity - the decision to partake in activities should rest with the student
- career services focused on and knowledgeable about disabilities
- "things that won't make them feel different"; e.g. accessing the Turret, seating in lecture halls
- raising student awareness; for example, by borrowing psychology class time and communicating concerns and issues regarding disability
- increased availability to telecollege courses
- appropriate therapy services available on campus
- cooperation from the staff
- increased accessibility to social events

The second question that was presented to the students was: "What characteristics of professors or teaching styles do you consider to be important to your learning?" Many answers obtained in the interview were general, having to do with the personality characteristics of the professors:

- high morals
- patient
- approachable in and out of class and office hours

- energetic and genuinely interested
- tactful and not intimidating
- sensitive to student reactions when teaching
- respectful of student views; don't try to push own view
- a living example of what they teach
- possible community workers as profs

Other factors listed as being important were more specifically related to the teaching styles of the professors. Interestingly, many of these are similar to aspects that might be identified by students with disabilities.

- someone who makes the class interesting
- someone who knows what they're talking about
- clarity and loudness of speech
- professors who listen to what students have to say
- provide structure (eg., handouts) as well as variation
- "write some things on the board rather than just talking"
- walk around the class and interact with the students
- provide focused lectures rather than being off on side topics
- find the right lecturing speed and stick to it
- define/preface lectures
- give in-class reminders of tests and assignments
- stay away from the book
- relate relevant stories to raise interest
- make specific reference to pages and lines in texts or novels
- illustrate concepts using real life examples



### **Interviews with High School Administrators**

In the course of the first two interviews with the high school professionals I discovered that the participants had very different perspectives and priorities for what they wanted to address in the interview. While I wanted to maintain the overall planned structure for the interviews these priorities, I felt, were just as important as the issues that I had originally wanted the participants to address. After some alterations to the interview guide two standard questions were retained as the structure for the interviews: 1) What is your role in the school board and how is it tied to special needs?; and 2) What do you think are some of the issues and priorities for high school students, especially as they pertain to postsecondary education?

The most common theme that surfaced in the interviews with high school administrators was providing students with information. Not only did administrators think that it was important to provide students with information as to how they can obtain accommodations but also documentation was mentioned. One participant thought that it was important that students have appropriate documentation with them that can be handed over to postsecondary institutions. This documentation should indicate the needs of the student, as well as the accommodations that they had been receiving, and the level at which they are capable of learning. Apparently, there is no focus on systematic assessment at the school board. Students are not always assessed to establish their level of functioning or progress. Additionally, it was thought that it was important that students have a good understanding of their own needs, the kinds of supports that they require, and where and how they can obtain such support.

Identified as the aim for support services was to equalize the disadvantage that students with disabilities have in education. Several times the issue of providing support versus "doing for" was mentioned. Students should not be put at an advantage by the accommodations they receive. In

the case of learning disabilities, one teacher felt that it was important to teach students ways of learning that they can then use independently. This individual felt that support staff should be very careful not to do things for the student, but to let the student do things for themselves, and to let them make their own decisions. One participant also felt that independence should be largely achieved at the postsecondary level. It is at this level up to students to avail themselves to the services available and to articulate what they need. This does not however mean that the university environment should not be accessible; classes should be accessible and there should be a willingness and openness to try technological modifications that will allow students with disabilities into the classroom.

Additional points that were raised included having counselling services that are appropriately responsive to the socio-emotional needs of students with specific disabilities (particularly hearing impaired students), and providing counselling around job options. One person expressed a concern about students with physical challenges and the likelihood of them obtaining employment after they are finished with their education. This person further emphasized that public awareness has to be raised before many students with disabilities have truly equal opportunity at employment, whether or not they have a degree.

### **Interviews with University Administrators**

The interview guide established for university administrators was followed although in a number of cases individual concerns dominated the interview. While different topics were brought up in the interview, the issue that was most consistently raised by university administrators was physical accessibility. Most participants thought that complete physical accessibility at WLU would be almost impossible. The university is built on a hill and many of

the buildings have been in place for a number of years. As a result, the campus is difficult to access for someone who is using a wheelchair. Thus far, the university has not actively tried to recruit students with physical disabilities. Several administrators mentioned that it was important not to mislead students about the accessibility of the campus. While the size of the campus is probably an advantage to students of most disability groups and the newly built residence will be equipped to house persons who use wheelchairs many issues still remain unresolved. For example, how would students get around campus to the three main services: the library, the cafeteria, and the Athletics Complex (which is not accessible)? One administrator explained that university staff try to make an honest assessment as to whether the needs of a person can be accommodated. One of the ways that this is done is that a prospective student is invited to visit the campus to determine in person the degree of accessibility.

One administrator explained that apart from physical disabilities related to mobility the university has been able to accommodate other forms of disabilities. Students have received accommodations and have been assimilated into WLU culture. It should be pointed out, however, that only one of the administrators interviewed made reference to students with medical and learning disabilities. Thus it is difficult to determine, from the point of view of the administrators, how accessible the campus is to these students.

While the university does make accommodations for students with disabilities two administrators thought that it was important that the basic academic criteria are not lowered. Independence, trying to get people to understand their needs and how to accommodate for them, was regarded as important. The university's responsibility was identified by one administrator as lowering as many barriers as possible to let people reach their potential. There should be a willingness to have an open enough mind that student requests and needs are considered

legitimate and that there are no attitudinal barriers.

One administrator pointed out that because the universities in Ontario are highly underfunded the university has had to prioritize how they will spend its funding. Currently, funds are made available to the Physical Accessibility Committee. However, the future of such funding and as a result the direction of special needs services were put into question by two participants interviewed. Other issues around the availability of funding were also raised. First of all, the total funds available to the Special Needs Office allow for some improvements in resources but they do not allow for hiring of more staff. Additionally, capital funding to improve the physical accessibility of some of the buildings is also necessary. Finally, the funding that is made available through the government for students to fund their education is typically available to only those students who are attending university full-time. Many students with disabilities find this difficult or impossible to do and thus are ineligible for this funding.

Other issues that were identified as important include having acceptance of the Special Needs Office by the university community, maintaining a constant resource staff that is concerned with special needs, and establishing a sense of support among students with disabilities. Some of the issues that have been identified for future consideration include increasing faculty understanding of learning disabilities, providing interpreters to hearing impaired students, lowering the number of physical barriers around campus, and providing better and more diversified library resources.

## **SUMMARY OF THE RESULTS**

The following summary highlights the key points that were frequently raised by participants in the two research studies. The results obtained from university students, high school students, and key informants are each presented individually.

At both universities the students who were using special needs services responded favorably to the available services although some suggestions for future changes were made. These suggestions typically involved diversifying the services available to ensure that they meet a broad range of individual needs. Students surveyed were generally informed about the types of services and resources available to them. In Study One, students identified the special needs office as being an important resource and a source of support and advocacy. While the special needs offices were used to varying degrees and for different reasons, the existence of the services served as reassurance to students that support and help are available. University students reported a variety of reasons for attending university, most frequently identifying employment opportunity. The students' decision to attend university varied on the basis of personal reasons and the merits of the academic programs. Few students considered the availability of special needs services in their decision to attend university. Concern for the services available was most often expressed by students who had very specific needs. Understanding and awareness by the university community, particularly faculty, of disabilities and the services offered to students with disabilities were identified as important, as were increasing communication and the availability of information about special needs services. Furthermore, university students in both settings identified social support and social networks to be important components in their education.

