Students with Learning Disabilities:
Access to Higher Education in Canada
A Review of the Literature

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# STUDENTS WITH LEARNING DISABILITIES: ACCESS TO HIGHER EDUCATION IN CANADA

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Preface

The idea of conducting a literature review on access issues related to students with learning disabilities emerged during my discussions with Elyse Chaplin, then a Ph.D. student in the Higher Education Program at the Ontario Institute for Studies in Education at the University of Toronto. Elyse was pursuing a doctoral project focusing on the experience of students with learning disabilities and we concluded that a separate research project involving a major review of research in this area would be a substantive contribution. Elyse began the project and completed a preliminary draft, but moved to the United States in order to pursue an exciting employment opportunity. In phase two of the project, Lydia Boyko, another doctoral student who had already made excellent contributions to a number of my other projects, agreed to complete the review and she substantially expanded the scope and content of the work. The review was completed in 2009.

We decided to publicly release the report in 2011 so that a broader audience could benefit from this work. While we did not have the resources to do a substantive update of the original report, Elyse made a number of modest changes to the final text. Grace Karram Stephenson assisted with some final format issues.

This project was supported by a grant provided by the Ministry of Training, Colleges and Universities designed to fund research on postsecondary access in the province of Ontario. Support was also provided by the Ontario Research Chair in Postsecondary Education Policy and Measurement.

Our hope is that this review will provide a useful foundation for further research and policy development in this very important area.

Glen A. Jones
Ontario Research Chair in Postsecondary Education Policy and Measurement
December 2011
Acknowledgements

A number of individuals from the academy and the broader community were approached in the development of this reference for assistance in locating resource materials.

Sincere appreciation is expressed to Dr. Hughson of the University of Calgary, for generously sharing results of a new study dealing with higher education inclusiveness, conducted with Bruce Uditsky of the Alberta Association for Community Living.

Judith Butler, Office Manager and Executive Assistant to the Board of the Canadian Association for Community Living, kindly took time to help locate materials published by the Roeher Institute, a longstanding human rights policy research body operating from York University that is no longer active and the publications database of which is no longer freely accessible. Ms. Butler also provided further valuable leads to substantial data bank sources.

Alyson Hazlett, Data Dissemination Officer, Central Region, Statistics Canada, assisted with the search of their vast databases for relevant information on learning disability, confirming the validity of materials located that reinforce the credibility of and enhance the research for this review.

Ultimately, this work would not be possible without the guidance of Dr. Glen A. Jones, Professor of Higher Education and the Ontario Research Chair in Postsecondary Education Policy and Measurement at the University of Toronto, who provided the opportunity to explore an issue that has progressive implications for public policy in Canada in an increasingly complex higher education system worldwide.
About the Authors

Dr. Lydia Boyko is Professor, School of Media Studies and Information Technology at Humber College Institute of Technology and Advanced Learning (Toronto, Canada). She has taught at the college level for close to 10 years and has 20 years of private sector management experience with a focus on public affairs and communications. Lydia holds a Bachelor of Journalism (First Class Honours) from Carleton University (Ottawa, Canada) and a Business Communications Certificate from McGill University (Montreal, Canada). She completed a Master of Education and a Doctorate at the University of Toronto, specializing in Theory and Policy Studies in Higher Education, involving research in teaching and learning in addition to management related inquiry. She is a Fellow of the Life Management Institute in the insurance industry and is an accredited public relations professional.

Dr. Elyse K. Chaplin is Associate Dean at Santa Ana College, California. Dr. Chaplin oversees psychological services, campus health services, the Veterans Resource Center, and disabled student programs and services. Elyse Chaplin has 18 years of experience in higher education, as a researcher, counsellor, faculty member, and administrator. She earned a B.A. in psychology at York University (Toronto, Canada), an M.A. in education and human development from The George Washington University (Washington, D.C., USA) and a Ph.D. in higher education theory and policy studies at the University of Toronto (Canada) with a focus on students’ use of success attributes in their transitional experiences to college. A leader in her profession, she is active in many academic organizations and is a frequent presenter on inspiring and promoting student success and retention, students’ psychological and physical health, as well as issues focused on crisis leadership in higher education.
PART ONE: OVERVIEW

Prologue: Challenges

Developing a literature review on learning disabilities in any educational context is a complex process. First, there is a vast amount of information available through a wide range of activist groups, academic researchers and service providers in an array of forms, from formal textbooks and peer-reviewed journals anchored in empirical research published periodically to ad hoc web-based observations supported by personal experience posted daily. Sorting through the material to locate content pertinent to higher education and seeking a Canadian context are significant challenges. Second, the term “learning disability” is vague and can mean different things to different people in different settings. While certain community groups advocating on behalf of students with learning disabilities have developed widely-recognized definitions of the term, and a number of post-secondary education institutions subscribe to the descriptions, no standard national or international classification exists. It is often used inconsistently in the assorted educational systems and jurisdictions, and a large amount of the research combines learning with intellectual and developmental disabilities and/or with psychological and physical disabilities more broadly.

Generally, research literature on children with various disabilities in the primary and secondary education system in a North American context is abundant and relatively easy to access. Research literature on older students labelled as having learning disabilities at the post-secondary level outside Canada is less prevalent but still reasonably rich in volume and content. Research literature on adult students with learning disabilities in the Canadian higher education system is comparatively difficult to locate and to isolate, mainly because it is limited in breadth and scope with a strong focus in certain areas such as adaptive technology and weak in others.
such as transitions between systems, and the term is found to have multiple meanings across provinces and territories and research sources. Moreover, as mentioned in the literature, there seems to be no national standard for gathering data on demographics, academic performance, course of study, attrition, retention and graduation rates for students with learning disabilities across the country (Pacheva, 2007), as was also discovered in the compilation of this review. The notable exceptions in Canada are a handful of community groups speaking on behalf of students with learning disabilities, academics dedicated to working with this constituency group who also conduct ongoing research in specific areas such as student characteristics of success and relations with faculty, and a large number of colleges and universities that undertake a myriad of initiatives to provide support specific to their institutions, many of which engage in some form of empirical inquiry to understand and to serve better their members and clients.

The Learning Disabilities Association of Canada (LDAC, 2005a)\(^1\) has lamented the dearth of Canadian data, stating that this has led to a longstanding reliance on American statistics that puts Canadians “at a disadvantage” when it comes to meaningful comprehension of learning disabilities and the means to make amends. There are signs that this is changing.

An Endowed Chair in Learning Disabilities is being established at Mount Saint Vincent University, the first of its kind in Canada and one of only four in the world (AUCC, 2009, March). This research chair is expected to foster best practices programming that will make an impact on school practices that respond to students with learning disabilities.

Also, the LDAC has been at the forefront, spearheading a drive with its provincial association counterparts, Statistics Canada, and medical and educational specialists from across

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\(^1\) LDAC, a national non-profit voluntary organization based in Ottawa, Ontario, was founded in 1963. Its mandate is to seek equity in opportunities for people with learning disabilities by raising public awareness of related issues. Its members include parents, educators and medical practitioners. It is listed in the annotated resource directory section of this review.
the country to improve the national survey databases and indicators as a baseline for future studies. More comprehensive and consistent data gathering on and analysis of learning disabilities in this country, including post-secondary education, are intended to raise public awareness of the impact of living with a learning disability in Canada, the societal costs as well as the individual difficulties. Among the main obstacles providing impetus to this undertaking have been the lack of a national definition of and national policies on learning disability and the discordant approaches across regions of tracking, assessing and accommodating students with learning disabilities (Nicholson, 2008).

For this project, to secure the most up-to-date, accurate and unfiltered demographic data related to persons with disabilities and students with learning disabilities in Canada, the original data sources were utilized, notably, through Statistics Canada. For the most part, published data still relate to the 2001 Census. Certain Census 2006 data continue to be analyzed, and some key in-press information was obtained, even if fairly lean. One report, dealing with the impact of learning limitations on education and employment based on 2006 data, was released in Spring 2009.

Among the main issues with collecting such data are the broad definition of “learning disability” and sensitivities associated with the term. Respondents often do not associate learning difficulty with disability in the traditional sense of a visible malady. Where a learning disability is diagnosed or otherwise acknowledged, survey participants may be reticent to share their situation with a third-party researcher for reasons that may be tied to trust, or lack thereof; fear of being ostracized, or labelled as somehow inferior relative to the overall population.
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Purpose

The purpose of this review is to determine the type and depth of materials informing the subject in order to identify a) the existing body of knowledge as a one-stop reference point and b) the gaps in the research which could guide future scholarship in Canada.

This project is neither a primary research nor a consultative/advocacy endeavour. It is a review of the significant literature already published – effectively, secondary research and analysis thereof. It documents the key repositories of information related to learning disabilities generally; highlights content that contributes to knowledge of this area with particular reference to higher education broadly and in Canada specifically where possible; and raises a large number of related questions at the micro and macro levels for future consideration.

Ultimately, as a chronicle of available resources, this compendium is designed to assist scholars in educational theory and policy in the continued quest to support public policymakers, institutional administrators and educators in expanding access to post-secondary education equitably, effectively and efficiently.

Guiding Research Questions

Correspondingly, this review is conceived within the framework of and serves to document literature that answers eight core questions at the micro and macro levels. Most of the academic literature located addresses the micro considerations.

Micro Considerations

1. What is a “learning disability”?
2. What impediments do learning disabilities create for access to higher education?
3. What are the academic characteristics of higher education students with learning disabilities?
4. What transitional supports to higher education are available to secondary school students?

5. What academic and non-academic provisions are offered at higher education institutions to students with learning disabilities?

Macro Considerations

1. What are the costs and benefits in a socio-economic context of addressing learning disability needs at the post-secondary level?

2. How is “reasonable accommodation” measured? Do perceptions differ across involved stakeholders (in particular, students, parents, faculty, service providers, institutional management, government officials responsible for higher education in their respective jurisdictions)?

3. How are the principles of equity and fairness applied across the total student population that embraces individuals with and without visible and invisible disabilities?

Research Parameters

To lay the foundations for and to establish the parameters of this review, the notions of “learning disability” and “accessibility” are defined according to Canadian laws and regulations, rules and guidelines grounded in the law, and commonly-cited statements of established advocacy groups representing the special population segments.

References to intellectual and other developmental disabilities arising from genetic conditions such as Down Syndrome and autism and those manifest in behaviours such as Attention Deficit Hyperactivity Disorder are included in the review only as they relate to learning specifically but not as neurological and physiological phenomena per se.
The focus is primarily on Canadian content, seeking and drawing on sources that are both contemporary and historical for context. However, as underscored earlier, the information emanating from and/or related to the Canadian experience is limited. Moreover, to a large extent, Canada is said to follow legal and practical developments related to learning disability accommodation from other countries, in particular, the United States (Brown, Percy & Machalek, 2007). Consequently, this review also features recognized American informants that have appreciable influence and insights on the subject and, to a lesser extent reflecting the relatively smaller quantity, research from countries such as Israel that are shown to contribute significantly to the empirical inquiry.

Sources

While archival as well as current files have been searched, as a point of departure, the literature profiled in this review has been published within the past decade, unless a journal article or other documentation is considered ground-breaking, provides a benchmark for longitudinal determination of change, and/or is highly cited by academic scholars and medical/social work practitioners in the field. Correspondingly, the bulk of publications included in this review have been produced since 2000, with a selection dating back to the 1980s.

Full articles, both electronic and hard copy, were located through the University of Toronto Libraries network, accessing Scholars Portal and a variety of search engines and databases such as ProQuest, ERIC, PsycINFO, Canadian Periodical Index, Medline, Scopus, PapersFirst and Theses Canada Portal. Keywords used were “learning disability” with three descriptor sub-topics: post-secondary education, higher education, colleges and universities. Preference was for peer-reviewed journals with full-copy content not limited to abstracts. The search yielded 165 articles, 63 master and doctoral dissertations, and 45 reports and papers from
non-academic sources such as government ministries and community agencies, with potential for citations and direct quotations. The preponderance of the research in the articles and reports featured is quantitative, notably, surveys, or mixed method, surveys, observation and interviews. Research for the theses tends toward qualitative methods such as interviews and case studies.

In addition, 18 books were located on the general topic of learning disability with at least marginal discussion of higher education, eight Canadian, from an array of hundreds of titles that focus more specifically on learning disability in children at the pre-tertiary education level. Popular print news media are recorded where topical items are anchored in academic research that was accessed through peer-reviewed documents. Post-secondary education institutions, medical facilities and non-profit organizations set up exclusively to meet learning disability needs and/or the mandate of which embraces community support more widely also hold libraries of information on their respective websites and are an important source for this review.

Materials noted are all publicly available on the Internet: government reports, laws, regulations, rules and guidelines; statements and studies by advocacy groups; and student guides developed by colleges and universities. Peer-reviewed journal articles, books and dissertations referenced in this review should be accessible to academic researchers through their respective college and/or university libraries.

Only materials retrieved directly are cited in this review. In certain cases, a search for bibliographical and citation references in journal articles and reports resulted in dead links. One of the vagaries of material stored on the Internet is its perpetual movement and common disappearance, particularly as websites are reconstructed or updated and/or groups reorganize or disband.
At the end of the review, a directory of composite sources has been developed as a consolidated guide to key repositories of information, a number of which are also discussed in the body of this review. This directory comprises three lists:

1. Organizational Sources: Including website addresses and links, covering key not-for-profit groups, education and government bodies dedicated to advancing the interests of persons with disabilities, particularly as they relate to learning. The respective websites offer additional links to supplementary information, including relevant legislation and their individual projects.

2. Literature Review Compilations: Featuring academic perspectives and compilations by interested “lay” (non-academic) stakeholders.

3. Working Groups and Task Forces: Organized working groups and task forces and related discussion papers and reports, providing background to legislative and advocacy initiatives.

It is beyond the scope of this paper to acknowledge all the initiatives being undertaken by government in every jurisdiction, by the different community groups, or by individual colleges and universities working to assist students with learning disabilities. Examples of representative plans and programs are listed in the directory and noted in the narrative where appropriate to underline a theme in the literature or to reinforce potential for further research.

Moreover, while this review covers certain details of legislation, community response and academic analysis, it is fundamentally a distillation of the authors’ research. Working within the framework of set objectives and from the periphery, it is only possible to skim the surface and to signal the significant sources. Readers are advised to locate the original work(s) cited for background and more information.
Furthermore, it is beyond the reach of this review of the literature on learning disability in higher education to detail the definitional, literal and social connotations of connected terminology and the variety of socio-cultural and medical factors. For an extensive analysis of this subject, a recently-published Canadian-based textbook is suggested, edited by Dr. Ivan Brown, Faculty of Social Work, and Dr. Maire Percy, Professor Emeritus, Physiology and Obstetrics & Gynaecology, University of Toronto. Intended for educators, students and practitioners, *A Comprehensive Guide to Intellectual & Developmental Disabilities, 2007* (Baltimore, MD: Paul H. Brookes Publishing Co.) features wide-ranging insights of professionals in medicine and social work mainly from Canada and contributors from Australia, Ireland, Israel, Sweden, the United Kingdom and the United States. Post-secondary education is discussed in a chapter dealing with transitions through the life span and lifelong learning.

A current, incisive, concise and Canadian discussion of intellectual and developmental disabilities in the context of learning disabilities and inclusiveness at the higher education level is found in a 2008 report produced by the Alberta Association for Community Living (AACL) titled, *Inclusive post-secondary education for adults with developmental disabilities: A promising path to an inclusive life.* While focused primarily on one province, the principles and processes reviewed and overall commentary can be applied to post-secondary education across the country. This document, which includes a DVD with testimonials of students, parents, faculty and administrators, is the work of Dr. E. Anne Hughson, Director and Associate Professor, Community Rehabilitation and Disability Studies, Faculty of Medicine, University of Calgary, and Bruce Uditsky, AACL Chief Executive Officer.

Two other books are also recommended for a reflective, humanistic perspective on disability: *Disability, Self, and Society, 2006,* and *Reading & Writing Disability Differently: The*
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Textured Life of Embodiment, 2007 (both University of Toronto Press publications). Through her lens as a Canadian academic scholar with dyslexia, associated with learning disability, Dr. Tanya Titchkosky, Assistant Professor, Department of Sociology and Equity Studies in Education at the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT), contributes to the literature with thought-provoking views of what defining “disability” means and what the premise – and promise – of disability studies should embody. The more recent title also provides a historical context for the progression of Canadian government public policy and research on disability through various survey instruments.