Among the high school students interviewed in Study Two, students requiring specific accommodations were most aware of the special needs services available at universities. While

most students were aware that such services existed few had done investigation into the types of special needs services available at the postsecondary institutions where they had applied. Most students did not take into account the support services available at the schools in making a decision about what school to attend. Students identified several sources of support in deciding to attend university, including parents and friends, staff at high school, and themselves. Approximately half the students surveyed were concerned about the transition from high school to university. The concerns that were most often expressed were the adjustment to an increased work load and larger classes.

Among the key informants interviewed there was consensus that students with disabilities should have an opportunity to attend university. However, different persons interviewed had different views on how this could be achieved and on the direction that services should grow in the future. While some persons thought that ensuring physical accessibility should be a priority for universities, others felt that informing students about the limitations of a university and providing students with necessary information to decide whether they want to attend a particular university was key. Several key informants indicated that support services should be regarded as enabling students to be successful in independent learning. Students should have an understanding of their own needs and the support services that they require. Academic criteria should not be lowered as a consequence of the accommodations and services that students receive. Additionally, other student services should be expanded to be responsive to and knowledgeable about the needs of students with disabilities. Many of the key informants interviewed addressed the issue of attitude or acceptance of students who have disabilities. Informing the university community about special needs and the services available was regarded as important. Participants also agreed that the university community should work to eradicate attitudes that serve as barriers to students who have disabilities.

## DISCUSSION

The preceding series of studies examines the support needs of persons with disabilities at universities. The nature of the research is discovery oriented, exploring the needs reflected in the community. While initially the research began by looking at the education support needs of students with disabilities who are enrolled at one university, the focus shifted more globally to the needs of Kitchener-Waterloo community members who have disabilities. The shift to a community focus of the needs assessment produced research results more likely to be useful for future program planning. As accessibility to universities has only recently come to the forefront, postsecondary education is now for the first time becoming an option for many people with disabilities (Wilchesky, 1986). Program planning that aims to increase accessibility to postsecondary education should take this factor into account. When planning new programs we need to ask not only current students but also persons who may in the future become students, other community members, about their needs. We need to anticipate who will be the future consumers of postsecondary education and to plan ahead.

Proactive program planning that aims to put in place support services to meet a wide variety of individual needs promotes a socially as well as physically accessible academic environment. Being easily visible and readily accessible on campus special needs services are more likely to be regarded as a regular part of student services. Students can choose special needs services as one of a number of available on-campus student services. By mainstreaming special needs services into the normal life cycle of the university community students are not denied the right to be different in requiring assistance but rather are accepted as they are told that support services are a part of the everyday life.

While the current research has reported that the majority of those students who are using special needs services are satisfied with the services available, service providers need to consider how these services will be required to change to meet the needs of students in the future. A number of recommendations with respect to the planning of future services can be made from this research. The recommendations are based on information that was obtained from the participants of the study, as well as on observations that I made in the course of the research. Three points stand out as being important considerations for the development of special needs services. These points, which are interrelated, include 1) integrating available resources, 2) increasing community awareness about disability, and 3) implementing policies and guidelines for the services and the resources that are available.

While special needs services are in most cases new and rapidly growing, there appears to be little integration of the services into the community. In many instances special needs services still remain regarded as fringe student services both among university communities and more globally. At universities, special needs services are usually not coordinated with other services on campus such as health services and counselling. In the broader community setting, special needs services are often not thought of by community advocacy groups as allies. The uncertainty about the future of these services expressed by some participants, and the limited awareness expressed by many community members, further lends support to the observation that special needs services are all too often not regarded as essential.

To ensure the future of special needs services and to integrate them into the community requires that the services become more visible and that they establish stronger external sources of community support. Increasing communication that would raise awareness and service use could be instrumental in ensuring future funding and support for the services. Only as an increasing



number of persons become aware of special needs departments are they likely to be regarded as essential components of university services and consequently can become integrated into the community. By establishing community support, lobbying on the part of students and services is facilitated as special needs departments are likely to attain increased power within the university community. Additionally, with increased power special needs services can advocate for support services and resources be offered alongside with generic student services rather than through one designated department. Sharing the responsibility of providing support services with other departments (e.g., health, counselling, writing clinic, student union), would lighten the increasing work load of the special needs offices leaving them the role of coordinating services and serving as a resource and an advocate.

Increasing awareness through communication can be done at a number of levels. Within universities, communication can be increased by working more closely with other departments. Departments that could supplement to or work collaboratively with the special needs department frequently exist on campus but may need to be contacted. For example, the University of Waterloo has a number of faculty who have an interest in the area of disability; a new centre for research into areas related to disability, the Canadian Centre for Habilitation, Education and Research; a number of well established large services; and a large student population. All these are potential allies to, as well as contacts and resources for a special needs office. Connecting various departments and resources to the provision of special needs services would help to effectively integrate these services into the university community. Additionally, the organization of an interdepartmental advisory committee to the special needs office, where people from different sectors of a university share their knowledge and acquire information about the services available, would be helpful both as a means of diversifying the available services, and educating university members.

In the course of the research it became evident that at times there was limited awareness of the activities undertaken by various community sectors and little communication between sectors. For example, high school administrators and persons representing community agencies were not always aware of the services available at universities. Establishing communication between high schools and universities is essential as effective communication could be instrumental in easing the transition from high school to university for students. Community committees where members represent various levels of educational institutions and those representing agencies could be established to ensure that the regional services are more closely networked. Additionally, encouraging persons from various community sectors to attend each others' workshops or appointing persons who would be responsible for community outreach within each sector would be beneficial.

Establishing support and cohesion between students is as important as the cohesion between existing services. Cohesion among students is important for a number of reasons. As the number of students who have identified themselves as having a disability is still rather small, without effective lobbying on the part of these students their needs may not be properly represented. While lobbying is often done by the special needs coordinators, encouraging the active involvement of students in the planning of special needs services, and taking part in university politics more generally, would help to ensure that student needs are not overlooked. Many of the student participants who I met in the course of this research were very knowledgeable about services and needs, not only with respect to their individual special needs, but also with respect to the needs of people with other disabilities. These students could be valuable resources to the special needs offices, and valuable members of advisory committees.

Students with similar disabilities could also serve as valuable resources for one another. A

number of students have expressed an interest in meeting others who have similar disabilities. Additionally, several participant groups identified the presence of role models as being important for students. However, because the number of students with disabilities is small and people who have disabilities are not necessarily easily identified meeting others who have special needs is not always easy. One way to give students the opportunity to meet is to set up common areas such as resource centres and lounges affiliated with the special needs office. A common area that would give students the opportunity to meet informally would be a particularly valuable resource for students with less visible or "invisible" disabilities who may otherwise never meet persons with similar disabilities.

Increasing awareness and knowledge about disabilities is one issue that many participant groups identified as important and one that also permeates other topics discussed here. While providing more publicity about disabilities and the services available, and providing education workshops to the university communities are positive first steps, encouraging the student population at large to become involved with issues related to disability would further help to meet this need. One of the ways that student awareness can be increased is to provide more opportunity for contact with students who have disabilities by arranging a volunteer and reader bank and work placement positions (either co-op or as a part of course work) through special needs offices. This would increase the staff resource of the offices as well as give non-disabled students the opportunity to interact with students who have disabilities.

While this research focuses on support services in university settings it is nevertheless important to consider the awareness and sensitivity of the community at large. Only through understanding on the part of the members of the general population does the opportunity for postsecondary education truly become meaningful. While programs to increase awareness have

been established at many levels of the community, the government has implemented incentives for employers to hire persons with special needs, and the law demands that persons with disabilities receive equal treatment and considerations in the community (Canadian Human Rights Commission, 1985), the reality can all too often be different. As many students indicated in Study Two, postsecondary education is a means to better prospects for employment. In many situations however the qualifications that students receive at university lose their value when employers will not hire them on the basis of their disability. A concern about the transition from university to employment was expressed by some students as well as high school administrators. Increasing the community's awareness is not a simple process, therefore, students need to be aware of the challenges that will face them once they leave university. Access to career counselling services that will inform students of the barriers that they are likely to face once in the community, that are able to support students, and that can help students determine their capacities and limitations where employment is concerned are vital.

At times students have recalled incidents where professors have denied them special needs accommodations. Faculty may not always be aware that students are entitled to accommodations and may not be aware of appropriate accommodations. In addition to raising faculty awareness, the establishment of a policy or guidelines specifying student rights to services and accommodations would be valuable. While students are able to obtain help in making accommodations from coordinators at special needs offices, a policy backing students and guaranteeing their rights would provide the necessary structure for many students to make accommodations on their own. Many universities have no formal policies or guidelines to identify the rights of students who have disabilities. Nevertheless, universities are required to adhere to human rights legislations (Canadian Human Rights Commission, 1985; Ontario Human Rights Commission, 1989). Students have rights to services and accommodations at university that allow

them equal access to education ("Students at," 1990). These rights should be clearly outlined both for students as well as for administrators and service providers who are required to adhere to them. While a policy may initially be regarded as rigid with respect to the varying needs of students, the constant reviewing by a committee would hopefully ensure that such a policy would be to the benefit of all students.

The establishment of a policy specific to the needs of students with disabilities would further help to clarify the agenda of the university community. Often, there is limited communication between various university departments. Without guidelines specifying certain mandated procedures and outcomes the various university sectors may not be working towards similar goals. This point was demonstrated in the interviews with administrators. Not all the administrators identified similar priorities or issues where students with disabilities are concerned.

Expectations and priorities also vary among different university settings. As not all universities are at similar points in service development and not all universities have access to similar resources or have similar agendas, there is a lot of discrepancy between the services that universities offer. While the provincial government can encourage universities to establish special needs services by providing funding for this purpose there is no necessary consistency in how universities go about doing this. In Canada, unlike in the United States, there is currently no mandatory extension of special needs legislation (e.g. *Bill 82*) from the primary and the secondary into the postsecondary level. While the Ministry of Colleges and Universities has made funding designated for special needs services available (Joseph, 1989), these services are bound by many decision making forces within universities. These forces can have considerable impact on how funds within universities are spent.

In addition to the recommendations that have been made with respect to the planning of

special needs services the current research process can serve as an example of qualitative community research. A number of important observations about the process can be made. Most importantly, it was the intention in this research that participants in addition to the settings had something to gain from the research (Heller et al., 1984). By having direct contact with most participants I believe that I was able to contribute to students as well as other community members. I served as a resource by answering questions about services for several high school students and provided the opportunity for university students to be heard and to have their experiences validated. Oftentimes, I was able to relate similar stories or incidences to students that I had learned of in previous research. In addition, by talking to individuals from varied community sectors I think that I was able to raise the participants' awareness about the services available and to point out some of the salient issues having to do with service provision.

My role as a "quasi-participant observer" was instrumental in affecting the kind of relationship and communication that I was able to establish with student participants. Because I am a student and was a member of the two university settings I felt that I was regarded as a student rather than as an outside researcher. More importantly, I was not regarded as one of the staff or as a service provider. By assuring students that I was not affiliated with the administration or the special needs offices students were provided with a safe environment in which to express their views and were able to provide more candid responses.

The current research is also largely discovery oriented. When I undertook Study One I had no example of similar needs studies conducted in a university setting. As a result, the research process was not rigidly established and remained flexible over the course of the two years in which the two studies were conducted. I tried to remain as open as possible to any feedback that was received with respect to the studies and frequently made changes. The information that I

obtained in Study One was instrumental when I was considering the design of Study Two. For example, in Study One I learned that triangulation of the source of information, the participants, was essential if my results were going to be meaningful for future service planning. In addition, after completing Study One I realized that documenting the process of the research should be included in the research report as it was important. By remaining flexible the focus of the research was able to change and the studies were able to grow.

It is difficult at this point to comment on the degree of impact that the recent research may have on the community. The results obtained from Study Two have just recently been presented to the various participants and settings. Any change as a result of Study Two is likely to become visible over a longer period of time. Feedback from Study One, conducted in 1989-1990, has been available for almost a year to students and the Special Needs Office at the University of Waterloo. The results, presented in a summary paper, were included in the yearly report prepared for the Ministry of Colleges and Universities. The results further served to provide feedback from the consumers with regards to the services available and the services needed, as well as to justify expenses. While it is not appropriate to claim that the needs assessment was directly responsible for specific changes, a number of notable changes have taken place at the University of Waterloo since the completion of the research. Among the changes are the establishment of on-campus transit, initiatives to establish a tutoring system and a peer support network, increased facilities for students with learning disabilities, and new equipment increasing accessibility.

The Council of Ministers of Education (1987) indicates: "needs studies offer a particularly focused avenue for establishing the education and training of a specific group" (p. 15). The needs assessment process applied in the universities and community has been instrumental in helping to establish future planning options for support services in an education setting. The current research

has essentially served to highlight the voices of those people with disabilities who are interested in postsecondary education. While each person's needs are certainly unique and must be considered as new when they are encountered, certain resources need to be established at universities that will provide all students with equal opportunity for education. The studies presented here are only a step in ensuring that universities are accessible and responsive to the needs of a variety of students. Because student needs change over time and the resources that are available to persons who have disabilities also change, it is important to establish a system for ongoing needs assessment evaluations to be a part of student services. As the Ministry of Colleges and Universities indicates: "...ensure that disabled students are consulted concerning the development of new initiatives to meet their needs" (p. 28). Only with the direct input of consumers of special needs services, the students, can these services continue to grow to be responsive to student needs.



## RECOMMENDATIONS

The following are a list of specific recommendations for universities and special needs service providers. While most of the recommendations are aimed at postsecondary institutions several apply directly to high schools. The recommendations have been generated from the results of the two research studies. They are a summary of the needs identified by participants.