Special Considerations

In this paper, we attempt to pay careful attention to the usage of terms related to learning disability, understanding that the meaning of and sensitivities associated with specific words vary across academic fields and societies. What may be considered acceptable in a particular context or culture, for example, may be deemed derogatory by other people in alternative settings, with different beliefs and values. Moreover, perceptions of standards of “ability” are not entirely consistent across groups of people.

It is equally important to stress that post-secondary students with learning disabilities are not a homogenous group. A wide range of educational, psychosocial, physical and adjustment experiences, diverse demographic characteristics, and individual student needs must be taken into account when examining access to higher education. This consideration was noted earlier as part of an inherent challenge of compiling statistical data related to learning disability.

In this paper, the term “learning disabilities” is used exclusively, denoting its neurological origin as an impairment to one or more processes that help a person to think, to remember, to perceive and to learn. As stated at the outset, the precise terminology varies across
the provinces and territories, where different ministries of education refer to “learning differences”, “learning disorders”, “learning limitations” and “learners at risk”.

Colleges and universities are referred to interchangeably as either post-secondary or higher education institutions. While acronyms serve to condense and to simplify communication, they can also cause confusion. The following terms appear in abbreviated form throughout this document, reflecting their use in the literature, for brevity where appropriate and maintained in the long form where multiple acronyms may hamper the communication or where the short form may create an awkward construct: learning disability/ies – LD, post-secondary education – PSE, higher education institution – HEI, and students with disabilities – SWD.

In this review, PSE is contained to traditional colleges and universities with two-, three- and four-year programs at the undergraduate level and with graduate studies where offered, including diploma, certificate and degree-granting institutions, exclusive of trade, vocational and special interest schools focused on one specific discipline or field. In the Canadian context, the institutions covered are public entities to the extent they receive some form of government funding.
“This task of being able to respond to a world that would rather see disabled people as objects in need of treatment, incarceration, or annihilation requires us to place ourselves in the midst of these object-like details so as to address what the standpoint of disability has to offer to an examination of identity formed on the margins of mainstream life. This is to actualize the promise of disability studies: disability is not one more thing to be studied; it is a place from which we can study the meaning of our world and its people.”

(Titchkosky, 2006, p. 237)

“Every individual is equal before and under the law and has the right to the equal protection and equal benefit of the law without discrimination and, in particular, without discrimination based on race, national or ethnic origin, colour, religion, sex, age or mental or physical disability.”

(Canadian Charter of Rights and Freedoms, 1982)

Legislation: Post-secondary Education and Disability

In a joint declaration titled, Learn Canada 2020, the provincial and territorial representatives who form the Council of Ministers of Education, Canada (CMEC, 2008) indicate that inclusive education policies and practices are integral to quality lifelong learning for all Canadians. Increasing access to post-secondary education (PSE) is part of the four pillars of learning that span early childhood to adulthood and form a cornerstone of a vibrant knowledge-based national economy for the 21st century. As in many countries around the world, the admission of students with learning disabilities by higher education institutions in Canada has also increased over the years but is still fundamentally voluntary. This evolution is “not so much in response to a ‘legislated hammer’ as in deference to a tradition of respecting and valuing the diversity of individuals” (Bat-Hayim & Wilchesky, 2003, p. 40) and balancing competing

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2 York University scholars MaryLouise Bat-Hayim and Marc Wilchesky provide a cogent chronological review of legal issues, practice and process in Ontario against the broader Canadian framework focused on the rights of students with learning disabilities in higher education. Their chapter is part of an international compendium titled, Learning Disabilities in Higher Education and Beyond: An International Perspective, which includes related
social needs – an observation about Ontario specifically with reference to other provinces and territories.

Individually, several of the 13 jurisdictions are taking measurable steps to improve access to education throughout their respective systems at all levels, notably, for students with disabilities (SWD), including handicaps associated with learning. For example, in Ontario, in compliance with the Accessibility Standards for Customer Service under the Accessibility for Ontarians with Disabilities Act, 2005, with which all public and private sector organizations must comply by 2012, the Ministry of Training, Colleges and Universities (MTCU, 2008) is enhancing access and support services for students with various disabilities. Tools and technologies being offered include interpreters and note-takers in the classroom, transcriptions of materials and teaching modules. The Learning Opportunities Task Force (LOTF, Government of Ontario, 2002) gave impetus to the current focus, establishing guidelines for colleges and universities on appropriate documentation of and testing for learning disabilities and recommending staff training therein.³

Generally, the legislation and attendant regulations in Canada cover both physical and intellectual disabilities without distinguishing among the various types of challenges, aiming to provide a common level of protection across all populations with one or more forms of disability. However, the inherent challenge with a non-evident disability such as learning is in the negative attitudes on the part of other students and faculty who personally do not experience this type of disability. The misunderstanding and disconnection among these groups may lead to discrimination and unwillingness by educators to provide accommodations and, consequently,

³ The LOTF had initiated a $30 million competition in 1997 among the province’s colleges and universities to develop new “best practice” services for students with learning disabilities (Bat-Hayim & Wilchesky, 2003, p. 37).
alienation, isolation and depression on the part of the disabled students who may become overwhelmed, de-motivated and depressed. This situation has the potential to affect a large number of Canadians. According to current estimates, between five and 10 per cent of the Canadian population – up to one in 10 Canadians – have a learning disabilities (LDAC, 2009).

**Learning Disability**

The Canadian Charter of Rights and Freedoms\(^4\)\(^5\) and federal, provincial and territorial human rights codes, which recognize the innate worth of every human being, are the springboard from which educational policies and practices related to learning disability emanate and upon which they are modeled.

Underscoring the weight of this recognition, the Supreme Court of Canada has established that a disability can result from a perceived limitation, created by prejudice and stereotypes, not simply from the disability itself, and often focuses on differences (Ontario Human Rights Commission [OHRC], 2004).

The formal notion of “learning disability” (LD) is defined and described in different ways in legislation and by organizations committed to supporting LD needs in Canada. Beal (2003) asserts that LD is not a protected term in jurisprudence; its use is variable, defined by the user(s) and their objective.

In Ontario, for example, a LD may be a psychological diagnosis under the *Psychology Act* to identify treatment, an exceptional category under the *Education Act* to establish eligibility for special education programming, or a profile used to determine eligible students for intensive support funding.


\(^5\) Through the 1982 Charter, which includes equal protection and equal benefit of the law without discrimination for people with disabilities, Canada is the first country in the world to include such rights in a fundamental constitutional document (Prince, 2004).
The *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* (DSM-IV-TR) developed by the American Psychiatric Association (APA, 2000) provides a recognized international standard used by professionals with the credentials to diagnose LD, outlining a number of conditions and criteria required for a LD diagnosis (Nicholson, 2008). Under this metric, reading (accuracy, speed and/or comprehension), mathematics (calculation and/or reasoning) and written expression (sentence structure) are categorized individually. Achievement must be substantially below that expected on standardized tests taking into account age, measured intelligence and the individual’s education. The disturbances must interfere with academic success and with the activities of daily living that require these skills (APA, 2000).

In comparison with the United States, Klassen (2002) observes that “in Canada definitions and practices of learning disabilities are at once both less protected (by federal law) and more flexible in reflecting theoretical shifts” (p. 200) due to the provincial jurisdiction over education and the lack of a public law that mandates access to special education, although both countries are concerned with access to services and the question of definitions generates considerable debate, scrutiny and criticism.

Nevertheless, the definitions and descriptions that frame public policy are fundamentally grounded in the principles of equality and fairness for all Canadians. Respect for diversity, including physical and mental abilities, and an individual’s right to dignity, non-discrimination, autonomy and self-determination, guide these universal tenets of justice. Objective treatment and access to opportunities are implied expectations and outcomes.

Lloyd and Clayton (2009) debunk 10 myths associated with LDs, in particular: LDs are a real neurological difference, not an imagined deficiency; LDs are complicated, varying from
person to person, but services and supports are more homogenous; students with LDs are not lazy and can be successful learners by compensating for weaknesses using their strengths; LDs cannot be outgrown or cured as they are a lifelong condition and will endure into adulthood but can be ameliorated with support and coping mechanisms; and academic adjustments are not unfair as long as standards are common to all students.

Ross-Kidder (2009) states that LDs affecting reading and mathematics, for example, can co-exist and often co-occur with Attention Deficit and Hyperactivity Disorder (ADHD).

In early 2009, the notion of “learning disability” received increased public attention and attracted controversy as a result of news that medical researchers at The Hospital for Sick Children (SickKids), in affiliation with the University of Toronto, have identified a protein critical for memory and learning that may lead to medical treatment for learning disability (SickKids, 2009; Ng, Pitcher, Szilard, Sertié, Kanisek, et al, 2009). Adults interviewed who are diagnosed with dyslexia and attention disorder, for example, take issue with the suggestion they have a LD or a medical condition; they say they simply process information differently. They emphasize they don’t need “fixing”: what needs to be corrected is “an education system and a society fixated on deficits and unprepared to teach or accommodate the way some people learn” (Gordon, The Toronto Star, 2009, February 24, p. L1).

Following are key definitions and attendant descriptions that are commonly cited in the literature and that serve as benchmarks for further public and private sector initiatives for accessibility and inclusiveness in higher education. The first reference, from the LDAC (2002), is the most extensively quoted in Canada in the literature on learning disability and has influenced several definitions adopted provincially. It covers the broad range of core considerations related to a general understanding of learning disabilities and guides the search
for this literature review. Provincial arms of this national umbrella advocacy group follow the same philosophy of inclusiveness and work toward common, open access to choices in education in recognition of special abilities and needs.

Learning Disabilities Association of Canada (LDAC): \(^6\)

Learning Disabilities refer to a number of disorders which may affect the acquisition, organization, retention, understanding or use of verbal or nonverbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and/or reasoning. As such, learning disabilities are distinct from global intellectual deficiency.

Learning disabilities result from impairments in one or more processes related to perceiving, thinking, remembering or learning. These include, but are not limited to: language processing; phonological processing; visual spatial processing; processing speed; memory and attention; and executive functions (e.g. planning and decision-making).

Learning disabilities range in severity and may interfere with the acquisition and use of one or more of the following:

- Oral language (e.g. listening, speaking, understanding);
- Reading (e.g. decoding, phonetic knowledge, word recognition, comprehension);
- Written language (e.g. spelling and written expression); and
- Mathematics (e.g. computation, problem solving).

Learning disabilities may also involve difficulties with organizational skills, social perception, social interaction and perspective taking.

Learning disabilities are lifelong. The way in which they are expressed may vary over an individual's lifetime, depending on the interaction between the demands of the environment and the individual's strengths and needs. Learning disabilities are suggested by unexpected academic under-achievement or achievement which is maintained only by unusually high levels of effort and support.

Learning disabilities are due to genetic and/or neurobiological factors or injury that alters brain functioning in a manner which affects one or more processes related to learning. These disorders are not due primarily to hearing and/or vision problems, socio-economic factors, cultural or linguistic differences, lack of motivation or ineffective teaching, although these factors may further complicate the challenges faced by individuals with learning disabilities. Learning disabilities may co-exist with various

conditions including attentional, behavioural and emotional disorders, sensory impairments or other medical conditions.

(Extract from Official Definition of Learning Disabilities, adopted by the LDAC, 2002)

Learning Disabilities Association of Ontario (LDAO):

LDs … affect one or more of the ways that a person takes in, stores, or uses information … they do not go away – but can be coped with successfully by using areas of strength to compensate and accommodations such as technology. A quick example: a student could have an LD that affected her reading-and-understanding. She knows how to read, but the process of decoding the words and sentences takes so much effort that she comprehends little of what she’s read. This student has learned that this is the case, and now records lectures to listen to later, and listens to audio-books on tape and CD. She has compensated by using her strong listening skills. LDs and their effects are different from person to person, so a person’s pattern of learning abilities needs to be understood in order to find good, effective strategies for compensation.

(Extract from Introduction to Learning Disabilities, 2009)

College Committee on Disability Issues (CCDI) 8

A student with a learning disability displays learning problems that are documented by a Registered Psychologist. Learning disabilities involve significant dysfunction in the acquisition and/or demonstration of listening, speaking, reading, writing, reasoning and/or mathematical processes. A student is average to above intellectually, displays a discrepancy between their intelligence and their performance, and, no other apparent disability can account for the dysfunction. An uneven profile of achievement is typical of an individual with learning disabilities. Learning disabilities are permanent, however, many individuals learn compensatory strategies and coping skills.”

(Extract from Orientation for Success: A Resource Guide for College Representatives of the College Committee on Disability Issues, 2001)

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8 The main mandate of the CCDI is to assist students with disabilities at Ontario colleges, acting as an information-gathering resource to recommend policies and procedures to the colleges for the implementation of services to students with disabilities. Retrieved March 1, 2009, from http://www.loyalistc.on.ca/services/ccdi/guidebook/refer.html The CCDI is listed in the annotated resource directory section of this review.
National Educational Association of Disabled Students (NEADS) 9

People with an intellectual, learning, or cognitive disability have a reduced capacity to learn tasks or process information. A learning disability may make it difficult for a person to take in information and communicate what they know. Learning disabilities can cause difficulties in reading, writing, or mathematics. Learning disabilities and Attention Deficit Disorder together affect between 3% and 10% of the population. As students, people with these disabilities are often intelligent, creative, and productive."

(Extract from Making Extra-Curricular Activities Inclusive: An accessibility guide for campus programmers, 2005)

Government of Ontario

A learning disability, or a dysfunction in one or more of the processes involved in understanding or using symbols or spoken language.

(Extract Definitions, Section 2, Accessibility for Ontarians with Disabilities Act, 2005, S.O. 2005, Chapter 11) 10

In a literary landscape that is light on Canadian perspectives on learning disability and education relative to other countries, Wiener and Siegel (1992) stand out for their brief but incisive historical overview of legislative parameters in Canada, including a review of earlier definitions of “learning disability”. Alternatively, as noted in the Overview to this review, Titchkosky (2006, 2007), brings a deeply humanistic and social sciences view to the discussion.

Through the lens of a Canadian academic scholar with dyslexia, associated with learning

9 NEADS, based at Carleton University, Ottawa, Ontario, has been operating for close to 30 years. Formed by students, members also include educators and professional service providers from across Canada. Its mandate is to encourage the empowerment of post-secondary students with disabilities and to advocate their right to access higher education. Their website is located at: http://www.neads.ca/en/ NEADS is listed in the annotated resource directory section of this review.

disability, the author suggests that defining “a separate and knowable population whose individual members are ‘people with a problem’” (Titchkosky, 2007, p. 168) leads to reducing the disability to “other of the same” (p. 206).

While federal and provincial public policies on human rights have advanced in the past 10 years, the academic analysis provides an appropriate and thought-provoking context for the current discussion of accessibility and attendant issues of participation in higher education by students with LD.

**Accommodation**

In an extensive report for Alberta’s Ministry of Advanced Education and Technology, Russell and Demko (2005) emphasize that “accommodation” does not mean lowering academic standards. Rather, it should be about “equal opportunity to attain the same level of performance, or to attain the same level of benefits and privileges enjoyed by others” (p. 16). All students must prove their capability to meet program requirements. Accommodation assists students with learning disabilities to be able to succeed through adjustments and alternative arrangements to general procedures – without discriminating against any students.

The LDAC refers to this legal duty as “reasonable accommodation” (2005b) “up to the point where the person or organization attempting to provide accommodation would suffer ‘undue hardship’ by doing so”. It adjusts a rule, practice, condition or requirement to take into account specific needs of an individual or group. Effectively, this obligation serves:

To eliminate discrimination resulting from a rule, practice or barrier that has – or can have – an adverse impact on individuals with disabilities. (A similar duty applies to other areas such as reasonable accommodation for religious differences.) …To some degree it involves treating individuals differently. In the employment, educational and other fields, accommodations help to give capable people who do not fit a particular ‘norm’ a fair chance to succeed personally and professionally, and contribute within their peer group and to society. Accommodations are intended to prevent a disability
from becoming a determining factor in the assessment of a person’s knowledge and skills. Although educators and employers need to offer accommodations based on systematic application of policies and good practices, each person who has a disability usually requires individualized accommodation. The severity of a disability varies among individuals and each person responds to and succeeds differently with a disability. Every situation is unique and must be assessed individually.