### Universities

#### Socio-emotional needs

It is recommended that:

- special needs services, in conjunction with other school departments, work to heighten the awareness and sensitivity of the university community to issues related to disability.
- special needs services ensure that the university recognizes the rights of students with disabilities, and regards them as equal members of the university community.
- all university departments are made aware of the needs and rights of persons with disabilities.
- special needs services work in conjunction with counselling services to ensure that the needs of students with disabilities are met when counselling is requested.
- vocational counselling services are aware of the needs and challenges of persons with disabilities.
- special needs offices encourage and promote peer support relationships among students.
- special needs offices provide the means for support groups to be established by students who have disabilities.

- special needs services ensure that their treatment of students with disabilities encourages independence in individuals rather than fostering dependence.

### **Academic/Intellectual**

It is recommended that:

- special needs services provide information regarding their services via several modes of communication including large print, braille, and tape.
- professors are made aware of students' rights to request special needs accommodations.
- professors are encouraged to examine their teaching styles to ensure that they are amenable to the variety of learning styles represented among the student population.
- special needs offices establish educational workshops on issues related to disability with the aim to raise faculty awareness.
- assistance from volunteers and tutors is made available to students at an affordable cost or at no cost.
- reader and signing services are available on campus.
- support services are established in such a way that once students present proof of their disability they can access support services independently.

### **Physical**

It is recommended that:

- universities are encouraged to continue improving the physical accessibility of the buildings and structures on campus.
- universities ensure that all major campus services (eg., cafeterias, libraries, sport

services) are accessible.

- universities ensure that students are able to access outdoor areas of the campus safely.
- special needs services provide technological equipment that will serve a broad range of needs that students have.
- universities ensure that appropriate safety features are installed in buildings (eg., flashing alarms, yellow strips on stairs and edges).

## **Other**

It is recommended that:

- universities encourage special needs departments to serve primarily as resources and advocates while encouraging other departments to become involved in servicing students with disabilities.
- universities recognize individual needs in the planning of support services.
- universities highlight the services available to students with disabilities in their publications.
- universities notify community agencies of the services and resources available.
- special needs services work in conjunction with community agencies on issues related to disability.
- special needs services at universities and high schools/school boards communicate on a regular basis regarding issues related to disability.
- universities establish guidelines for the documentation students are required to present upon contacting the special needs offices, and communicate these guidelines to high schools.

### High Schools

It is recommended that:

- high school personnel are made aware of the special needs offices at universities and the services that they offer.
- high schools ensure that students have appropriate documentation and precise information regarding their special needs and learning histories that can be passed on to universities.
- school boards encourage contact between special needs departments in high schools and postsecondary institutions.
- high school personnel work with students to help students to identify their learning strengths and weaknesses.

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## **Appendix A**

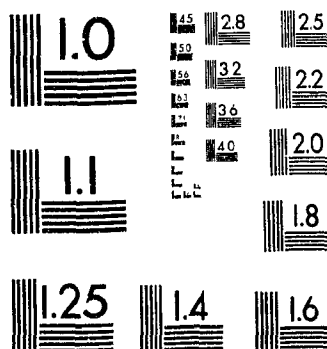
### **Interview Guide for Students at the University of Waterloo**



**Interview Guide**  
**Students at the University of Waterloo**

- 1) How did you learn about this Office and the services available here?
- 2) What are the main services or resources that this Office provides for you?
- 3) Are there other services that are not provided here that would be useful to you? What are they?
- 4) Are you satisfied with the services and resources currently available to you?
- 5) Are there any services that you rely on the office staff to do for you that you could do for yourself if certain resources were available to you? What are these resources?
- 6) Are you aware of the services and accommodations that are available to you as a special needs student at the university?
- 7) Do you find that professors are informed about and supportive of students who have special needs?
- 8) Do you feel comfortable approaching professors to ask for accommodations?
- 9) Do you use any sports or recreational facilities at the University? If yes, which ones? How can these facilities be made more accessible to you?
- 10) If available would you use a buddy system that would put you in touch with other students who could serve as a source of company, support, and help?
- 11) Would you use a support group where students with similar special needs would meet to provide each other with help or advice?
- 12) Would you use a campus transit system in the form of a minibus if it was available (for students with mobility difficulties)?
- 13) What kinds of services currently not available would be useful to you?
- 14) How accommodating is the University of Waterloo to students with special needs? How accessible is it?

2 of /de 2



MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS  
STANDARD REFERENCE MATERIAL 1010a  
(ANSI and ISO TEST CHART No. 2)

## **Appendix B**

### **Questionnaire for Students at the University of Waterloo**

**-Questionnaire-**  
**Services for Students with Disabilities**

The following questionnaire is twelve pages long. The questions included are both open and closed ended. Answer only those questions that you feel comfortable answering. If you feel that a particular question does not apply in your case please indicate so, and omit it. Similarly, if you feel that the amount of space allotted per question is too little, or would like to add additional comments, feel free to write on the back pages.

### Current Services

1. Part A: Which of the following services, provided by the Office of the Coordinator of Services for Disabled Persons, is important to you? (Please answer by ticking the appropriate services in Column A)

Part B: Which of the following services do you most often use? (Please answer by ticking the appropriate services in Column B)

	Column A Important	Column B Often used
Orientation to the school	[ ]	[ ]
Help with registration	[ ]	[ ]
Help choosing courses or a stream of study	[ ]	[ ]
Support/someone to talk to	[ ]	[ ]
Advice on personal problems	[ ]	[ ]
Advice on school related problems	[ ]	[ ]
A place to obtain information on university related services	[ ]	[ ]
A place to obtain school materials and services (eg. photocopying, enlarging print, computer use)	[ ]	[ ]
A place to take exams and/or study	[ ]	[ ]
Advocacy for students	[ ]	[ ]
Help in making arrangements with professors	[ ]	[ ]
Other _____	[ ]	[ ]

What other services not listed above would you be likely to use?

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2. The following resources are available at the University of Waterloo and/or at other universities in Ontario. Please read through this list and indicate which of these resources you are aware of, which you use, whether they are arranged by you or by the Office of the Coordinator of Services for Disabled Persons, and which resources you would likely use if they were available.