In a brochure for faculty and staff, one of the clearest and most concise statements located for this research, Brock University (2009) explains in plain language that:

Accommodations are alterations made in the way information is presented, in the deadlines students have to complete requirements, or in the manner in which their knowledge of course material is examined. Accommodations are recommended to enable students with disabilities to demonstrate their knowledge, without the interference of their disability, to the extent that this is possible. Accommodations are meant to create a fair academic setting for students with disabilities, not to provide advantages for the students who use them. For students with disabilities, when compared to the others in their classes, fair does not always mean equal, and they need accommodations to be able to learn and to demonstrate their knowledge. Thus, accommodations to remove barriers of communication and to facilitate academic participation can make a difference in the student's ability to fulfill course requirements. Faculty members should, however, ask themselves the following questions regarding program, course, and instruction to determine what accommodations are needed for each individual student (Scott, 1990).  

1. What academic skills must be demonstrated?
2. What specific knowledge, principles or concepts must be mastered?
3. What skills will be needed in the field after graduation?
4. What methods of instruction are non-negotiable? Why?
5. What alternate methods of instruction could be used to present essential program or course components which involve different perceptual or cognitive abilities?
6. In what ways might auxiliary aids (tape recorders, word processors, microphones, calculators, etc.) be used during instruction?

In a detailed accounting of Canadian legislation and institutional practices related to disability in higher education prepared as a report for the Organization for Economic Co-

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operation and Development (OECD), Ebersold (2003) explains that provincial human rights
codes regulate access to higher education and have primacy over legislation and collective
bargaining agreements. While discrimination is not defined explicitly therein, individual
accommodation is considered a central guiding principle. He notes that public policy

Must recognize the dignity and worth of every individual, provide equal
rights and opportunities without illegal discrimination, and create a climate
of understanding so that each person feels a part of a community and is able
to contribute to its development and well being. The law stipulates that
disabled people should have equal access to all resources … and specifies
non-discriminatory equal rights and opportunities (p. 41).

Accessibility

The common notion of “accessibility” found across the literature refers to the
identification, abolition and prevention of barriers for individuals in the essential areas of daily
life and the creation of supports to allow active participation. The necessary aspects of living
relate to the hierarchy of needs in life, notably, education and employment 12.

Higher education is anchored in the two highest levels of need, esteem and self-
actualization, although, arguably, it is also important to improving the experiences of meeting the
basic needs associated with accommodation, health and safety. Post-secondary education helps
fulfill personal goals, allows for effective competition in the job market and contributes to
financial security (Fichten, Asuncion, Barile, Robillard, Fossey & Lamb, 2003). Higher
education that is high quality, affordable, flexible and accessible is essential to achieve Canada’s
economic and social objectives (Canadian Council on Learning, [CCL], 2006).

Russell and Demko (2005, p. 71) emphasize that access through accommodations for
learners with disabilities pursuing higher education,

12 The five-level triangle espoused by Abraham Maslow, as part of his observations of human motivation, serves as
the foundation for this reference. Citation: Maslow, A.H. (Harold, A.) (1999). Toward a psychology of being. New
York, N.Y.: J. Wiley & Sons.
Is not a personal philosophy, instead it is a legal responsibility … While learners with disabilities are no longer children in the legal sense as most are over 19 years old when they enter the post-secondary setting … success at the post-secondary level is critical as well… With about 24% of our future population in Alberta being individuals with disabilities, we have the choice to either educate these people and have them contributing members of our society, or we can support them through social welfare programs.

Impediments are typically associated with attitudes; information and communications technology; physical as embedded in architecture and facilities; legal as enshrined in the charter of rights and freedoms, human rights codes and public policy that serve to bring the charter to life; institutional and systemic as found in organizational policies and procedures; and instructional as played out in the classroom. In other words, the barriers that inhibit full access and participation in the system are personal, political and structural.

In Ontario, mandatory accessibility standards related to people with disabilities apply to private and public sector organizations, including colleges and universities, throughout the province. A series of incremental targets toward 2025 seeks to eliminate any obstacle that prevents a person with a disability, apparent or invisible, from participating in the social and economic fabrics of the community – including communications, technology and systems (Ministry of Community and Social Services, Ontario, 2008). Ontario’s Human Rights Commission is responsible for implementing accommodation for disabilities, including LDs, as mandated by the province’s Human Rights Code.

Accessibility as it relates to higher education embraces removal of these impediments in a literal sense – for example, in terms of registration processes and evaluation methods. It also accounts for additional support in the form of special services – such as assistive technologies – that facilitate the ability of students with learning disabilities to partake meaningfully of opportunities available to all students.
Based on results of an extensive study involving education government ministries across Canada, the CCL (2006) determines that access to and benefits of PSE are not equally distributed among Canadians and that the higher education system is still largely designed to respond to the needs of the “traditional” learner.

Targeting faculty members in their capacity as instructors, a new guide produced by the Council of Ontario Universities (COU) and released in January 2009 outlines the legal requirements and moral obligations associated with LD. The COU explains accessibility in the context of a level-playing field that involves traditional accommodations and alternative approaches, acknowledging a limited awareness of and unease on the part of faculty in dealing with LD issues (Logan, 2009).

In 2002, the COU created guidelines to assist universities to develop annual accessibility plans as part of regular planning and budgeting in accordance with the ODA, 2001, covering institutional policies, programs, practices and services with representation of a wide variety of academic and administrative areas such as admissions, libraries and student affairs (COU, 2002). The plans are mandated to be publicly available and are expected to be cultivated in consultation with students, faculty and staff with disabilities.

Reed, Lewis and Lund-Lucas (2006) discuss accessibility as determinant of attitudes of teaching staff; the inability by disabled students to advocate for their own needs; poor communication with certain institutions, which appear not to be forthcoming in supplying adequate, detailed information about their disability services programs – at the post-secondary and the high school levels; conversely, the inability of students to acquire and/or to comprehend this information; and lack of a coordinated approach among institutions to dovetail communications efforts and outreach to students with disabilities across the education systems.
Titchkosky (2009) elaborates on accessibility in the context of the classroom setting, noting that access needs to be negotiated by all people in a course. It is “not a once and for all issue nor is it an individual matter”.

Statistical data are scarce on the number of students with LD currently attending higher education institutions (HEIs) in Canada and related indicators such as entrance, course of study, retention and attrition rates. Some of the available information appears somewhat inconsistent and contradictory. As this review was being completed, the LDAC was in the process of updating core statistics. A sweeping scan of numerous Statistics Canada surveys on PSE and LD over the past 10 years does not yield cohesive or conclusive results. For example, in an extensive study on who pursues PSE and why people leave, LD is not noted as a barrier to entry or exit for higher education (Lambert, Zerman, Allen & Bussière, 2004), but earlier and later studies (discussed in this section and in the next part of the review) indicate LD is a hurdle.

It is not clear whether the findings are the result of the questions posed or the way respondents reply, choosing not to mention LD as a reason for leaving college or university. The LDAC acknowledges the perceived stigma associated with self-disclosure of LD (LDAC, 2007). The term is often not recognized in many households and when it is, people are reluctant to talk about it for fear of being ostracized or branded. The debate over potential drug treatment for learning disability mentioned earlier underscores the definitional difficulties for such research.

A related challenge with the term is the confusion arising from its vague and varied meaning and language, wide range of labels and ill-defined categories, which may or may not encompass intellectual or developmental disabilities associated with physical conditions such as Down Syndrome (Uditsky & Hughson, 2008).
Statistics Canada notes that the particularly subjective nature of responses related to questions associated with learning disability, which represent perceptions and varying understandings of the term, are inherent challenges in the data collection and interpretation (Brennan, 2009). Dealing with sensitive issues, disability-related studies also give careful consideration to the individual’s right to privacy. As such, finding comprehensive data for this review proved to be a challenge, yielding confusing and incomplete information about participation and retention. This experience reinforces the experiences of other researchers also seeking to gain comprehensive national data (Nicholson, 2008), commenting on the lack of a common definition of “learning disability” across regions, despite the LDAC standard, and a disparate approach to dealing with students with LD across jurisdictions as reflective of Canada’s approach to legislation and regulation of education.

Nonetheless, three relevant and informative studies were located – based on Census 2001 and Census 2006 data, respectively, allowing for a comparative view:

- A post-Census 2001 study, *A Profile of Disability in Canada, 2001* (Cossette & Duclos, 2002), details the prevalence of disability types among adults aged 15 years and older, revealing that close to half a million Canadians, that is, 1.9 per cent of the total Canadian population with one or more forms of disability, have a learning disability.

  A “learning disability” is explained as a difficulty “because of a condition, such as attention problems, hyperactivity or dyslexia, whether or not the condition was diagnosed by a teacher, doctor or other health professional” (p. 16). (The
most commonly reported disabilities are related to mobility and pain, at about 10 per cent of the population, respectively.\(^\text{13}\)

- A post-Census 2006 study, *Participation and Activity Limitation Survey 2006: Facts on Learning Limitations* (Brennan, 2009), reports an increase in the number of Canadians with a “learning limitation” – 2.5 per cent of Canadians (631,000) aged 15 years and older.

  Close to a quarter of these individuals are considered to have severe learning limitations. New data, not included in the earlier 2001 study, reveal that the rates of learning limitations are similar across all adult age groups, illustrating the lifelong nature of this limitation. The highest rate, at three per cent, is found in the 75 and older age bracket. Men and women are nearly equally as likely to report a learning condition (52 per cent to 48 per cent). The vast majority, close to 95 per cent, indicate multiple limitations: mobility, agility and/or pain are the most commonly documented conditions in people reporting a learning limitation.

  In terms of highest level of education attained, in 2006, one-third of people with a reported LD had an education beyond high school: 14.7 per cent held a college or non-university certificate or diploma; 10.6 per cent completed a trade or registered apprentice certificate program; 4.4 per cent had a bachelor’s degree, and four per cent obtained education above the undergraduate level although the actual rates of completion for a master and/or doctorate degree are not provided in this study.

\(^{13}\) In 1991, about 30 per cent of the 16 per cent (4.2 million) of the total Canadian population that reported some form of disability indicated a mental or learning handicap or labelling by others (Statistics Canada, 2001). The data are not disaggregated in this report for a direct comparison.
In terms of absolute numbers, as at April 2006, the results show that about 14 per cent (close to 74,000) people with a LD across age groups (15 through 64) were enrolled in a school or university, more than three-quarters (close to 82 per cent) of whom were attending on a full-time basis. Three-quarters of the 14 per cent in school at different levels were between the ages of 15 and 24. This age group had the highest attendance rate, with more than half of the survey subjects reporting enrolment.

- Another post-Census 2001 study, *Participation and Activity Limitation Survey (PALS), 2001* (Statistics Canada, 2003) calculates aggregated data for education, employment and income of adults with and without disabilities of various types. It reveals that women with disabilities outnumber men with disabilities in level of educational attainment: more than 300,000 women and close to 200,000 men between the ages of 15 and 64 indicate attending college or university. Within the ages of 15 and 24, women again outpace the men about two to one, at close to 10,000 versus 6,500 men.\(^{14}\)

The gender trend noted above is apparent at the provincial level. Fichten, Jorgensen, Havel and Barile (2006) find that Quebec college SWD are more likely to be female than male. Also consistent with other national studies is the indication that the reported numbers of SWD, that is, who have registered to receive disability related services such as medical, psychological or learning, may be lower than the reality. About 10 per cent of the actual proportion of CEGEP students (15,000) – self-identify as having a disability. However, only 10 per cent of this group

\(^{14}\) 1996 Census data as at 1995, featured in *Unison 2000*, a federal government discussion paper on Canadians with disabilities (Social Services Canada, 2000), indicate that six per cent of males with disabilities had obtained a trades diploma compared to five per cent for males without disabilities. The comparisons for some level of college education are 23 per cent versus 27 per cent, and seven per cent to nine per cent for some university education. The proportions for women are similar.
registers to receive disability support – representing less than one per cent of the total student body, compared to about six per cent for the rest of Canada five years prior to the Quebec study.

In Alberta, it is estimated that 36 per cent of the population with a disability attain a post-secondary education compared to 51 per cent of the general population, and that one in six Albertans lives with at least one form of disability that has a negative impact on their ability to participate fully in learning (Alberta Advanced Education, 2005). The report cites a number of barriers, including inadequate transition mechanisms from high school to PSE, complex administrative hurdles such as admissions criteria, and lack of alternative instructional formats and professional services at the college/university level.

In Ontario, Harrison and MacKay (2006) report that more than 13,000 students at colleges and universities have a learning disability. Fichten, Barile, Asuncion and Fossey (2003) identify Ontario as having one of the highest populations of students with disabilities in PSE.

NEADS (2005) calculates that between five and 10 per cent of students attending most universities across Canada, on average, have some form of visible and/or non-visible disabilities, based on information identifying students registered to receive disability-related accommodations and services from their HEIs. Similar to the Quebec study (Fichten et al, 2006), the number is estimated to be higher, as many students do not self-identify a disability for various reasons that include a deliberate intention to conceal a known condition or uncertainty over an unknown situation. Quite simply, some may not want to be singled out or segregated, some may not know they have a disability, and some may not believe they have a disability. What is a disability for one individual may not be a handicap for another.
An earlier NEADS study (Hubka & Killean, 1999) indicates that the majority of Ontario’s PSE institutions had between 200 and 1,200 full-time SWD. About a third of them self-identified as having learning disabilities or attention deficit.

In 1994, the LDAC suggested that in any Canadian college or university with 10,000 students, as many as 1,000 may have some type of learning limitation (Cox & Klas (1996). Ten years earlier, a study of one large urban institution, York University in Toronto, reported 114 students with a “self-identified handicap”, up from 19 in 1977 (Wilchesky, 1986, in Hill, 1992, p. 50), including but not exclusive of LD. McGill University reported 245 SWD in 1997, more than three times the number enrolled 10 years prior (Canadian Association of Disability Service Providers in Post-secondary Education [CADSPPE], 1999; Keefe, M., 2007).

Holmes (2005), in an extensive study sponsored by the Canada Millennium Scholarship Foundation, finds that individuals with disabilities tend to be over-represented in Canadian colleges and under-represented in universities. Using the 2002 Canadian University Survey Consortium (CUSS) and Canadian College Student Surveys, the author concludes that post-secondary SWD are more likely to have family responsibilities and to be older than other students, while those between 20 and 34 are more likely to be female.

Jenor and Usher (2004) reach similar conclusions on the basis of the 2002 CUSS statistics that show learning to represent the dominant disability among university SWD, at close to a quarter of all disabilities. However, they add a caution that the degree of disability severity, not simply type, may be an issue when assessing an individual’s access to PSE, particularly when it is estimated that a large number of SWD do not register for institutional support services and, therefore, may indeed be under-represented in the system.
On an absolute basis, the number of SWD at HEIs appears to be increasing gradually since the mid-1990s (Tremblay, Gagné & Le May, 2004). Results of a Canada-wide study at the turn of the millennium indicate that 92 per cent of PSE institutions in Canada enrol SWD – more than 100,000 individuals altogether (Fichten, Asuncion, Barile et al., 2003). In general, proportionately more students with disabilities enrol in colleges than universities (Fichten, Nguyen, Barile & Asuncion, 2007).

Discussing Canada and other OECD countries such as France, Germany, Switzerland and the United Kingdom, Ebersold (2003, p. 3) concludes that,

There has been considerable progress in universities to include students with disabilities as non-discrimination policies begin to take effect, support improves and institutional strategies emerge. Problems still remain, however, with a lack of reliable statistics, difficulties with modes of funding for individual students and incomplete understanding of the needs of students with disabilities.

In the United States, where PSE participation by students with LD is more widely researched, studies show that LD is a factor in non-participation. High school failure rates are substantially higher for students with LD than for the general population. These students are less likely to enrol in subsequent vocational or academic programs (Blackorby & Wagner, 1996). In another study of grade 12 adolescents with LD, the percentage of students with LD who did not aspire to PSE was close to three times that of those without LD. And of those who did look forward to higher education, twice as many with LD focused on vocational training; they were three times less likely to enrol at a college (Rojewski, 1999). However, in a more recent study, Ward and Merves (2006) report that the percentage of students with a learning disability who are enrolled in a higher education institution has more than doubled over a 15-year period, from just over 15 per cent in 1988 to over 40 per cent in 2004.
PART THREE: ACADEMIC CHARACTERISTICS OF STUDENTS WITH LEARNING DISABILITY IN HIGHER EDUCATION

“Postsecondary education can be a reasonable goal for students with learning disabilities... Adolescents with learning disabilities must explore as many postsecondary options as possible, and make choices that will suit individual strengths, interests and goals. Students must be involved in planning for their postsecondary education! This role must not be taken over by parents, teachers and guidance counsellors, although all these people will be very much involved in the process.”