	I am aware of	I make use of	Arranged by me	Arranged by the Office	If available, I would use
Notetakers	[ ]	[ ]	[ ]	[ ]	[ ]
Readers	[ ]	[ ]	[ ]	[ ]	[ ]
Proofreaders	[ ]	[ ]	[ ]	[ ]	[ ]
Sign interpreters	[ ]	[ ]	[ ]	[ ]	[ ]
Oral interpreters	[ ]	[ ]	[ ]	[ ]	[ ]
Assistance at registration	[ ]	[ ]	[ ]	[ ]	[ ]
Assistance at the library	[ ]	[ ]	[ ]	[ ]	[ ]
Assistance at daily activities	[ ]	[ ]	[ ]	[ ]	[ ]
Attendant care	[ ]	[ ]	[ ]	[ ]	[ ]
Personal/vocational counselling	[ ]	[ ]	[ ]	[ ]	[ ]
Study work-shops	[ ]	[ ]	[ ]	[ ]	[ ]
Writing work-shops	[ ]	[ ]	[ ]	[ ]	[ ]
Peer helpers	[ ]	[ ]	[ ]	[ ]	[ ]
Peer support group	[ ]	[ ]	[ ]	[ ]	[ ]
Services to locate volunteers	[ ]	[ ]	[ ]	[ ]	[ ]
Orientation Programs	[ ]	[ ]	[ ]	[ ]	[ ]
Typing services	[ ]	[ ]	[ ]	[ ]	[ ]

	I am aware of	I make use of	Arranged by me	Arranged by the Office	If available, I would use
Photocopying services	[ ]	[ ]	[ ]	[ ]	[ ]
Correspondence courses	[ ]	[ ]	[ ]	[ ]	[ ]
Reduced course load	[ ]	[ ]	[ ]	[ ]	[ ]
Alternative forms of examinations	[ ]	[ ]	[ ]	[ ]	[ ]
Extra time on examinations/papers	[ ]	[ ]	[ ]	[ ]	[ ]
Taped texts	[ ]	[ ]	[ ]	[ ]	[ ]
Braille publications	[ ]	[ ]	[ ]	[ ]	[ ]
Braille printers	[ ]	[ ]	[ ]	[ ]	[ ]
Enlarged print	[ ]	[ ]	[ ]	[ ]	[ ]
Digital audio readers	[ ]	[ ]	[ ]	[ ]	[ ]
Computers with spell and grammar checks	[ ]	[ ]	[ ]	[ ]	[ ]
Voice operated computers	[ ]	[ ]	[ ]	[ ]	[ ]
Amplified telephones	[ ]	[ ]	[ ]	[ ]	[ ]
TDD telephones	[ ]	[ ]	[ ]	[ ]	[ ]
FM hearing equipment for lectures	[ ]	[ ]	[ ]	[ ]	[ ]
Other visual aids	[ ]	[ ]	[ ]	[ ]	[ ]
Other auditory aids	[ ]	[ ]	[ ]	[ ]	[ ]
Emergency wheel repair	[ ]	[ ]	[ ]	[ ]	[ ]
Others (Please list):					
_____	[ ]	[ ]	[ ]	[ ]	[ ]
_____	[ ]	[ ]	[ ]	[ ]	[ ]

3. How did you learn about the Office of the Coordinator of Services for Disabled Persons?

- ☐ Advisors at high school or previous school
- ☐ Teachers or administrators at University of Waterloo
- ☐ Friends or colleagues
- ☐ Written notice or letter
- ☐ University Calendar or Pamphlet
- ☐ Other, (Please state) \_\_\_\_\_

4. How informed are you about the services and accommodations available to you as a student with a disability or special need? (Please indicate to what degree you feel informed by circling one of the numbers below).

1	2	3	4	5
Very well informed		Fairly informed		Not informed

How can information be made more readily available to you?

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5. How satisfied are you with the resources and services currently available to you as a student with a disability or special need?

1	2	3	4	5
Very satisfied		Fairly satisfied		Not satisfied

Do you have any ideas for improvement ?

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Do you have any ideas on how these services could be made more efficient?

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6. How supportive and understanding are professors of your needs and rights as a student with a disability, or special need?

1	2	3	4	5
Extremely supportive		Fairly supportive		Not supportive
1	2	3	4	5
Extremely understanding		Fairly understanding		Not understanding

Comment

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7. How supportive and understanding are other students in general of your needs and rights as a student with a disability, or special need?

1	2	3	4	5
Extremely supportive		Fairly supportive		Not supportive
1	2	3	4	5
Extremely understanding		Fairly understanding		Not understanding

Comment

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8. How supportive and understanding are other university staff and administrators of your needs and rights as a student with a disability, or special need?

1	2	3	4	5
Extremely supportive		Fairly supportive		Not supportive

1	2	3	4	5
Extremely		Fairly		Not
understanding		understanding		understanding

Comment

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9. Have you previously used any counselling services at the University of Waterloo?

☐ Yes

☐ No

If yes, to what degree were the counsellors generally knowledgeable and helpful?

1	2	3	4	5
Very		Fairly		Not
knowledgeable		knowledgeable		knowledgeable

1	2	3	4	5
Very		Fairly		Not
helpful		helpful		helpful

Comment

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What type of counselling have you previously used or are likely to use in the future?

	Previously used	Likely to use
Individual/personal	<input type="checkbox"/>	<input type="checkbox"/>
Academic	<input type="checkbox"/>	<input type="checkbox"/>
Vocational	<input type="checkbox"/>	<input type="checkbox"/>
Assertiveness training	<input type="checkbox"/>	<input type="checkbox"/>
Stress management	<input type="checkbox"/>	<input type="checkbox"/>
Study skills	<input type="checkbox"/>	<input type="checkbox"/>
Time management	<input type="checkbox"/>	<input type="checkbox"/>
Other, (Please list):	<input type="checkbox"/>	<input type="checkbox"/>

10. Have you previously sought medical help at Health and Safety?

☐ Yes

☐ No

If yes, to what degree was the medical staff knowledgeable and helpful?

1	2	3	4	5
Very		Fairly		Not
knowledgeable		knowledgeable		knowledgeable
1	2	3	4	5
Very		Fairly		Not
helpful		helpful		helpful

Comment

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11. Are you aware of any technical aids or educational material that would be useful to you at school that are not currently available?

☐ Yes

☐ No

If yes, please specify what these aids are, and how they would be useful?

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12. What do you feel are some of the obstacles that may be preventing you from participating in school activities?

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13. In general, how accommodating do you feel that the University of Waterloo is in meeting the needs of students with disabilities or special needs?

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Do you have any suggestions on how it could be made more accommodating?

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### Questions Regarding Related Concerns and Issues

**The University has received funding which is to be spent on service provision for students with disabilities. What do you feel should be the priority in the spending of these funds? (please rank your suggestions in terms of importance).**

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

## Other Ideas

**1. Do you currently use any sports or recreational facilities at the University?**

- ☐ Yes  
☐ No

**If yes, please list the three that you use most frequently.**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Do you have an interest in using the sports and recreation facilities but find them inaccessible or difficult to use?**

- ☐ Yes  
☐ No

**If yes, how can these facilities be made more accessible to you?**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Would you make use of a campus transit system in the form of a minibus, if one was available?

☐ Yes

☐ No

Comment

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3. Would you make use of a "buddy system" which would put you in touch with other students who could serve as a source of company, support, and help?

☐ Yes

☐ No

Would you be willing to be a "buddy" to a new student who has a disability?

☐ Yes

☐ No

Comment

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4. Would you make use of a support group where students with similar special needs would meet to provide each other with help and advice?

☐ Yes

☐ No

Comment

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5. What kinds of services currently not available at the library would be helpful to you?

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6. What areas of campus are not accessible to you?

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Do you have any suggestions on how to make these areas more accessible?

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Any additional comments

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### Co-op Students

Are there any particular difficulties that you encounter as a coop student with a disability, or special need?

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Do you have any ideas on how these difficulties could be avoided in the future, or the situation improved?

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### Demographics

What is your field of study?

\_\_\_\_\_

Are you enrolled in a co-op program? \_\_\_\_\_

What year are you currently in? \_\_\_\_\_

How many courses are you currently enrolled in? \_\_\_\_\_

Are these correspondence courses? \_\_\_\_\_

How many additional courses do you need to complete your degree? \_\_\_\_\_

Do you live on campus?

☐ Yes

☐ No

Do you require attendant care?

☐ Yes

☐ No

What is your main disability, or reason for seeking special needs provisions?

☐ Visual impairment

☐ Hearing impairment

☐ Mobility/coordination difficulty

☐ Learning disability

☐ Medical disability

☐ Emotional/psychiatric disability

☐ Other \_\_\_\_\_

Sex

☐ Male

☐ Female

Age

☐ 18-25

☐ 26-35

☐ 36-50

☐ Over 50

Marital status

☐ Single

☐ Married

Thank you for your time!



## **Appendix C**

### **Interview Guide for Students at WLU**

## **Interview Guide WLU Students**

-Brief about the research

-Ask permission to tape and ensure confidentiality

1) How much investigation of special needs services available at colleges and universities did you do prior to applying to college or university?

2) Why did you choose to attend WLU?

3a) Were you aware of the services and accommodations that would be available to you as a student with a special need prior to coming to WLU?

3b) How did you learn about the Special Needs Office at WLU?

3c) How informed are you about the services and accommodations available to you as a student with a special need?

4a) At what point in high school did you decide to attend or apply to college or university?

4b) What influenced you in your decision to attend college/university?

4c) Who was most supportive in your decision?

5) What was the transition from high school to university like?

6a) Do you feel that professors at WLU are informed about and supportive of persons who have special needs?

6b) Do you feel that other students at WLU are informed about and supportive of students who have special needs?

7) On a scale of 1 to 5 with 1 very satisfied and 5 not satisfied, please rate how satisfied you are with the services and resources currently available to you?

**Appendix D**  
**Questionnaire for Students at WLU**

### Current Services

1. Part A: Which of the following services is important to you? (Please answer by checking the appropriate services in Column A)

Part B: Which of the following services do you currently use at W.L.U.? (Please answer by checking the appropriate services in Column B)

	Column A Important	Column B Currently use
Orientation to the school	_____	_____
Help with registration	_____	_____
Help choosing courses or a stream of study	_____	_____
Support/someone to talk to	_____	_____
Advice on personal problems	_____	_____
Advice on school related problems	_____	_____
A place to obtain information on funding	_____	_____
A place to obtain information on university related services	_____	_____
A place to take exams and/or study	_____	_____
Advocacy for students	_____	_____
Help in making arrangements with professors	_____	_____

What other services not listed above would you be likely to use?

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2. The following resources are available at colleges and universities in Ontario. Please read through this list and indicate which of these you **currently use**, which you use or have **used elsewhere**, and which you **would likely use** if they were made available to you.

## RESOURCES AND EQUIPMENT

	Currently use	Use/d elsewhere	Would likely use
TDD telephones	_____	_____	_____
Amplified telephones	_____	_____	_____
FM systems	_____	_____	_____
Infrared systems	_____	_____	_____
Phonic Ears	_____	_____	_____
Visualtek	_____	_____	_____
Optacon	_____	_____	_____
Kurzweil Reader	_____	_____	_____
Braille	_____	_____	_____
Braille typewriter	_____	_____	_____
Braille or large print publications	_____	_____	_____
Microfiche enlarger	_____	_____	_____
Magnifying screens	_____	_____	_____
Computers with voice synthesizers	_____	_____	_____
Computers with large print	_____	_____	_____
4 track tape recorders	_____	_____	_____
Talking calculators/Spell checkers	_____	_____	_____
Others:	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

## SUPPORT SERVICES AND INFORMATION

	Currently use	Use/d elsewhere	Would likely use
Orientation to the school	_____	_____	_____
Pre-registration	_____	_____	_____
Assistance with registration	_____	_____	_____
Assistance locating housing	_____	_____	_____
Note takers	_____	_____	_____
Tutors	_____	_____	_____
Readers	_____	_____	_____
Proof readers	_____	_____	_____
Peer helpers	_____	_____	_____
Peer support group	_____	_____	_____
Sign language/Oral interpreters	_____	_____	_____
Library research assistants	_____	_____	_____
Mobility assistants	_____	_____	_____
Care attendants	_____	_____	_____
Support group	_____	_____	_____
Others:	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

## OTHER SERVICES

	Currently use	Use/d elsewhere	Would likely use
Personal counselling	_____	_____	_____
Vocational assistance	_____	_____	_____
Psychoeducational assessment	_____	_____	_____
Typing services	_____	_____	_____
Writing work shops	_____	_____	_____
Study work shops	_____	_____	_____
Emergency wheel repair	_____	_____	_____
Others:	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

## COURSE AND EVALUATION ALTERNATIVES

	Currently use	Use/d elsewhere	Would likely use
Correspondence courses	_____	_____	_____
Reduced course load	_____	_____	_____
Extended time on exams/assignments	_____	_____	_____
Oral exams	_____	_____	_____
Braille exams	_____	_____	_____
Others:			
_____	_____	_____	_____
_____	_____	_____	_____

## PHYSICAL ACCESSIBILITY

	Currently use	Use/d elsewhere	Would likely use
Easily accessed parking	_____	_____	_____
Low grade ramps	_____	_____	_____
Low pressure doors	_____	_____	_____
Wide doorways	_____	_____	_____
Automatic doors	_____	_____	_____
Accessible washrooms	_____	_____	_____
Accessible elevators	_____	_____	_____
Coloured strips on stairs	_____	_____	_____
Flashing fire alarms	_____	_____	_____
Others:			
_____	_____	_____	_____
_____	_____	_____	_____

## COMMENTS OR CLARIFICATIONS

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**3. How did you learn about the Special Needs Office?**

- ☐ Advisors at high school or previous school
- ☐ Professors or administrators at W.L.U.
- ☐ Friends or acquaintances
- ☐ Written notice or letter
- ☐ College or university calendars or pamphlets
- ☐ Other, (Please state) \_\_\_\_\_

**How informed are you about the services and accommodations available to you as a student with a disability or special need? (Please indicate to what degree you feel informed by circling one of the numbers below).**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Very well informed</b>		<b>Fairly informed</b>		<b>Not informed</b>

**How can information be made more readily available to you?**

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**4. How satisfied are you with the resources and services currently available to you as a student with a special need?**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Very satisfied</b>		<b>Fairly satisfied</b>		<b>Not satisfied</b>

**Do you have any ideas for improvement ?**

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## **Appendix E**

### **Interview Guide for High School Students**

## **Interview Guide High School Students**

-Brief about the research

-Ask permission to tape and ensure confidentiality

1) Are you applying to college or university?

2a) At what point in high school did you decide to definitely attend college/university?

2b) What influenced you in your decision to attend college/university?

2c) Who was most supportive in your decision?

3) Do you think that you are well informed of the services or special needs accommodations available to you as a special needs student at college/university?