(LDAC, Fact Sheet: “They can get there from here: Students with Learning Disabilities in Canadian Colleges & Universities”, February 2000)

Persistence

A common theme across the literature is that poor persistence rates (that is, low retention and high dropout) generally exacerbate social inequities that are costly to society. Disability, in various forms, is a factor in perpetuating this imbalance through education.

Statistics Canada data (Brennan, 2009) show that having some form of “learning condition” can affect a person’s education, although the specific levels of education and academic fields are not indicated in the results. Commonly reported impacts are influence on choice of careers and courses (cited by close to 60 per cent of respondents with a declared LD), increased time to complete education (noted by more than 50 per cent), the necessity to attend special education classes (mentioned by close to 50 per cent) and discontinuation of formal education (specified by about 35 per cent).

In terms of continued participation to graduation at the PSE level, a 2006 study by Human Resources and Social Development Canada, drawing on data from the Survey of Labour and Income Dynamics, shows that between 1999 and 2004, the number of people with disabilities with PSE rose but significant gaps remain in comparison with people without
disabilities. For example, within these five years, the rate at which people with disabilities completed university degrees rose steadily from about 10 per cent in 1999 to about 13 per cent in 2004. This growth was found to come at the same pace as for those without disabilities, who experienced an increase from about 17 per cent in 1999 to about 21 per cent in 2004.

While the research approach and absolute numbers differ, an earlier study by the Canadian Council on Social Development (2001) covering a similar period reports that students without disabilities are close to one-and-a-half times as likely as those with disabilities to have graduated from college of university: 51.4 per cent compared to 36.4 per cent. While not encouraging, this result is an improvement over earlier statistics compiled by the Council: 48 per cent versus 31.8 per cent in the early 1990s.

Going back further, 1996 Census data as at 1995, featured in *Unison 2000*, a federal government discussion paper on Canadians with disabilities (Social Services Canada, 2000), indicate that seven per cent of males with disabilities obtained a university degree compared to 17 per cent of males without disabilities, and that for women the proportion was similar: seven per cent versus 15 per cent, respectively.

In Ontario, at 28 per cent, less than a third of the adult population with a disability has completed college or university education with a certificate, diploma or degree as opposed to close to 40 per cent of adult Ontarians who do not have a disability and who have carried through with some form of PSE program (OHRC, 2004).

In Quebec, an earlier study on the influence of gender on graduation rates of post-secondary students with LD (Théorêt & Hrimech, 1999) shows that females with LD tend to graduate from PSE institutions at higher rates than males: 32 per cent graduates versus 29 per cent non-graduates for males with LD, and 35 per cent graduates versus 17 per cent non-
graduates for females. The incidence rate of dropout from either high school or college/university is the same for both genders but the reasons for leaving differ. The men cite boredom with school, suspension/expulsion, desire to learn a trade and interpersonal problems with other ethnic or cultural groups. The women also highlight boredom as a strong reason for dropping out but other factors include childbirth and family/personal problems. Fichten (2006) also find that female graduates from CEGEP outnumber male graduates.

Canadian studies of persistence at the post-secondary level, notably, on the ability of students to continue their college/university studies from one year to the next and to complete their program (Parkin & Baldwin, 2009), do not typically highlight LD as a factor for attrition. Examination of dropout rates usually focuses on finances (availability of students loans and scholarships, for example), family background (that is, whether parents have any level of PSE), family structure (two-parent or single-parent home), parental opinions of higher education, location of family residence and upbringing (rural, urban, province), student age, gender and high school experience (positive engagement or disengagement), learning habits, academic performance (both high school and college/university), and other options open to students outside of education such as employment and travel. Academic and social integration are an overriding consideration in retention and attrition studies (Grayson & Grayson, 2003).

To this effect, results of an extensive national study (Shaienks, Gluszynski & Bayard, 2008) show that certain characteristics are repeatedly associated with higher or lower chances of staying or leaving college or university. Apart from parental and geographical influences in particular, a major factor is academic achievement. High marks in high school, above 80 per cent, are linked to and are said to be reliable predictors of higher retention and graduation from college or university. Marks in the 60 per cent range increase the incidence of dropping out from
PSE. In regard to direct research into the connection of persistence in higher education with LD, one may be tempted to posit that low grades, in some cases, may be a function of inadequate supports for learning disabilities, whether declared by or unknown to the student and reflecting lower graduation rates for students with LD.

Similarly, Grayson and Grayson (2003) determine that academic difficulties and alienation are a major determinant of poor persistence. Difficulty learning and lower Grade Point Averages as a function of a learning disability are not a factor touched on by dropout subjects.

American studies have typically determined over the years that graduation rates for young adults with LD who attend university do not appear to be significantly different from their peers without LD. One study, comparing LD and non-LD groups, reveals 37 per cent and 39 per cent graduation rates, respectively (Vogel & Adelman, 1990). These researchers also find no discernable differences in graduation at specific levels. At the bachelor level, 60 per cent of the LD group and 56 per cent of the non-LD group completed the degree. For the master and doctorate, the results are 12 per cent and 20 per cent, respectively (Vogel & Adelman, 2003). At the same time, Troiano (2003) discovers that college SWD, whose parents provide strong support for their education, are more likely to succeed academically and to be more self-supportive than students whose parents are less involved in their studies.

Course of Study

No precise data could be located on the specific courses and programs chosen by students with LD. Ebersold (2003) reports that SWD in Canada generally are not restricted in their choices unless health conditions intervene. Only one reference to a Canada-wide study could be located on this subject. Results of a NEADS national survey (Hubka & Killean, 1999) indicate that the highest proportion of respondents registers in social science/social service programs but
students with LD pursue a wide range of subjects. In this research, college students with LD mentioned all program areas, while university students with LD were mostly enrolled in general arts and sciences.

In view of the dearth of related data, the LDAC (2005c) reports results of American studies over the past two decades that show students with LD are open to and are able to access a wide range of majors, corroborating the Canadian findings.

In one study (Adelman & Vogel, 1990), close to a third of students with LD chose education, a quarter registered in business and management, 17 per cent in social sciences, 11 per cent in the performing arts and eight per cent in humanities (presumably, beyond education). Only three per cent are found to be in chemistry, computer programming and English.

Wilcenski (1993, as cited in Rath & Royer, 2002) finds that students with LD, compared with their peers without LD, enrol more frequently in the fine arts, social and behavioural sciences and in physical education than in other fields – corroborating a study going back to the 1970s by Critchley (as cited in Johnston, 1984) indicating a preference for drama, music and dance as majors. A slightly later study (Witte, Philips & Kakela, 1998) reveals a preference for psychology, history and business (between 10 and 13 per cent). Generally, a relatively smaller number of students with LD opt for sciences, engineering or mathematics, a finding attributed to insufficient accommodation on the part of instructors and/or role models (Alston, Bell & Hampton, 2002). This finding reinforces results of earlier studies showing that students with LD express difficulty with mathematics, from basic computations to more complex and abstract concepts found in algebra and geometry (Hughes & Smith, 1990).

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15 The article by Rath and Royer, which summarizes the research literature that describes the nature and effectiveness of services provided to students with LD in higher education, is particularly cogent and insightful, arguably presenting one of the clearest discussions of access and accommodations located in the literature.
All studies located demonstrate that students with LD find reading, writing and mathematics to be onerous. Moreover, even though they self-select into fields that may have a tendency to reduce the academic impact of their LD, the students tend to be less successful academically than their counterparts without LD (Rath & Royer, 2002).

The latest available comprehensive data still referenced go back to the 1994 International Adult Literacy Survey (IALS), in which Canada and seven other industrialized nations took part (LDAC, 2007), focusing on prose, document and quantitative literacy from childhood through to adulthood. In the 16 to 21 age group, a larger percentage of males to females with LD consistently report difficulty in these three areas. For both sexes, these skills are rated lower relative to individuals without declared LD. For example, when asked to rate the writing skills required in daily life, close to a fifth of the population aged 16 to 21 with LD rate these skills as poor compared to 1.5 per cent of the population without LD in the same age group. Another strong difference in these populations is found in math skills needed in daily life: 40 per cent of the population with LD rate this skill as moderate or poor compared to about 13 per cent of the population without LD. A thorough analysis of this research is posted on the LDAC website, under PACFOLD 2007.

Factors for Success in Higher Education

All the literature reviewed emphasizes that learning disabilities are lifelong. The way in which they are expressed may vary over an individual’s lifetime, depending on interaction between the environment and the person’s strengths and needs (Boulet, 2007). LD is suggested by unexpected academic under-achievement, or achievement that is maintained only by unusually high levels of effort and support, despite adequate performance on intelligence tests.

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16 The 1991 census file was used to select francophones from Ontario. The national Labour Force Survey sample file served as the database for all other respondents.
Sauvageau (1998) notes that information processing deficit is the primary and explanatory characteristic, while secondary features are motivational deficits, low self-esteem, insufficient self-regulation and a passive approach to learning. The latter are considered by-products of academic problems, not their cause.

Consequently, factors of success in higher education, notably, in terms of retention, are both extrinsic – assistance by others, and intrinsic – self-assessment of strengths and weaknesses and appropriate compensation. Coping mechanisms developed in the formative years are enduring skills. However, as also noted earlier, the literature suggests students with LD often resist formal supports for fear of being isolated or labelled as inferior, or they have not been diagnosed formally as having LD and may attribute failure to poor instruction, boredom and lack of self-discipline. Research has shown that youth with LD have low rates of attendance, and high rates of procrastination and avoidance of studying (Murray & Wren, 2003).

Improved understanding of these barriers and reticence to access available supports by post-secondary students with LD, on the part of educators and administrators in PSE institutions, may lead to higher rates of success in higher education for this population (Kuba, 2006). To gain such understanding, it is important to explore the attributes of students with LD who are both successful and not successful in higher education. This information is valuable to development of policy initiatives and programs aimed at reducing obstacles and facilitating accessible education for students with LD.

Students with LD have diverse strengths and skills and have varying degrees of awareness of their abilities, experience different levels of family support and educational experiences in primary and secondary school, and face different social and academic situations in post-secondary institutions, all of which contribute to or mitigate their success at the
postsecondary level. By understanding these factors, instructors and administrators who interact with these students are better able to develop appropriate accommodations for programming, student counselling workshops, and orientation for students and faculty.

Following are highlights of representative research conducted over the past 20 years that contribute to the body of knowledge of success factors for students with LD in the PSE system and, through this knowledge, aim to improve structural supports that, in turn, will increase student success in terms of actual participation, retention and graduation. The majority of the studies are American unless specifically indicated as Canadian, and are presented thematically, not chronologically or in any order of priority.

**Intrinsic Factors**

**Persistence, positive and pro-active approaches.**

In a qualitative study involving 50 young adults with LD, Spekman (1992) identifies 10 specific behaviours and traits of the successful students: high level of self-awareness and acceptance of their learning deficit, persistence, ability to handle stress and to deal effectively with ambiguity and frustration, good peer relationships, strong internal locus of control, established goals and plans of action, optimistic outlook, use of support systems created for them or mentoring relationships developed by them, and a pro-active approach. The less successful or unsuccessful students display discomfort with and deny having a LD, experience challenges in reducing stress, have higher anxiety levels and an external locus of control, do not have goals, and are reactive in problem solving.

In a comparable qualitative inquiry, Stage and Milne (1996) find that students with LD who are most successful exhibit a high level of motivation, a realistic and positive view of their abilities, positive interaction with faculty members – preferably one-on-one, and with both tutors
and peers. The students interviewed for this study, who are all strongly aware of their strengths and weaknesses and have a greater academic self-awareness than their peers without LD, are dissatisfied with tutors’ inadequate training, lack of familiarity with LD and the specific learning strategies and instructional techniques that could be employed to deal with unique academic issues they experience.

**Self-awareness and self-determination.**

Citing famous American political and entertainment personalities such as Franklin Roosevelt, Ray Charles and Stevie Wonder, Miller (2002) determines that resilience, succeeding “against the odds”, adapting to stress, persevering and re-framing situations are predictors of success for students with LD. The researcher posits that “it is important for the individual to make statements of self-determination and to take steps toward accomplishing stated goals” (p. 297) and at the same time to be aware of the impediment to resilience – that is, learning disability. Individuals can change and become more resilient with the assistance of structural supports.

Correspondingly, Paul (2000) states that one predictor of success for students with LD in higher education is their acceptance of their disability. This allows them to understand their situation and to seek the appropriate assistance. His review of various studies corroborates the position that formal supports such as advisement contacts can be effective depending on how suitable they are to the individual.

Troiano (2003, p. 411) observes from his study that “students who experienced a high degree of support were better able to define the nature and condition of their disability, and had developed a strong internal orientation. Students who did not experience a high degree of support were struggling to make meaning of their disability and maintained an external
orientation”. An internal locus of control, or orientation, is attributed to the more successful outcomes and adjustment to PSE in regard to their learning disability.

Troiano (2003) emphasizes that how “students define their disability, integrate it into their sense of self, view its form and duration, and experience its impact are all relevant to planning appropriate interventions” (p. 417).

Indeed, Stephenson (2002) in Ontario stresses that students’ self-awareness of their strengths and needs is a key success indicator in very pilot project undertaken by the provincial government task force on learning.

The LDAC (2000) points out that students must be able to match their abilities with program requirements and to plan for a career in their areas of strength. They should “not undervalue their strengths”. They can succeed at the PSE level when they can self-determine their skills and make their own choices for academic programs and accommodation.

Field (2003) finds that specific personality markers and environmental factors such as self-determined role models and skill instruction, positive communications and relationships, and availability of supports all contribute to success for students with LD. In particular, the notion of “self-determination”, discussed in the context of the individual’s ability to behave autonomously and to understand his/her strengths and capabilities as well as limitations, is central to his/her success. Students who are self-determined and have opportunities to make their own choices for accommodation within support programs are more successful in achieving their goals. Field defines “self-determination” as “a combination of skills, knowledge and beliefs that enable a person to engage in goal-directed, self-regulated and autonomous behavior” (p. 339).

The National Center on Secondary Education and Transition (NCSET, 2004) refers, simply, to self-determination as “a concept reflecting the belief that all individuals have the right
to direct their own lives. Students who have self-determination skills are more likely to be successful in making the transition to adulthood” (p. 5). *(Refer to the next section of this review on Transition to Higher Education.)*

Abreu-Ellis (2007), who refers to PSE students as “Millennials” (p. 28) – that is, individuals born between 1982 and 2002, indicates they already have the ingredient of self-awareness in their characteristic self-confidence, the belief they are special, and the inclination to achieve high academic standards. While they are generally described as team players who rely on others for support, particularly parents who are their main role models, they also have a higher incidence of attention deficit disorder, to which learning disability has been linked.

The importance of self-awareness and self-esteem as success factors are not a novel finding; they corroborate results of studies going back at least two decades and follow through on longstanding recommendations for more inquiry. For example, Saracoglu, Minden and Wilchesky (1989) expressed a need for further research on the effects of self-efficacy beliefs on the academic, social and emotional adjustment of university students with LD.

In research by Chaplin (2011) it was found that transition was experienced as a mixed emotional experience for students with learning disabilities. Factors contributing to students’ success included the use of previously identified success attributes (Goldberg, 2003) including: self-awareness, pro-activity, emotional support, utilizing a support system, having appropriate goals, and students’ perseverance. Chaplin’s (2011) research also found that students’ motivation and resilience played a significant role in students’ abilities to persevere and navigate through encountered obstacles.
Extrinsic Factors

Family and faculty.

Based on a limited study of personal belief, attitudes, feelings and accommodations used by learning disabled students at an American college, Branker (1997) determines that successful students with LD can confidently and firmly define why they do well academically in their college studies. However, they attribute sociological rather than psychological factors to their achievements such as a supportive family, flexible academic services that permit extended test time and priority scheduling, and faculty who appreciate their situation and are comfortable teaching them.

Similar findings by Duquette (2000) in a Canadian study at a large Ontario university suggest that goal commitment, flexible and empathetic professors, and moral support of the support systems (friends and family) are instrumental for students with LD in realizing successful outcomes.

These results reinforce other research detailed in the literature indicating that students’ self-awareness and motivation as well as a welcoming environment, including instructors who are confident in the academic potential of students with LD and in their own instructional abilities, contribute to their accomplishments.

Finances, social and academic supports.

Murray and Wren (2003) focus on cognitive, academic and attitudinal predictors of college Grade Point Averages among students with LD. They identify several key environmental factors for levels of academic performance, notably, ease of access to financial resources, extent of social support, type of academic support, and degree of stress in their lives generally. Intelligence quotient and prior scholastic achievement levels are not strong predictors in
influencing marks. Variables other than traditional cognitive and academic skills are important in determining success. The researchers’ findings may have application for PSE admissions practices, suggesting a review of traditional cognitive assessment methods and measures, and for high school counselling and goal-setting activities for students with LD looking at higher education options.