4a) How much investigation of special needs services did you do prior to your decision to apply to college/university?

4b) Are you aware of the readiness levels of colleges and universities to work with students who have special needs?

4c) How did you find out about the special needs office in the college/university that you hope to be attending?

5a) Do you have any concerns about your transition from high school to university/college?

5b) Do you have any ideas on how your transition from high school to college/university could be facilitated?

6a) What exposure have you had to technical aids for special needs?

6b) What level of mastery do you have of each piece of equipment you can operate?

7) Do you have any special needs related to housing? finance? in-class teaching styles?

8) If you were doing the research that I am doing on support services to students who are or will be attending a postsecondary institution, what questions would you ask?

9) On a scale of 1 to 5 with 1 very satisfied and 5 not satisfied, please rate how satisfied you are with the services and resources currently available to you?

## **Appendix F**

### **Interview Guide for High School and University Staff**

## **Interview Guide High School and University Staff**

**-Brief about the research**

**-Ask permission to tape and ensure confidentiality**

**High school staff: Do you feel that you are fully aware of the readiness levels of universities and colleges to work with students who have disabilities?**

**University staff: Do you feel that high school staff are fully aware of the readiness levels of universities and colleges to work with students who have disabilities?**

**High school staff: Do you have regular contact with university administrators? Are there publications that outline for students and administrators college/university policy and information regarding disability?**

**University staff: Do you have regular contact with high school administrators? Are there publications that outline for students and administrators college/university policy and information regarding disability?**

**High school staff: What do you think are the needs of students at university/college? How can these best be met? Should there be a policy in place with regard to students with disabilities?**

**University staff: What do you think are the needs of students at the university? How can these needs best be met? Should there be a policy in place with regards to students with disabilities?**

## **Appendix G**

### **Interview Guide for Community Members and Faculty**

## **Interview Guide for Faculty and Community Members**

**1. What is your role/the role of this organization in the community?**

**How does this relate to students with disabilities at the University?**

**2. What do you see as the responsibility of the University to students with disabilities?**

**3. How aware do you think that other people are of the services available to students with disabilities?**

**Other suggestions or concerns?**

## **Appendix H**

### **Introductory Letter to Students in Study One**

**OFFICE OF THE CO-ORDINATOR OF SERVICES FOR DISABLED PERSONS  
Room 2051, Needles Hall  
University of Waterloo  
N2L 3G1**

Dear Students,

As you may already know, the University of Waterloo has recently been given government funds for service provision for disabled students. We would like your opinion in helping the Office for Disabled Persons to decide how these funds could be spent. In order to provide services tailored to the needs of students who have special needs, we feel that it is essential to get the thoughts and feelings of the persons receiving these services.

I will be spending some time at the University of Waterloo with Florence Thomson conducting a needs assessment for service provision. A part of my work will involve conducting interviews with groups and individuals, as well as designing and sending out questionnaires to those students who cannot meet with me. The results of this work will provide concrete information on how the funds could be spent, as well as helping to meet my requirement for an M.A. Practicum (which is a part of my studies at Wilfrid Laurier University).

Enclosed you will find a brief form that asks you to indicate whether you would like to be involved, and if so, when and where you are accessible throughout the school year. This form is being mailed to those students whose addresses are on file at the Office for Disabled Persons. Please return the completed form to this office as soon as possible. On the basis of this information you may be contacted either this semester or at the beginning of the winter semester.

I hope that you can find the time to help us with this project. **Your participation is important.** If you have any questions, or would like to drop by to meet with me and chat, please do. I will be at the Office for Disabled Persons most Fridays from 9:30am until 2:00pm. I look forward to meeting you.

Sincerely yours,



Pauline Hradil



## NEEDS ASSESSMENT FOR SERVICE PROVISION FOR DISABLED STUDENTS

Issue: HOW COULD THE GOVERNMENT FUNDS FOR SERVICE PROVISION BE SPENT?

A. I am Interested in the issues and would be willing to:

Attend a group workshop or group interview .....☐

Attend an interview by myself .....☐

Complete a brief questionnaire .....☐

I am not interested in these issues and/or am unable to contribute but keep me informed.....☐

B. I will .....☐ be on campus in the Jan-April, 1990 term  
will not ..☐

C. NAME \_\_\_\_\_

CONTACT TEL. NO. \_\_\_\_\_

CONTACT ADDRESS STARTING JANUARY, 1990

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## **Appendix I**

### **Student Use of Services and Resources at the University of Waterloo**

## Services and Resources Used by Students

Disability	I make use of	Arranged by me	Arranged by the Office	If available, I would use
Medical (5)	alternate locale for exams(1) assistance at library(1) assistance at registration(2) correspondence courses(2) counselling(2) extra time/exams & assignments(1) notetakers(1) photocopying services(4) study work shop(1)	alternate forms of exams(1) assistance at library(1) assistance at registration(2) correspondence courses(1) extra time/exams & papers(1) notetakers(1) personal/vocational counselling(2) photocopying service(3) study work shops(1)	assistance at registration(2) photocopying service(2)	alternative forms of exams(2) computers/spell & grammar check(1) correspondence courses(2) counselling through the Office(1) extra time/exams & papers(2) peer support group(3) proofreaders(1) reduced course load(2) study work shop(2) typing service(2) volunteer location service(1) writing work shop(2)
Coordination (7)	alternate locale for exams(1) alternate forms of exams(2) assistance at library(2) assistance at registration(3) attendant care(1) computers/spell & grammar check(3) correspondence courses(1) extra time/exams and papers(4) notetakers(1) personal/vocational counselling(1) photocopying services(3) reduced course load(3) volunteer location services(1)	alternate locale for exams(1) assistance at daily activities(1) assistance at library(3) assistance at registration(3) attendant care(1) computers/spell & grammar check(3) correspondence courses(2) extra time/exams & papers(1) notetakers(1) photocopying service(1) reduced course load(2) volunteer location service(1)	alternate forms of exams(1) alternate locale for exams(1) assistance at registration(1) correspondence courses(1) extra time/exams & papers(1) notetakers(2) photocopying service(2)	correspondence courses(1) emergency wheel repair(2) extra time/exams & papers(1) orientation(1) personal/vocational counselling(1) proofreaders(1) study work shop(1) taped texts(1) typing service(1) voice operated computers(1) writing work shop(1)
Learning (5)	alternate forms of exams(1) assistance at registration(1) computers/spell & grammar check(1) correspondence courses(3) extra time/exams & papers(3) peer support group(1) personal/vocational counselling(2) photocopying service(3) readers(1) reduced course load(4) writing work shop(1)	assistance at registration(1) computers/spell & grammar checks(1) correspondence courses(3) extra time/exams & papers(1) peer support group(1) personal/vocational counselling(2) photocopying service(2) readers(1) reduced course load(3) writing work shop(1)	alternate forms of exams(1) extra time/exams & papers(3) peer support group(1) photocopying service(1)	alternative forms of exams(1) assistance in library(1) computers/spell & grammar check(2) digital audio reader(1) notetakers(1) peer support group(3) personal/vocational counselling(1) proofreaders(2) study work shop(1) taped texts(2) typing service(1) voice operated computer(1)

\* Information presented was obtained from questionnaire responses  
 \*\*The numbers in brackets represent frequency

Disability	I make use of	Arranged by me	Arranged by the Office	If available, I would use
Hearing (3)	amplified telephones(1) assistance at library(1) FM systems(1) notetakers(2) photocopying service(3) TDD telephones(1)	amplified telephones(1) assistance at registration(1) computers/spell & grammar check(1) FM system(1) notetakers(1) orientation(1) TDD telephones(1) typing service(1)	notetakers(1) photocopying service(3)	alternative forms of exams(1) close captioned screen(1) computers/spell & grammar check(1) correspondence courses(1) extra time/exams & papers(1) orientation(1) peer support group(1) proofreaders(1) reduced course load(1) volunteer location service(1)
Visual (2)	alternate forms of exams(1) assistance at library(1) computers/spell & grammar check(2) correspondence courses(1) enlarged print(1) extra time/exams & papers(2) notetakers(1) other visual aids(2) personal/vocational counselling(1) photocopying service(2) readers(1) reduced course load(1) taped texts(1) volunteer location service(2)	assistance at library(1) computers/spell & grammar checks(2) correspondence courses(1) notetakers(1) other visual aids(2) personal/vocational counselling(1) photocopying service(1) readers(1) reduced course load(1) taped texts(1) volunteer location service(1)	alternative forms of exams(1) computers/spell & grammar check(1) enlarged print(1) extra time/exams & papers(2) other visual aids(1) photocopying service(2) readers(1) taped texts(1) volunteer location service(2)	taped texts(on time)(1) typing service(1)
Emotional (2)	alternate forms of exams(1) extra time/exams & papers(1) personal/vocational counselling(1) photocopying service(1) study work shops(1)	alternate forms of exams(1) extra time/exams & assignments(1) personal/vocational counselling photocopying services(1) study work shop(1)	alternate forms of exams(1)	
Other(2)	correspondence courses(1) extra time/exams & papers(1)	correspondence courses(1)	extra time/exams & papers(1)	

**Appendix J**  
**Accessibility of the Campus**

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#### **Limited Accessibility Areas:**

1. • Great Hall is difficult to access
  - Cafeteria is accessible only by the outside from South One
  - Electric door openers are needed
2. • Paths on campus, particularly between Village One and main campus are uneven
3. • There is only one entrance to Federation Hall
4. • Physical Activities Complex is difficult to access
5. • Club rooms and the games room in the Campus Centre are difficult to access
  - Wheelchair entrances in the Campus Centre are sometimes blocked by cars- more noticeable signs are required
6. • The curb cut should be closer to the Village
7. • Only one accessible entrance to the Math and Computer Building
8. • William G. Davis Centre is difficult to access
9. • Only one accessible entrance to the Dana Porter Library
10. • One of the engineering buildings has a roundabout way of accessing to lower level from the ground level
11. • The Grad House is inaccessible to wheelchairs
12. • In the back of Hagey Hall, where the offices are located, only one step makes the entrance inaccessible
13. • Only two entrances to the Psychology Building
14. • Third floor of the Modern Languages building is inaccessible
15. • First and third floors of the the Arts Lecture Hall are inaccessible
16. • Many areas of the Church Colleges are inaccessible

*See the corresponding map on the following page*



## **Appendix K**

### **Introductory Letter to Students in Study Two**





Founded 1911

Department of Psychology

**Wilfrid Laurier University**

Waterloo, Ontario, Canada N2L 3C5. Telephone (519) 884-1970

Dear student,

I am a master's student in social-community psychology at Wilfrid Laurier University. I am currently working under the supervision of Dr. Stephen Chris on my master's thesis research. This research has been approved by Wilfrid Laurier University as well as the Waterloo County Board of Education.

The research that I am doing involves examining the service needs of students with disabilities who are at university or considering attending university. This research will be used to identify what services students, such as yourself, think are important. The results will be helpful in identifying student needs here at Wilfrid Laurier University, as well as at other schools. I am inviting you, as well as a number of other students, to participate in this research because I am interested in finding out your needs for, and feeling about, services and resources. The time required to participate ranges from half an hour to an hour and a half. You can participate by completing a questionnaire, a telephone interview, or a face-to-face interview. I have enclosed a response sheet asking you to indicate how you would like to participate, if you would like to do so.

This letter is being sent to you on my behalf by Judy Bruyn at the Special Needs Office. Your identity has thus been kept confidential. Only if you agree to participate in this research by completing the enclosed form and returning it to her will I have access to your name. Your decision to participate in this research will not have any bearing on your grades. While I encourage you to participate, your participation is completely voluntary. If you do decide to participate, you have the right to withdraw at any point, or to refuse to answer any questions. Any information obtained from you in the course of the research will be regarded as confidential. When quotes will be reported, information will be presented in such a way that your identity will be protected.

You are welcome to get in touch with me to ask questions or make suggestions about the research. Once the research has been completed, a report explaining the results will be available. Should you wish to contact me I can be reached at 744-4527. Thank you for your time.

Sincerely yours,

Pauline Hradil  
M.A. Candidate

Dr. Stephen Chris  
Research Advisor

**I agree to participate in the research on the provision of services to students with disabilities conducted by Pauline Hradil under the supervision of Dr. Stephen Chris. I understand that my participation is voluntary and that I have a right to withdraw my involvement in the research at any point.**

**A. I would be willing to participate by:**

Completing a telephone interview .....☐

Attending an interview by myself .....☐

Completing a brief questionnaire.....☐

I am unable to contribute to this research but keep  
me informed .....☐

I am not interested in this research and do not want  
to participate.....☐

**PLEASE COMPLETE THE FOLLOWING IF YOU WOULD LIKE TO PARTICIPATE.**

**B. NAME** \_\_\_\_\_

**SIGNATURE** \_\_\_\_\_

**CONTACT TEL. NO.** \_\_\_\_\_

**CONTACT ADDRESS**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**C. I will .....☐ be at the school after December 1990  
will not ...☐**

**D. I am .....☐ Interested in receiving feedback  
am not ...☐**

**PLEASE RETURN THIS FORM TO** \_\_\_\_\_ **BY** \_\_\_\_\_

## **Appendix L**

### **Student Use of Services and Resources at WLU**

Disability

Disability	Currently use	Use/d elsewhere	Would likely use
Visual(2)	assistance with registration braille or large publications extended time on exams and assignments notetakers peer helpers proofreaders	computers with large print	braille braille or large print publications computers with large print Kurzweil reader magnifying screens microfiche enlarger Optacon
Hearing(2)	amplified telephones(2) FM systems phonic ears(2) pre-registration vocational assistance(2)	personal counselling	
Learning	assistance with registration extended time on exams and assignments peer helpers proofreaders	assistance with registration proofreaders readers tutors writing work shops	writing work shops
Physical	assistance with registration pre-registration vocational assistance		automatic doors correspondence courses crutch repair peer support group reduced course load support group
Other	extended time on exams and assignments pre-registration		personal counselling proof readers writing work shops

\*The numbers in the brackets represent frequency