Based on research at a “minority-serving institution” (Reed, 2005, p. i) placed in the context of earlier study, a five-part model is proposed to foster student success in higher education that focuses on: improved access and retention mechanisms for students with “disadvantaged backgrounds”; availability of campus support services; a social safety net for low-income students through public vocational rehabilitation services; family and teacher support; and inner strengths – notably, optimism, persistence and gratitude. These features are in line with and reinforce other studies noted above.

Estrada, Dupoux and Wolman (2006) investigate the relationship between locus of control and students’ adjustment to campus life both socially and personally. Their findings indicate no difference in the locus of control orientation between students with and without LD, and in the personal-emotional adjustment to college life. In other words, students with LD are adjusting as well as their peers without LD “with appropriate encouragement and scaffolding” (p. 52) – an unusual outcome that suggests duplicate studies should be conducted to confirm this result.

In a recent study of personal educational experiences of post-secondary students with LD in Manitoba, Nicholson (2008) discovers that the pre-school and primary school systems themselves, to some degree, are a barrier to future academic success at higher levels. The researcher suggests solutions may be found in early detection that students are experiencing
difficulty accomplishing expected learning goals at given ages; wider use of comprehensive assessment programs during the early years of education to identify students who may require interventions; implementation of alternative approaches to support based on specific learner profiles if typical methods are not effective; and recognition and cultivation of individual student strengths and interests for assisting students to reach their potential in a positive school attachment.

Generally on the subject of success for students with LD, the research is relatively silent on factors related to diversity associated with socio-economic backgrounds (apart from studies such as Reed, above), religion, ethnicity, culture, and primary language spoken at home. Understanding the influence of these factors would enhance the ability of instructors and administrators to improve access initiatives and support mechanisms for all students with LD in higher education.
PART FOUR: TRANSITION TO HIGHER EDUCATION

“Transition planning does not guarantee attainment of the goals; however, the lack of appropriate transition planning to higher education can serve as a significant barrier to success.”

(Belch, 2005, p. 7)

Secondary School Transitional Support and Resources

Statistics from 2003-2004 show that Ontario ranks among the highest of any Canadian province or American state in terms of reported incidence of students with special needs (Bennett & Wynne, 2006). Close to half, at 43.1 per cent, of the special education population within Ontario’s secondary schools are composed of students with learning disabilities. However, the extent to which transition planning for students with LD has become common educational practice in the Canadian context remains unclear (Nicholson, 2008).

Transitional services and programming are important aspects of access to higher education for students with learning challenges. Kuba (2006) notes that students with LD who make a successful transition into post-secondary education typically exhibit seven characteristics:

1. They follow-through on preparatory research and experiences.
2. They are involved and integrated on campus socially.
3. They manage their learning disability pro-actively.
4. They take advantage of available support resources.
5. They are effective problem solvers.
6. They utilize a strategy-based approach to their transition into PSE.
7. They are aware of their strengths and know their personal goals.
In addition, prior to entering PSE, many students with LD rely on high school service providers and diligent parents to advocate on their behalf. However, once they are within the higher education system, students must learn to self-advocate in order to access the services and accommodations available to them.

Research on students with LD who do not make a successful transition to higher education shows they have higher unemployment rates and long-term underemployment than students with LD who are able to make the transition.

In a study involving African, European and Hispanic American males with LD, Trainor (2005) determines that students identify themselves and family members, not teachers, as key players in transition planning and perceive that self-determination efforts are thwarted in the school but are encouraged and more accessible in the home environment. Five key themes emerge from this research:

1. Students need ongoing opportunities to reflect and discuss their future goals.
2. Students’ curriculum should be coordinated with their goals.
3. Transition teams must include all stakeholders in the students’ transition planning meetings.
4. Parental and family participation in the support and transition of students is paramount.
5. Examining and exploring both the inhibitors and enhancers of students’ levels of self-determination are important to transition success.

A common theme in the literature over time relates to a strong connection between high school and post-secondary personnel as integral to the preparation for and transition to higher education by students with LD. For example, Brinckerhoff, Shaw and McGuire (1993) report positive outcomes on this point. Likewise, Janipa and Costenbader (2002) determine that
increased communication between secondary and post-secondary service providers is imperative – and lacking. The coordinators of special services for SWD, whom they surveyed at 74 colleges and universities in New York state, rate students’ preparation for self-advocacy as the greatest weakness of current transition services. Gregg (2007) stresses that aligning secondary and post-secondary institutions to create fluid academic pathways for SWD is not easy to achieve, but the partnership is imperative for a successful transition for these students.

Similarly in Canada, Bennett and Wynne (2006) highlight the priority for government to encourage cross-communication and more effective collaboration among service providers. Based on a study of experiences of SWD at an Ontario university, Abreu-Ellis (2007) also encourages strong links between PSE institutions and high school teachers and administrators to facilitate the identification and transition of students with LD to higher education. Abreu-Ellis recommends that this bridging be reinforced by faculty training in working with students who have “hidden disabilities” (p. iv) and classroom strategies for reducing the stigma of LD.

Government and institutional funding are critical to supporting these disability service providers.

**Successful Transition Factors**

**Intrinsic Factors: Self-Advocacy and Self-determination Skills**

In Part Three of this review, self-advocacy and self-determination skills and strategies figure prominently in the literature as important success factors for students with LD in higher education. The same holds true in the literature on successful transition to higher education. For example, Field (2003) observes that,

College students with learning disabilities need to have a sense of themselves as individuals who make decisions about important matters in their lives. They need to understand and value themselves, and they need to take actions according to responsible plans in order to achieve their academic goals. Finally, they need to exhibit the behaviors indicative of
reflective thinking and self-awareness consistent with an accurate evaluation of outcomes, (p. 343).

In an independent study by Reiff (2004), college students with learning disabilities engage in a “process of self-discovery and self-actualization” (p.185). Results of the study indicate that students require opportunities to understand, to discuss, and to process the unique attributes of their learning disability in order to advocate, to understand, and to communicate better their needs within the higher education system. Reiff stresses that students with LD must become more knowledgeable about themselves to be in a better position to understand their strengths and weaknesses. Reiff notes that “students cannot effectively advocate for themselves if they do not understand what they need – and what they do not need” (p. 196). He cogently concludes that,

Being called ‘learning disabled’ tells students little about themselves. Broad and generic definitions of learning disabilities do not help individuals understand the specific implications for themselves. Reviewing their evaluations allows students to move beyond a general and vague awareness of learning disabilities to develop an individual, personal, and even intimate sense about how they learn.

Sabel (2000) concurs that development of self-advocacy and self-understanding is significant for the transitional success for students, adding that participation in academic skills training and the involvement of parents and family as essential factors. However, Smith et al (2002) find that students with LD tend to be conditioned to be dependent on their parents to stay on track and for decision-making, even when they report strong self-esteem.

Janiga and Costenbader (2002) assert that transitional services at the PSE level must include a mechanism to inform students about their learning strengths and weaknesses and facilitate an understanding of their particular disability, as well as provide instruction and
information on career-decision making skills. Typically, career services are not a strong consideration at the start of a student’s journey into higher education.

In other research, Konrad, Fowler, Walker, Test and Wood (2007) conducted a literature review on self-determination and students at the post-secondary level with learning disabilities. They identify 34 self-determination studies, leading to three key conclusions as the basis for future practice:

1. Self-management skills are a significant aspect of achieving self-determination behaviours.
2. Teaching self-determination skills serves to enhance students’ academic skills development.
3. Self-management combined with goal setting can increase students’ productivity.

For additional information on promoting self-determination for students with LD transitioning from secondary to post-secondary education, Bremer, Kachgal and Schoeller (2003) provide a concise and comprehensive overview in “Research to Practice Brief. Self-Determination: Supporting Successful Transition”, a NCSET publication available at: http://www.ncset.org/publications/viewdesc.asp?id=962

**Extrinsic Factors: Academic, Life Skills and Supports**

Eaton and Coull (1997) in Smith, English and Vasek (2002) identify several of the most common difficulties faced by students with LD as they begin their first year in higher education: time management, developing friendships, disclosure, study skills, goal setting and support networks.

Hill (1994) finds that students attending a small university in Canada (under 10,000) express more satisfaction with the policies and their experience with the supports than students
attending a larger university. However, the difference is marginal, and more than 60 per cent of the students canvassed are unaware of the disability-related policies and services in effect at their institution. In this study, graduate students express a higher degree of satisfaction with the policies than undergraduate students, and diploma students are more encouraged by their experiences than degree students. Further empirical research may be required to replicate this finding and to determine whether there are significant aspects of the experience on a smaller post-secondary campus that administrators of larger institutions may want to consider for programming and policy creation purposes, and differences among program types that have an impact on their effectiveness for students with LD.

Reiff (1997) concludes that the educational environment of smaller institutions that offer smaller classes, direct contact with instructors and greater administrative responsiveness to individual student concerns provides “an ideal foundation for meeting the needs of at-risk students” (p. 439).

Livingston (2008) observes that smaller institutions may have an advantage in their ability to provide more one-on-one consultation with students, although this plus may be obviated by a struggle for resources to promote their services effectively. Generally, the success of accommodations is not a function of university size although larger institutions have more resources in terms of staff and services.

Goldberg et al (2003) propose that PSE services must identify, at the outset, the necessary factors that contribute to successful academic outcomes when planning intervention programs and services for students with LD. This observation and Hill’s earlier Canadian research suggest heightened communication may be useful on formal supports in place through policies and
services, both during the initial transition period and throughout the year, online and interactively, inviting student comments and concerns.

In another widely-cited discussion paper on challenges with transition (NCSET, 2004), numerous recommendations are made toward enhancing students’ successful movement to higher education. While the focus is on American students, the majority of the concepts are transferable to administrators in jurisdictions outside of the United States. Moreover, each proposal delineates the steps required to achieve each goal, lifting theoretical constructs to the practical. Highlights of the key points follow:

2. Clarify the implications of diploma options for SWD.
3. Increase parent participation and involvement in education planning.
4. Improve collaboration and systems linkages at all education levels.
5. Ensure a qualified workforce is available to address the transition needs of youth with disabilities.

In a study by Janiga and Costenbader (2002), respondents are asked to list three ways in which high schools could improve transition services for students with LD who enrol in post-secondary education. The top 10 suggestions are:

1. Improve students’ self-advocacy skills (by three-quarters of participants).
2. Increase students’ understanding of their disability and needs.
3. Improve students’ study skills and develop independent learners.
4. Ensure students have adequate reading and writing skills.
5. Educate students and parents about disability-related legislation.
6. Foster realistic expectations and goals on the part of parents and students.
7. Teach students time management skills.
8. Use more assistive technology in high schools.

9. Encourage students to take higher level high school classes (e.g., math).

10. Provide career orientation for students.

Similarly, Skinner (2004) concludes on the basis of a study involving recent college graduates with LD that successful transitions result from awareness of psycho-educational evaluations, disability law, accommodation and course alternatives; self-advocacy skills; a good support system; the ability to persevere and to handle stress in challenging circumstances; and to set goals that are followed.

Smith et al. (2002) indicate an expectation that first year students come ready and competent to navigate successfully their new environment. Foley (2006) reinforces this point, noting that adequate preparation must include an array of additional non-academic skills such as time management skills as well as appropriate prerequisite courses for success in the PSE environment.

Regardless of perceptions and levels of transitional services, the differences between secondary and postsecondary education for all students are plentiful, and bridging these two entities is the logical step toward achieving more positive student outcomes in enhancing access.

The current commentary on and recommendations found in the research on transition to higher education appear to have held over the years in terms of established priorities for students’ successful transitions and the necessary skills for achievement once in the PSE system. For example, one of the earlier studies on self advocacy skill training by Roessler and Brown (1988) indicates that students lack self confidence and a comfort level in self-advocating and communicating needed academic accommodations to their instructors. Aune (1991), in discussing a model for preparing students with LD to transition into higher education,
recommends eight core elements to an effective transition that resonate with the current literature. Specifically, students need assistance selecting appropriate coursework, study strategies, career exploration, awareness of post-secondary options, selection information for specific institutions, understanding accommodations and procedures, instruction in interpersonal skills, and self-advocacy training.

A review of this literature confirms that self-awareness and thorough, open discussion and reflection of the student’s learning history and unique learning attributes should contribute to students’ success of self-advocating and being able to transition to a demanding higher education environment utilizing the proper supports, appropriate to their needs. Academic and life skills are attained more readily with the skill to self-advocate.

**Orientation**

In searching the available literature on this topic, only one resource found on orientation planning for students with LD in higher education. Richards (2000), in her doctoral dissertation, *Orientation for Students with Learning Disabilities: To Plan or Not to Plan*, discusses an evaluation study investigating the effectiveness of an orientation program designed specifically for students with LD. Findings indicate that the program does in fact assist students in getting to know the campus, its resources and services, thus increasing the likelihood of students achieving more successful outcomes, with the assumption that their familiarity of resources would lead to greater use of available supports. The sample size of this report is limited to 22; future research is suggested to include a larger sample size. Likewise, it is proposed that comparative studies would increase the knowledge base in offering transitional support to different student populations. Lacking in this study is a discussion of other orientation events and the participation
in these activities by students with LD, in comparison with their feelings regarding their experience of a specialized orientation program for students with LD.

In addition to the aforementioned American research, a number of discussion papers have been published by NEADS in Canada and other disability-related organizations, providing insights into making these events accessible and planning for inclusive orientation, and student affairs-related guidelines on including SWD into programming and planning objectives. For more information on these resources as they relate to orientation, two specific sources are recommended:

- University of Minnesota’s Disability Services: http://ds.umn.edu/Outreach/

Transitional resources for students with LD are plentiful. However, the research remains focused more on the skills necessary for successful transition rather than on evaluative research on transitional programs and qualitative feedback from students of their experiences transitioning to higher education. For additional insight into this topic, discussion of a NEADS (2001) initiative, “The High School Outreach Project”, is recommended. It can be accessed at: http://www.neads.ca/en/about/projects/ highschool/

**Challenges of Summer Transitional Programming**

Ontario prides itself as being a leader in providing services to students with learning disabilities, yet there is no accepted standard of practice for transition programs for these students (Reed et al, 2003). Likewise, too often the excuses of funding and low staffing are used to rationalize the lack of cooperation in supporting this student group (Reed et al., 2003). Challenges arise with funding, staffing, and finding the time to create the appropriate workshops and trainings. A wide range of resources are available among the various post-secondary
institutions, with some programs more fully staffed and able to take on this kind of programming, and other programs stretched to the limit and unable to provide the level of supports and services they would like to provide to students.

While research by Hill (1992) goes back close to two decades, many of the issues encountered at that time remain, due to the increased number of students being served and the strain on resources for providing adequate support and programming. One of the first Canadian researchers to focus on university services programs and supports from the student’s perspective (Livingston, 2008), Hill (1992) finds a number of major obstacles at Canadian universities trying to provide services to students with LD, notably, lack of funds, staff and resources; accessibility on campus; procedures for the identification of students with disabilities; obtaining adaptive equipment and materials; soliciting volunteers; faculty and staff attitudes; over-reliance on services by the students; and an insufficient number of students for effective lobbying on behalf of their interests for more resources and specific program development.

Cox and Klas (1996) determine that programs in Canada for students with LD vary widely in breadth of services, ranging from initiatives guides by specific institutional mandates to no interventions.

Despite the increased availability of summer transition programs on our campuses, relatively little information is available to determine the level of effectiveness and outcomes of these transitional undertakings. While many of these initiatives may implement program reports and examine outcomes and future priorities, many of these documents remain internal to the institution, with little opportunity for other service providers, policy makers, as well as the families and students being served to be able to access this information unless shared at conferences or at divisional meetings. Research pertaining to the goals of these programs, course
and/or workshop length, topics of discussion, feedback from stakeholders, the funding parameters, and expected outcomes would have effective utility if provided online for review.
PART FIVE: INSTITUTIONAL SERVICES AND SUPPORTS

“Disability Service Providers are committed to developing the highest educational potential of students with disabilities by assisting them in accessing appropriate academic accommodations and services. They respect all students as adult learners with unique learning strengths and life experiences and strive to assist them in becoming independent lifelong learners. Disability Service Providers encourage the use of Assistive Technology and the practice of Universal Instruction within their institutions.”

(College Committee on Disability Issues, 2006)

Awareness and Access

As indicated earlier in this review, post-secondary institutions are responding to legislative and regulatory imperatives to increase access by expanding services and supports for students with disabilities. Whether these initiatives, such as teaching techniques and technologies and assessment methods, are being utilized by students and by faculty and administrative staff effectively – indeed, whether they are cost-efficient, effective for the students for whom they are designed and understood by the parties required to implement them, has inspired debate and requires further research.

Among the attendant issues signalled in the literature are students’ unwillingness to subscribe to the services for fear of being singled out, unawareness and/or lack of training of faculty in tapping into available resources, and the omnibus approach to the services that does not always dovetail with the unique needs of students resulting from a diverse range of academic backgrounds, aptitudes and attitudes, and the various academic disciplines and programs with markedly distinct instructional and evaluation approaches.

Michalko (2002) takes a broader view of the inherent issues with the utility of formal supports, asserting that university disability resource centres “are governed by the understanding
that disability is solely a ‘technical problem’ requiring techniques and technologies conceived of as the best solution’ to dealing with disability (p. 160).

Learning disability support services first appeared in Canadian universities in the mid-1980s in the form of specifically designed centres (Cox & Klas, 1996). They included a variety of large and small institutions across the country, including Memorial University, St. Mary’s University, the University of Western Ontario, the University of Alberta, the University of British Columbia and York University. At the time, 10 per cent of the universities surveyed offered no support services for students with LD while about a fifth had developed written policies (McKee, 1987, in Nicholson, 2008). That study reported a low usage rate where the services were available because students had to self-disclose their needs. In 2009, a large number of universities offer support services (McGill, 2009) although they are still not fully utilized.

Ethical Guidelines for PSE institutions in Ontario, the College Committee on Disability Issues (CCDI, 2006) insists that staff and faculty who develop and deliver these support services must continually monitor their plans and practices to ensure they meet students’ changing needs, recognizing their own personal biases and experiences as service providers. To this end, they must work jointly with the students to enhance their coping skills and learning strategies, ultimately, to empower them to self-advocate on their own behalf, and to devise integrated, individualized accommodations to minimize the impact of the disability, to maximize performance and to promote independence. Collaboration among students, faculty and community services for support is also recommended as long as the student’s privacy is protected.

In a Canadian study of collaborative learning experiences of students with LD at the public school level, Taylor (2008) examines the active process of distributing thinking among
groups of two or more students studying science, toward a common learning result and individual understanding that build self-confidence and social competence as a gateway to academic success in life and at higher levels of education, in an inclusive, safe environment. In an earlier study examining inclusive post-secondary education systems in Alberta, Weinkauf (2001) notes that active inclusion in higher education learning communities that embrace all students regardless of the type of disability, utilizing the existing learning setting and expertise of professors, is essential to success for students with disabilities. Rioux (1999) describes inclusive education as a “barometer” (p. 97) and extends the notion of ‘inclusion’ to the realm of “inclusive literacy” – that is, the way communication is designed, beyond reading and writing. The former president of the Roeher Institute at York University in Toronto comments on the “optimism” (p. 97) created when a major Canadian university collapsed a special education program into its regular teaching training degree on the basis that every teacher has to be a special education teacher.

A commonly-cited Canadian broadly-based study dating back close to two decades focuses on the work of disability service coordinators at 46 universities across the country during one academic year, 1989-1990, and obstacles therein (noted in the previous section of this review under challenges of summer transitional programming). At that time, Hill (1992) learned that the average caseload was 65 students per service provider; and students most often became aware of specialized services through direct contact with the student services office prior to admission to the institution, referral from high school guidance counsellors and/or special education staff, or the university faculty and/or advising staff. About half of the service coordinators were full time staff at small institutions, compared to two-thirds at larger institutions.
In a companion study, Hill (1996) explored the experiences and perceptions of SWD of disability-related services on campus. Input on the basis of 264 student questionnaires indicated that about a third of the students felt their needs were not being adequately met. A third of the students were also displeased with their faculty interactions with respect to their disabilities, and about a tenth of the students reported pursuing a disability-related accommodation. Close to a quarter reported delays in receiving services, although the overall effectiveness of these services was rated good to excellent. One-third of respondents also said a lack of accommodation from an instructor had seriously impacted their ability to pursue PSE. Reinforcing results of the researcher’s earlier study and featuring key outcomes that have been replicated at least in part by other studies documented in the literature since 1996, Hill underscored that SWD experience challenges on campus largely due to (1) a perceived lack of disability awareness by faculty, staff, and other students; (2) inadequate staffing of disability services and (3) issues surrounding conduct of and information relayed by disability services staff. Hill recommended that universities be more creative in marketing and promoting awareness of disability services on campus; implement services during orientation; develop courses for students that cover self-advocacy, study skills and communication with faculty and staff; and ensure operating budgets are sufficient to administer the services.

**Referrals**

Correspondingly, in only a handful of studies centred on referrals specifically, Mellard and Byrne (1993) determine that students learn about LD services from various sources, in particular, referral by staff and faculty to the campus disabilities services office, in addition to high school instructors, HEI counsellors, orientation events and publications, books on LD programs at different colleges and universities and through word of mouth. Examining the
STUDENTS WITH LEARNING DISABILITIES: ACCESS TO HIGHER EDUCATION IN CANADA

process of referral to disability services at 103 community colleges in California, the research also focuses on students’ ethnicity and age as factors for referral. Students in the 50-and-over age group are found to be under-referred, while students aged 18-19 are over-referred. Asian and Filipino students are seemingly under-represented or under-referred, whereas American Indian and other students of colour have a higher rate of referrals. Future research is suggested to address the specific factors that lead to students being referred for disability services. Likewise, information on how students become aware of support services and come to them would be useful information for service providers to build awareness.

Hartman-Hall and Haaga (2002) suggest that getting students to take advantage of support services may be an obstacle in itself. They claim that how a student views his/her learning disability can be a large determinant of readiness and willingness to seek out support services. Some students may try to succeed on their own once they are in the higher education system rather than feel dependant on the support services available to them. Additionally, in this study, some students say they see university as a “fresh start”, and they want to fit in and not to feel different than students without disabilities. Students’ ease in integrating their disability into their self-identification usually has a lot to do with their social support systems and the messages students believe they are receiving on the meaning of having a learning disability.

Unfortunately, many students who shy away from support services at the beginning of the semester soon realize they need accommodations and assistance, but this acknowledgement does not occur until they have already experienced failure or disappointments. Fichten et al (2003), based on a study examining post-secondary services for students with disabilities in Canada, posit that between half and three-quarters of SWD do not register with disabilities services. In another Canadian study with SWD, Duquette (2000) identifies five variables contributing to
students’ willingness to access support: self-understanding, level of acceptance or denial of the disability, availability and quality of intervention, prior experience with similar services, developmental life stage, and motivation and goals.

With increased response by higher education institutions to legislation promoting access to PSE, including students with LD, more students with special needs may avail themselves of the special resources being provided. To date, there appears to be little research on the students with LD who decide not to register for such campus services – in particular, to determine why some students choose to utilize supports and why others opt not to self-identify and to take advantage of these services. Current input of this kind would enable institutions to respond more effectively in developing and championing their initiatives.

**Accommodations**¹⁷

Gregg (2007) observes that, in order for an accommodation to be provided, the law requires that an adult with LD must demonstrate “substantial limitation” compared to “the general population.” He goes on to state:

> The definition of substantial limitation continues to be vigorously debated. The popular but empirically unsubstantiated perspective, one that stresses achievement below the statistical average (i.e. cutoff model), devalues clinical decision making that entails a careful weighing of multiple sources of information. Cutoff models also ignore the importance of the learning context, task demands, and task format, all of which influence an individual’s performance, (p. 221).

Livingston (2008) emphasizes that, for an accommodation to be effective and, ultimately, to ensure academic success in terms of retention and graduation, the needs of the student must be assessed properly for the most suitable services to be provided.

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¹⁷ Definitions of “accommodation” are provided in Part 2 of this review.
Examining students who utilize academic accommodations for their learning disabilities, Trammell (2003) investigates whether academic accommodations provided by disability services at a higher education institution demonstrate statistical validity of significance in improving their year-end grades. Trammell comments that little research has been conducted specifically in this area, as the focus has largely been on the elementary school level. Trammell’s work, involving 29 SWD at an American college, supports the theory that accommodations have an impact on the grades of many SWD, although more substantive research is necessary to corroborate this result.

A complicating factor in reaching conclusions on this matter is that students are found to attribute their success to greater personal effort rather than to external accommodations, which may simply serve as a motivational tool boosting their confidence rather than as an academic tool (Ring & Reetz, 2000, in Trammell, 2000). In addition, as emphasized in the literature detailing other studies on institutional services more broadly, the effectiveness of accommodations is hampered or assisted by the attitudes and actions of faculty. One study finds that instructors are more willing to provide additional time to complete an exam than to alter the exam format, having an impact on the effectiveness of this accommodation (Vogel, Leyser, Wyland & Brulle, in Trammell, 2000).

Ofiesh and McAfee (2007) posit that many of the accommodations proposed by professional providers for post-secondary students with LD take into account overall course demands, the nature of the academic field – whether math, science or language based – and the student’s functional limitations.

In an earlier study, Ofiesh and McAfee (2000) surveyed close to 100 service providers to students with LD in the United States to determine how service delivery decisions and accommodations are made. Not surprisingly, findings show that the most utilized aspect of
psycho-educational testing in determining a student’s accommodations is the diagnostician’s recommendation. Less than half of the institutions provide evaluation for foreign language acquisition skills, study skills, learning strategies, adaptive behaviour and self-advocacy. More than half of the practitioners expressed dissatisfaction with informal alternatives to testing as a basis for developing service delivery plans, which they deemed “notoriously unreliable” (p.22). This result resonates with practice in North America more broadly, as a large number of interventions offered are not based on hard research data but more likely on observations and general recommendations. The researchers suggest policies be developed in particular for tests to determine foreign language requirement exceptions for students with LD and further empirical research on service delivery decisions and accommodation recommendations.

On a related subject, a brief but concise report by the U.S.-based National Joint Committee on Learning Disabilities (2007), which represents 13 organizations advocating on behalf of individuals with LD, delineates the key concerns regarding disability documentation for post-secondary disability services and ways in which secondary and postsecondary services can be better coordinated, embracing school personnel, families, postsecondary faculty and staff, policymakers and students. A major issue is with the “disconnect” (p. 265) between the nature and extent of disability documentation generated during the student’s time in public school and the documentation needed to access higher education. The discussion reinforces the pathway-focused literature in the transitions section of this review. While primarily American, the paper- and web-based references and sample summary of performance guidelines and forms listed at the end of the report contain general principles that are transferable to the Canadian context.

Reed, Lund-Lucas and O’Rourke (2003) reinforce the theme prevalent in the literature that students’ access to appropriate accommodations is instrumental to their success in higher
education. However, gaining “appropriate” supports is often hampered by outdated psycho-educational assessment at the secondary school level. In their Ontario study, students had arrived on campus with an evaluation going back many years, contrary to guidelines and requirements of most disability service programs for more current documentation, prepared within three-to-five years of application to a PSE institution. The challenges identified are in the need for proper referral for testing at the secondary school and for adequate and effective transitional programming and adjustment while still in public school; lack of affordability of testing; and the waiting time for proper assessment and interpretation of testing results.

As a consequence, many students arrive at a college or university without updated assessments, in addition to those just discovering they may have a learning disability that has possibly gone undetected or without formal diagnosis or services while in high school. For these students, access to accommodations presents difficulties, and it is commonly up to the discretion of the service provider within the disability services office to decide whether or not bridging accommodations can be provided to the student for the interim until proper testing results can be delivered. While temporary accommodations can be helpful, the obstacle to access is increased due to the instability of the ad hoc services and the inability of the student and/or service provider to communicate clearly with faculty in regard to the student’s needs. Future research on best practices in addressing this particular problem would be valuable for students with LD and disability service providers aiming to provide accommodations in a timely and more seamless manner.

At its core, accommodation attempts to level the playing field among individuals with and without disabilities been the traditional approach to enabling equal access to education, aiming to work with existing handicaps. An alternative and controversial perspective, from an
evolving science called neuroplasticity and attendant body of literature, focuses on treating the particular disability such that accommodation is not necessary. The view is that accommodation is a band-aid solution to a lifelong problem; its effectiveness is a function of the quality and suitability of services provided. Doidge (2007), a Canadian psychiatrist and psychoanalyst, asserts that the brain – its structure and function – can change itself, with the use of thought, based on ongoing work with a variety of disorders and disabilities, including anxiety and learning. Imaginary mental rehearsal is found to be able to modify the brain, but the changes are accomplished through systematic mental work that is exhausting and may not be suitable or effective for all individuals (McParland, 2008).

**Staffing and Resources**

Knowing the characteristics and training backgrounds of disability service providers can be instrumental in forecasting professional development and training needs and in aligning this training with best practices based on their experiences working with students who have LD.

In a cross-country, U.S.-focused survey profiling the characteristics of disability support coordinators conducted by the National Center for the Study of Postsecondary Education Supports (2000), close to half of the coordinators are found to have less than five years of experience in their present position, about a quarter have between five and 10 years of experience, and the others have more than 10 years – indicating the developing nature of the field. In terms of academic affiliation, the majority (about a quarter) of respondents come from education, close to a third (31 per cent) specialize in counselling and psychology, about 14 per cent in related disability studies, 12 per cent in arts and sciences, and only about five per cent in vocational/adult education. The vast majority (90 per cent) of participants indicate that they have

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18 The term derives from “neuro” for neuron, the nerve cells in the brain, and “plastic” in the sense of being adaptable and malleable (Doidge, 2007). Neuroplasticity is the property of the brain that allows it to alter its structure and function in response to what it senses, does, thinks and imagines.
masters degrees or higher credentials at the time of the survey (17 per cent hold doctoral degrees). Unknown are the disciplines attached to the degrees, the components of the training programs, and how they may intersect with direct service provision toward achieving access goals for PSE students with LD. Further research in this area is recommended to correlate professional development and training with day-to-day provision of services and supports.

**Standards, Accountability and Evaluation**

Maintaining accurate, consistent and reliable data on students with LD and attendant support services is a part of the accountability mandated by the government in Ontario, where funding for services for SWD in higher education is partially provided and contingent on annual reports detailing accessibility plans (COU, 2002). Increasingly, research is being conducted to identify best practices in standards of performance, accountability, evaluation, as well as training and educational background requirements for specific disability service positions at the PSE level. In terms of the available literature, these areas are considered collaboratively rather than in isolation of one another with attention to best practices within the field.

Several publications discuss standards of professional practice. An earlier discussion by Shaw, McGuire and Madaus (1997) explores the skills and knowledge deemed to be required in providing disability support services in PSE. In their study, about a quarter of the disability services personnel come from a counselling background, 17 per cent have training in social work, and the others vary in experience, including special education, elementary/secondary education, higher education, rehabilitative counselling and psychology. The authors delineate five categories for initial standards: administration, direct service, consultation/collaboration, institutional awareness and professional development, concluding that professional development is integral to all other professional standards.
In a comprehensive discussion paper, the Canadian Association of Disability Service Providers in Postsecondary Education (CADSPPE, 1999) reviews the available literature with a focus on policy development, models of service delivery, training and accreditation of service providers, funding issues, the role of students in policy and program development, and gaps in current services for students with disabilities. Future research areas suggested include portability in terms of enabling SWD to access the same opportunities as students without disabilities to study in other provinces and information on the backgrounds, training and accreditation of disability service providers.

The importance of following standards of performance for disability support services is essential for the assurance that students with disabilities are not only receiving services, but that the services are appropriate for their individual needs. In Canada, Reed, Lund-Lucas and O’Rourke (2003) observe that having standards of practice and established benchmarks allows for more consistent evaluation and communications among the various learning disability programs and services. Their report, based on a survey of 24 administrators at 21 PSE institutions in Ontario to determine quality and accessibility of disability services in admissions, staff requirements, administrative, counselling and outreach practices, assessment and professional development, provides an insightful review of the key issues and guidance for program evaluations and assessment objectives.

The CCDI’s “Ethical Guidelines for Disability Service Providers” (2006) touches on appropriate behaviours, values and professionalism in disability service provision, grounded in respect for the dignity of persons with disabilities, a caring and equitable educational practice,

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19 The paper, “Towards Developing Professional Standards of Service: A Report on Support for Students with Disabilities in Postsecondary Education in Canada”, is not directly accessible through CADSPPE in electronic form. The link to the report, on the Library and Archives Canada website at http://amicus.collectionscanada.gc.ca/aaweb-bin/aamain/itemdisp?sessionKey=9999999990&l=0&d=2&v=0&lvl=1&itm=26728294, is found to be inactive. Hard copy, in monograph form, is available through academic and public libraries.
professional development and updated skills and competencies, and enhanced disability awareness, institutional support and positive attitudes toward SWD.

From an institutional perspective, an example of a current program evaluation is York University (2007a), which has launched a review of its Counselling and Disabilities Services, referred to in its annual plan and objectives report for 2008-2009 as an “alignment project”. The stated purpose is “to create a structure for all disabilities services, including physical, psychiatric and learning, that will provide a single point of intake”. The centralized organization is intended to serve students with disabilities and to support faculty more effectively in the accommodations they provide. To help students achieve their academic goals and to support student retention, the university has identified several specific objectives: to ensure consistency of services, to help students easily locate and access accommodation resources, to address service expectations on the part of parents as well as students, to optimize current processes and to eliminate duplication, and to improve communication across units (York University, 2007b).

In the United States, Shaw & Dukes III (2001) present 29 program standards along with common myths of service provision in serving SWD in higher education, adding to the existing literature by presenting program standards and their implications. Nine categories are covered in this discussion: 1. Consultation, collaboration and awareness; 2. information dissemination; 3. faculty and staff awareness; 4. academic adjustments; 5. instructional interventions; 6. counselling and advocacy; 7. policies and procedures; 8. program development and evaluation; and 9. training and professional development. While this research delineates important categories for consideration in reviewing standards and service, it does not deal with evaluation tools that could be used for such a review, nor is there a discussion of benchmarks within the field.
In another study of professional practice standards, Dukes III (2001) reports that all service elements are deemed to be critical based on a survey of service providers looking at service components perceived to be essential to ensure equal educational access for SWD. Public relations and information dissemination are a high priority among those interviewed. A strong preference is also expressed for counselling and advising services provided in collaboration with other campus personnel, not as an isolated activity within the disability services division. This elaborate peer-reviewed study, garnering insights from more than a thousand disability administrators, is playing a significant role in guiding future services, benchmarking, and assisting students with making educated PSE choices.

Hitchings, et al (2001) suggest a list of questions for administrators that may be useful when evaluating services for SWD with a view to more effective career services and interventions, particularly as students transit from high school to higher education:

1. Were students actively engaged in the transition planning process while in high school?
2. Did students with disabilities have clearly defined career goals?
3. Have students engaged in specific career development activities leading toward their career goal?
4. Can students describe their disability and identify possible accommodations that might be needed in their career path?
5. Do students anticipate disability related problems with their future career goal? (p. 9)

Parker, Shaw and McGuire (2003) discuss the fundamentals and rationale for evaluating the effectiveness, mission and activities of disability service programs within PSE institutions. Although this article focuses specifically on disability support services, the authors state that the recommendations have utility for other post-secondary programs and departments in consideration of the need for ongoing quality management, program efficacy and policy reform. Based on a review of the literature by professionals in the field of LD and examples from five
American universities, the authors propose an insightful list of suggestions for program evaluation and action-planning. They include considering the institution’s mission; clarifying the purpose and framework of the evaluation; reviewing the literature developed by professional associations; determining the types of data that will be most useful to have; relying on external resources and key professionals in the field; coordinating the evaluation through a full-time professional; utilizing student feedback and monitoring services daily; and reporting program evaluation results to administrators.

As noted earlier in this review, Rath and Royer (2002) provide a comprehensive summary of the key research literature on the nature and effectiveness of services for students with LD, delineating six categories of essential services and of the roles that service providers should play in a post-secondary environment: providing assistive technologies, modifying programs, offering therapy and counselling, strategy training, direct academic assistance and interventions to strengthen academic skills. This review, which reveals little evidence that these categories of service yield significant benefits to academic performance, raises a fundamental question regarding “equal access” with respect to LD: “Is equal access defined in terms of success rates in altered environments or in terms of the acquisition of skills that allow success in an unaltered environment?” (p. 377). The researchers suggest that future inquiry should involve case studies specifying performance levels before and after intervention and large surveys that document the services provided and current and post-PSE outcomes associated with these services.
Admissions and Registration

The literature in this area is scarce. The following research highlights key aspects of inquiry over the past two decades that relate LD to the admissions and registration processes. While not the only sources available on the topic, the four studies below represent several of the commonly cited research in the literature on LD.

In a broad survey of more than 150 PSE institutions in the United States, Vogel, Leonard, Scales et al (1998) find that a strong number of colleges and universities, between 33 per cent and 55 per cent, use regular admissions procedures. However, upon disclosure of a LD during the admissions process, the researchers indicate that the more competitive institutions utilize additional criteria to examine applicants’ suitability for the selected program of study. Nearly a fifth of respondents modify their admissions requirements for students who reveal their LD when applying.

More recent Canadian research by Fichten, Barile, Asuncion et al. (2003) suggests one challenge is in ensuring that all qualified Canadian SWD have access to higher education at the same rates as those students who do not have a disability. In an Ontario study by Reed, Lund-Lucas and O’Rourke (2003), student feedback on surveys indicates access could be enhanced for students with LD by providing information on disability services programs in course packages upon admission. In an ideal world, students with LD would be well-acquainted with disability services at the post-secondary level starting in high school, from preliminary campus visits, institutional material that includes admissions, registration and advisement processes.

Academic Advisement

Academic advisors who are knowledgeable and skilled in working with students with LD facilitate their access to and a successful experience with higher education. While, ultimately, it
is the students’ responsibility to choose academic direction, an advisor’s understanding of students’ learning styles, instructors’ teaching and evaluation methods can be instrumental in guiding students with LD with their course selection and load. Without skilled assistance and a proper matching of teaching and learning approaches, students with LD are at risk of making uneducated choices, being ill-advised or misdirected in their academic decision making.

Research on academic advisement is fairly lean – in particular, with respect to establishing a profile and the effectiveness of disability service providers as advisers. In a widely referenced American study dating back more than a decade focused on a small liberal arts college, Reiff (1997) examines a goal planning program for students considered to be at-risk, developed on the basis of an examination of successful students with LD in higher education. A key conclusion of this research indicates motivation plays a pivotal role in the students’ ability to achieve academic goals, notably, when they reframe and rebuild an internal belief system of self-acceptance and self-accountability. The goal planning process enhances their desire to succeed. This finding reinforces the importance of well-structured and carefully designed advisement programs assisting students with LD in choosing programs of study and related courses and establishing realistic goals. The benefits of looking at various models of academic advisement and establishing best practices cannot be understated.

The National Academic Advising Association (NACADA), focused on the educational development of students in higher education representing Canada and other countries as well as the United States where it is based, has developed a practical bibliography relating to the academic advisement of students with disabilities. Featuring an array of recently-published books and periodical material, it can be found on the NACADA Clearinghouse of Academic Advising Resources web page at:
A new initiative introduced in 2008 is a call for “Exemplary Practice Examples for Advising Students with Disabilities”. It was announced on the disability student services higher education listserv (DSSHE-L@Listserv.Buffalo.Edu). Results are published in a 2009 monograph by NACADA.

**Academic Policies**

Academic policies have the potential to facilitate or to impede access to an equitable higher education experience for SWD. The Canadian literature indicates that administrators at a large number of Canadian post-secondary institutions have long grappled with the development of policies that are fair and equitable to all students (Hill, 1992; CADSPPE, 1999).

In a Canadian study of institutional policies for SWD at Canadian universities, Cox (1998) identifies 11 key categories of policy common among them. They deal with definitions of disability and of undue hardship, legalities and procedures, admissions, documentation requirements, alternative academic and service accommodations, academic integrity, expert and advisory committees, review mechanisms and appeals processes. The author recommends that future research focus on the application of these policies and perceptions of stakeholders (Cox, 1998). Missing in this research is a more detailed discussion of the specific nature of these policies and whether they have served, and will continue to serve, students with LD in higher education. Furthermore, there is no discussion or evaluation of the mechanisms established within the PSE institutions to create, to evaluate and to modify current policies.

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20 This list is administered by the Disabled Student Services in Higher Education, University at Buffalo, State University of New York. Its purpose is to facilitate information sharing among service providers. Issues discussed include service delivery models, legal matters pertaining to American disabilities and rehabilitation legislation, assistive technology, counselling, removal of architectural and attitudinal barriers, grants and other funding sources, athletics/physical education, testing and other academic accommodations.
More recent Canadian research suggests access to higher education can be enhanced through a collaborative approach on policy, involving key stakeholders informed of institutional outreach and accessibility efforts (Reed, Lewis & Lund-Lucas, 2006). The study focuses on access issues for students at point of entry into higher education, canvassing current students with LD, parents and alumni at two Ontario universities. Primary areas of attention are admissions, accommodations and academic experiences. The authors conclude that, while the interpretation of findings is limited on the basis of the small sample size, the study provides an opportunity to hear students’ perspectives on their interpretation of access issues, which they identify as problematic, notably: difficulty accessing services, assessment guidelines and accommodations; inadequate preparation for PSE; teaching staff attitudes; inability to advocate for their own needs; and poor communication with service providers. Nearly half of the students learned of disability services after admission to the institution.

Faculty

“I learned that if you are a good teacher to students with disabilities, you’re a better teacher to all your students ... although some students readily tell you about their disability and the accommodations they need, others do not. So I learned to invite all my students to see me if they have special needs or concerns related to my course. This includes issues such as conflicts with a job, a death in the family and, of course, a disability.”

(Fichten, 2008) 

Faculty play an integral role in the successful integration and academic achievements of students with LD. Indeed, the fundamental place of faculty to support and to lead learners while having them assume greater responsibility for their learning is embedded in a COU report (Albert & Campbell, 2008).

Recognizing their significance in this partnership with the students and common difficulties dealing with their special needs, the COU guide for faculty at Ontario universities (Logan, 2009) has references to legislative imperatives, academic literary sources and community support groups such as the LDAC. The COU specifies that faculty must raise their awareness of the legal and moral requirements to provide academic accommodation, noting:

Anecdotal evidence suggests that not all faculty have completely accepted the rationale for Accommodation (sic) … A majority factor underlying the reluctance to accept the validity of academic accommodation is the lack of an effective communication strategy that presents a reasoned argument for providing accommodation. In addition, when materials are given to new full- and part-time faculty, generally, these materials are not as informative as they could be. Providing relevant information to instructors as they begin their academic careers would serve to facilitate faculty acceptance of the concept of accommodation, (p. 6).

The issues of awareness and experience dealing with LD are longstanding and documented in the literature emanating from Canada over the past 15 years. Canadian scholars Fichten and Schipper (1996) offer a cogent view of the challenges which faculty face and, in turn, can create for the students:

Often, they don’t know what to do. (Professors). They don’t know what are effective teaching strategies. They don’t know whether to use words like look, walk, hear with the student. In many cases, they are afraid to offer both too little as well as too much help. They also experience role conflict-expert teachers who do not know how to best adapt their courses and teaching styles to their students. Some have problems adjusting to being audiotaped or to having an interpreter in class. Others feel pity, and agonize over failing a student who has a disability … Not surprisingly, some professors communicate negative messages which serve to discourage and dismay students. They may not believe the student and they may suggest that the student is using the disability as an excuse. This is especially common for students with invisible disabilities, such as a learning disability, (p. 8).
Fear, lack of understanding and awareness are also cited as causes of negative faculty attitudes toward students with disabilities in a Roeher Institute study (1996). The results show that a support network for instructors, opportunities for in-service training, which include disability awareness workshops, and for staff to collaborate and to share experiences all promote greater inclusion of and assistance to students with disabilities.

In another Canadian examination of the level of accessibility for students with disabilities in universities across Canada, faculty attitudes are seen to be a more significant problem at larger than smaller institutions (Hill, 1992). Hill (1996) records student feelings on the adequacy of support services and faculty willingness to make accommodations. Results reveal that about a third of the students interviewed felt their needs were not being well met, while a quarter of the students said the lack of service from the disabilities office severely impacted their post-secondary educational experiences. A smaller percentage (12 per cent) noted that faculty were unwilling to make accommodations and a number of these students (nine per cent) said they took action as a result of the lack of accommodation or dissatisfaction with the service (such as filing a complaint with the vice president).

Duquette (2000) corroborates the suggestion that faculty who have positive and accurate perceptions and attitudes toward support and facilitation of success among students with LD contribute strongly to the students’ academic achievement.

Farmer (2001), whose study focuses on adults in PSE who have only recently been identified as having a LD, suggests that teachers may find it helpful to initiate instruction by asking students with LD to identify how they perceive and understand the materials to be taught, as “the starting point from which teachers show their students how to expand their current

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22 The Roeher Institute is no longer active and the publications listed on the website cannot be retrieved directly. For access information, readers should consult the annotated directory in this review.
understanding” (p. 246). This may prevent “dissociation of learning” and establish “mutually accessible realities (p. 246).

Reed, Lund-Lucas and O’Rourke (2003) determine that administrators are less supportive of actions requiring additional resources, and that students are reluctant to support practices that reduce individual autonomy or create increased time commitments. Decision making and prioritizing should be guided by needs assessments, strategic planning and institutional priorities, rather than arise as a consequence of ease of implementation, financial issues, convenience or political constraints.

Recent American research underscores the Canadian findings, notably, that pre-conceived notions of students with LD can be significant barriers to their access to and achievement in higher education. For example, Jensen, McCrary, Krampe, and Cooper (2004), who interview faculty and staff at a large U.S. research university to identify their informational needs and attitudes toward students with LD, determine that faculty’s pre-determined concepts of disabilities can negatively affect their attitude toward students with LD. Recommendations for remedial action include providing instructors with more information regarding the process of LD diagnosis, guidelines for working with students with LD, and resources explaining accommodations; and increasing the frequency of open discussions with colleagues on teaching students with LD.

Trainin and Swanson (2005), who investigate the ways in which successful PSE students with LD compensate for phonological processing deficits, identify how specific teaching styles and interventions can enhance students’ academic performance, thereby, creating a more informed and accessible learning environment. Results of the study, involving an equal number of students with LD and student without LD, highlight the importance of specific learning
strategy interventions for specific academic challenges, including development of time management skills and decision making about available resources for students with LD. Findings also have relevance for tutoring, learning strategies and coursework instruction and are applicable to students transitioning into higher education.

In a review of prior research and theory, researchers Cornett-DeVito and Worley (2005) identify a group of “incompetent instructor communication” (p. 312) through interviews with 21 students with LD at the PSE level. Several themes emerge including: “incompetent instructors”: a lack of understanding of LD; resistance to accommodation; maintenance of rigid instructional styles, leaving little room for accommodation or individualized instruction; questioning of students’ abilities to succeed; and exhibited disregard for students’ privacy. Recommendations for change include faculty training, particularly communication competencies for teaching students with LD, and increased face-to-face communication between the instructor and students with LD. The researchers acknowledge that faculty must be responsive to training opportunities to enhance their knowledge of LD and of legal, ethical and practical considerations.

**Universal Instructional Design**

The Ontario Human Rights Commission (2004, September), which implements the Human Rights Code for the province, details the duties of educators to make education accessible to students with disabilities. Appropriate accommodations, including a relatively new approach called "inclusive design" – or “universal design” – are recommended for compliance with the Code.

At the cusp of the new millennium in Ontario, the Ministry of Training, Colleges and Universities embarked on providing funding support, through the Learning Opportunities Task Force (LOTF), for Universal Instructional Design (UID). Originating in the late 1990s in the
fields of architecture and industrial design at North Carolina State University, UID is aimed at identifying and eliminating barriers to teaching and learning and to providing flexibility to enable all students – regardless of disability, learning style, preference or background – to access learning in ways that make sense for them, while minimizing the need for special accommodations and maintaining academic rigour (University of Guelph, 2006).

Taking into account different learning styles, UID considers the potential needs of all learners in the design and delivery of instruction. It implies a shared accountability for student success between students and instructors recognizing diversity of abilities and learning styles (Bryson, 2003). UID is anchored in seven core principles for instructional materials and activities: accessibility and fairness, flexibility in participation, consistency in delivery, explicitness in presentation, supportive learning environment, minimized physical effort and requirements; and a learning space that accommodates students and multiple instructional methods.

While empirical research in this area in Canada is lean relative to the United States, a number of individual Canadian post-secondary institutions carry a range of informative materials on UID on their respective websites. For example:

The University of Alberta hosts an informative web page on UID, with resources for faculty, links to other Canadian universities and journal references. 23 Trent University positions UID as part of its “learning innovations” initiatives, which are based on the seven guiding principles. 24

23 Information retrieved from the University of Alberta website, March 17, 2009, from http://www.uofaweb.ualberta.ca/ssds/universaldesign.cfm
24 Information retrieved from the Trent University website, March 17, 2009, from http://www.trentu.ca/admin/specialneeds/learninginnovations/UID.htm
The University of Guelph, which received public funding through LOTF in 2002 to develop UID, has an extensive dedicated web page on UID that includes an online implementation guide for instructors. The Guelph Teaching Support Services resource materials focused on UID are widely cited by other post-secondary institutions in Ontario. Guelph reports that within a year of the program’s implementation, students surveyed indicated positive learning environment traits: a more “physically accommodating” learning environment (+24 per cent), greater availability of digital format (+24 per cent) and of alternative formats (+21 per cent) for course material, higher respect on the part of professors for the diversity of students in the class (+21 per cent) and better access to all parts of the curriculum by students (+14 per cent). There was also a marked correlation between implementation of UID principles and an increase in students’ self-confidence and ability to succeed.  

In the United States, the Center for Applied Special Technology (CAST), a non-profit education and research organization that uses technology to make education more flexible and accessible for all students, especially those with disabilities, provides a vast array of information on universal design on its website: http://www.cast.org/ It includes freely accessible background facts, case studies and tool builders, and further references such as books and manuals available for purchase. Note that CAST refers to Universal Design for Learning (UDL), the key principles of which mirror UID, anchored in the notion that learners have various ways of acquiring information and that pedagogical approaches should be designed to accommodate a wide variety of users and make education inclusive for everyone.

25 Information retrieved from the University of Guelph website, March 17, 2009, from http://www.tss.uoguelph.ca/uid/uidsummary.cfm
Another U.S.- based higher education advocacy group, the Association for Higher Education and Disability (AHEAD), referenced in the annotated directory in this review, also offers a large number of support materials and guidance related to UID.

In terms of academic research, Scott, Loewen and Funckes (2003) address the question of how one would know that the vision of achieving and integrating UID principles within a campus environment is being realized. Reinforcing the findings reported by Guelph (noted above), among the key indicators are:

- Students with disabilities are included in instruction and learning on the first day of class instead of having to wait for accommodations before being able to participate fully.
- People with disabilities do not need to advocate for access constantly.
- Every student takes advantage of a universally designed product, feature thereof or classroom. Students with and without LD use the same design; no one is stigmatized as having “special needs”.
- Curriculum materials and resources are available in alternative formats as a de facto standard and are provided through a broad range of offices across campus.
- Significant numbers of faculty, staff and students have disabilities.
- No one wastes time and energy negotiating physical and virtual access or navigating the campus environment.
  - The criterion of “reasonable accommodation” becomes moot.
Adaptive Technology

Adaptive (also known as “assistive”) technology means any item, piece of equipment, product or system – both high and low tech – that can be used directly to assist, maintain, or improve functional capabilities of individuals with LD (LDAC, 2003).

Research on the use of adaptive technology (AT) to enhance access to higher education for students with LD has increased over time, particularly with the advent of innovative aids that assist students in their academic work. For example, Mull, Sitlington and Alper (2001) determine that more than three-quarters of the 26 articles from 1985 through 2000 located on accommodations in the American literature they analyze address the use of AT devices. Nonetheless, empirical evidence is still said to be lacking (Johnson, 2009) even though the amount of information has increased. However, a search for AT-focused research for this review has yielded a significant body of literature, including a large Canadian segment.

In an overview of assistive technology (AT) for PSE students with LD, Raskind and Higgins (1998) define this as “any technology that enables an individual with LD to compensate for specific deficits” (p.27). Multiple forms of related software and hardware are discussed, including word processing, spell checking, proofreading programs, outlining and brainstorming, variable speech-control tape recorders, personal data managers, free-form databases, talking calculators, personal FM listening systems, speech recognition, abbreviation expanders, speech synthesis and screen reading, word prediction, and reading programs or machines. However, the authors note that research on the effectiveness of assistive technology devices and programs has been quite limited. Among their findings:

- Select assistive technologies are found to be effective for some students in compensating for specific deficits such as writing and reading.
• A technology that is beneficial for one individual with LD could be counterproductive for another.

• It is unclear whether the use of adaptive technology leads to improved academic outcomes. Low-tech or even “no tech” solutions may be more effective than high-tech assistive technology.

• The fact that an adaptive technology has compensatory value does not guarantee that it will be cost or time effective.

• Specific types of technology (such as speech synthesis) may be helpful for compensating for one area of difficulty (such as proofreading) but not necessarily for another (such as reading).

• A technology may be more effective than alternative strategies in helping one specific area of skill deficit (such as speech synthesis in catching usage errors) but not others (such as locating grammar-mechanical errors).

• Some assistive technologies seem to have a positive behavioural and/or psychological attitudinal effect on specific students.

The researchers underscore the need for a “well-defined, comprehensive and systematic plan for assistive technology service delivery” (p. 38). Mull, Sitlington and Alper (2001) stress that students need to be trained in the use of the increasing number of AT devices.

AT does not try to improve but rather provides an alternative approach that works around the deficits while capitalizing on strengths. Campbell (2004) refers to AT as “an equalizer – a compensatory tool” (p. 173) that does not imply a single solution for every student but that reinforces the need for instructional creativity and flexibility.
The LDAC notes that the University of Toronto Adaptive Technology Resource Centre (ATRC) is “a world leader” in the development of AT and an advocate in the development of a universally accessible web wide web.  

In Canada, Adaptech Research Network, administered through Dawson College in Montreal, spearheaded by Dr. Catherine Fichten, is a dominant source of the literature on AT. Adaptech consists primarily of a team of academics and students who conduct research on the use of computer, information and adaptive technologies by Canadian college and university students with disabilities. Funded by federal and provincial grants, Adaptech serves as a form of broker to enable SWD to locate computer technologies through the compilation of a list of free and/or relatively inexpensive hardware and software alternatives that otherwise can be very costly.

Adaptech also provides resources facilitating the exchange of experiences among students and between students and instructors, features research reports on computer aided instruction and delivers continuing education training and development workshops. It is internationally scoped for its resources, and the empirical research conducted by Dr. Fichten and colleagues is widely cited. More than 400 publications are listed on the website, including peer-reviewed journal articles, theses, book chapters, test and tool documents and refereed conference presentations. Many of the materials are directly accessible in PDF format. Among more current initiatives is a CCL-funded three-year study of how well e-learning needs of Canadians with disabilities are being met in Canadian post-secondary institutions.

26 The ATRC can be accessed at: [http://atrc.utoronto.ca/](http://atrc.utoronto.ca/) The website features a broad array of resources, including direct access to Abilities Magazine, external resources and university centres on disability in Canada and the United States.

27 Information on Adaptech was retrieved March 17, 2009, from [http://adaptech.dawsoncollege.qc.ca/prdes_e.php](http://adaptech.dawsoncollege.qc.ca/prdes_e.php) and [http://adaptech.dawsoncollege.qc.ca/](http://adaptech.dawsoncollege.qc.ca/)
Based on a Canadian study, Généreux, Barile, Robillard, Lamb and Fichten (2001) suggest the most frequently encountered obstacle by SWD in terms of adaptive technology is the high cost of purchase and maintenance; only half of the participants had received funding to assist with these expenses. The researchers identify six conditions required to ensure full access to computer and information technologies for PSE students with disabilities across the country: 1. establishing national standards for providing computer equipment and training to SWD; 2. recognizing all disabilities within the same policies and programs; 3. promoting accessibility of computer labs when granting subsidies to PSE institutions; 4. clarifying and making transparent the rules and eligibility criteria for subsidy programs for equipment intended for off-campus use; 5. improving outreach to the higher education community with respect to subsidy programs offered to SWD; and 6. evaluating computer subsidy programs according to accessibility to all SWD.

In the United States, a number of organizations are focused on AT at various educational levels and life stages. The more commonly cited are:

- Access Technology Higher Education Network, an advocacy group that examines best practices in access technology in PSE, located at [http://www.athenpro.org/about](http://www.athenpro.org/about)

- CAST (referred to under UID in the previous section of this review); Alliance for Technology Access (ATA) at [http://www.ataccess.org/default.html](http://www.ataccess.org/default.html)

- National Assistive Technology Research Institute at [http://natri.uky.edu/index.html](http://natri.uky.edu/index.html) administered through the University of Kentucky;

- National Center to Improve Practice in Special Education at [http://www2.edc.org/NCIP/](http://www2.edc.org/NCIP/)

- Rehabilitation Engineering and Assistive Technology Society of North America at [http://www.resna.org/](http://www.resna.org/) and
Universal access to the Internet is an allied technological consideration. Applications such as the web, video conferencing and email can enhance the ability of these students to participate in higher education if properly designed and constructed.

Zaparyniuk and Montgomerie (2005), reviewing the status of web accessibility at 350 Canadian colleges and universities identified from the Canadian Information Centre for International Credentials, assert that PSE institutions must mandate that their web information be retrofitted to meet the needs of those who are disabled particularly as web use is now universal across a large number of institutions for selecting courses, checking grades, settling financial accounts and maintaining personal records for the registrar’s purposes. They report as “disturbing” (p. 265) that Canadian PSE institutions lag behind their American counterparts in the accessibility of their web pages and exhort the government to work with the institutions to take into account special needs.

In the United States, the Web Accessibility Initiative (WAI) works with organizations around the world to improve web accessibility through technology, research and development, education and outreach. Its website, located at http://www.w3.org/WAI/, features guidelines and techniques for web construction that can be applied to PSE institutions of various types and in different jurisdictions. A document titled, How People with Disabilities Use the Web, provides basic but essential background to enhance understanding of how different disabilities, including cognitive, affect web use. The information is also a practical resource for people without disabilities of all ages who have different preferences and situations that influence how they draw on and navigate the web.
The discussion of specialized technology for students with special needs raises the notion of “participatory technology” (Albert and Campbell, 2008, p. 1), which facilitates interpersonal interaction and communication among all students engaged in the process of “participatory learning”, which focuses on their needs and opportunities and the actions required to address them. Such technology, both to deliver content and to foster an interplay among participants (such as digital record keeping, listservs and bulletin boards to online text messaging) is “an enabler” of improved, flexible, collaborative teaching and learning and of shared knowledge among students with and without LD (Albert and Campbell, 2008, p. 2).

**Writing Support**

While the cited literature generally supports AT as an effective tool to assist students with LD, AT cannot detect contextual errors and does not replace personalized assistance with writing.

As part of its skills development mandate and to meet an expressed need, the Canadian Roeher Institute developed a handbook and a manual for writing in “plain language”. Based on a college survey conducted in the mid-1990s, Institute researchers found that only half of the respondents with disabilities had access to general support services such as writing labs. Apart from this earlier study, Canadian empirical research focused on writing support specifically is fairly thin.

In the United States, McGuire, Hall and Litt (1991) conducted a widely-cited review of the literature on the subject that provides insight into particular support service needs for students with LD in higher education. In addition, through active research involving graduate students in LD training programs who served as learning specialists for undergraduate students with LD,

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28 As noted earlier, Roeher is no longer active. Details of how to obtain the cited material and other publications are provided in the annotated bibliography of this review.
they determine a perceptible impact of content-based tutoring and actual instruction on the undergraduate students’ learning strategies, study skills and written expression. Further investigation is suggested to address aspects of duplication of services and differentiation of approaches of generic on-campus writing centres and specialized disability support programs in this area.

More recently, Campbell (2004), who discusses writing support in the context of both UID and AT, suggests an alternative to technology in the form of participation in collaborative, team-based writing projects where each member completes a task “congruent with their learning style” (p. 170).

Peer Tutoring

A key support for students with LD is peer tutoring, where students are hired to or volunteer to assist other students with their academic work. The literature in this area is scarce. A recent internationally peer-reviewed journal article worth mentioning for its broad-based overview of SWD, including discussion of Canada at the surface, is written by Vogel, Fresko and Wertheim (2007). The researchers set out to understand the tutoring process from the perspectives of both tutees and tutors in terms of needs, activities, difficulties, experiences and satisfaction. Reporting results of a large-scale survey of 25 universities, regional colleges and teacher training colleges involving 480 students in Israel, they emphasize the importance of successful pairing of tutees and tutors, the tutee’s self-awareness of strengths and weaknesses and ability to describe learning needs, and shared learning experiences. They also consider the benefits of enrolment in the same course. Although this is one project in one country and respondents are self-reports without direct corroborating observation by the researchers, the
findings may have general significance for PSE institutions in various jurisdictions considering establishing or improving tutor services.

**Study Abroad**

Access to international study programs for students with LD has increased in recent years through collaborative institutional arrangements in North America and abroad. However, attendant empirical research focused on students with LD is rare.

While dated, a commonly cited American study that goes back almost two decades may provide a benchmark against which to measure future examination of attitudes toward, activities related to and participation rates associated with international studies by Canadian students. Interviewing 64 students with various disabilities, including 24 with LD, at four universities in Pennsylvania and one in Michigan in 1992 and 1995, Matthews, Hameister and Hosley (1998) identify three main barriers of greatest concern among the students: 1. lack of knowledge about available study abroad programs; 2. lack of available assistive technology and services such as interpreters and readers; and 3. financial barriers. The least common concern is communication, that is, inability to be understood by others not related to foreign language competency. The researchers suggest future exploration should include a comparison with non-disabled students to determine whether they perceive similar barriers to study abroad, and it should investigate the patterns of responses from students with different types of disabilities as the data in this longitudinal study reflect a limited sample population.

Another study that may have limited application to current issues (Hameister, Mathews, Hosley & Groff, 1999) outlines five concepts which education staff should consider when working with SWD in study abroad: 1. individualization, 2. barriers and accommodations, 3. disability spread, 4. inclusion, and 5. collaboration. The authors stress that students with
disabilities are, first and foremost, students. As significant as a student’s disability may appear to be, it often has relatively little significance to study abroad. If international educators are to be successful in serving students with disabilities, they must work closely with others, especially disability services staff.

More current and abundant information on study abroad for SWD can be located through the Council on International Educational Exchange (CIEE) located at: [http://www.ciee.org](http://www.ciee.org). This U.S.-based, non-governmental international education organization, with study centres in Japan, Korea, South Africa, England, Italy, Spain and the Caribbean, creates and administers programs for American high school and university students and educators to study and to teach abroad. While not directly applicable to Canadian higher education students with LD, the “knowledge resource” includes potentially useful generic information, notably, in a section titled “disability: making study abroad happen for you” accessible at:


While not exhaustive, the following sources also provide leads to more resources on study abroad for students with disabilities:

- Foreign Affairs and International Trade Canada in Ottawa – administers international scholarship programs, with links to international funding bodies and a contact bureau that can respond to queries about study abroad for SWD – at: [http://www.scholarships.gc.ca/contact-us-en.html](http://www.scholarships.gc.ca/contact-us-en.html).


- NEADS in Ottawa (refer to the annotated directory in this review)

- Transitions Abroad.com – for detailed information on studying and working abroad with links to other disability travel websites at: [http://www.transitionsabroad.com/index.shtml](http://www.transitionsabroad.com/index.shtml)
Individual colleges and universities offer institution specific information on study abroad, although a general scan of a number of their international study centre websites does not reveal any particular focus on SWD.

**Distance Learning**

To date, empirical research on access to distance education programs for students with LD is fairly scarce. While many Canadian colleges and universities offer online courses as part of the regular curriculum concurrent with classroom instruction or as a replacement/standalone form of delivery, relatively few studies specifically evaluate the experiences of students with LD with respect to distance education opportunities and institutional policies and procedures.

A notable exception is work by Moisey (2004), whose study of 604 students with disabilities (20 per cent of whom – 124 students – had LD) conducted between 1998 and 2001 at Athabasca University sheds some light on their experiences with support services while in a distance education program. Utilizing a case-study design, Moisey finds that students with disabilities enrol in distance education programs at twice the rate of students without disabilities. Further, students with disabilities have a course completion rate of 45.9 per cent versus the completion rate of the general Athabasca population of 52.5 per cent. Course and exam accommodations show a slight but not statistically significant increase in completions. However, effectiveness of supports, particularly AT and tutors, in terms of course completions is more
evident with students with LD: those who completed their courses received close to three supports each compared to those who used two supports and did not complete their courses.

Though limited in transferable utility to all extension courses across Canadian PSE institutions, these findings are a sound starting point for further research. Indeed, they corroborate results of a vast number of studies over time showing that students who strategize and use supports to compensate for their learning disabilities in some way are more successful in college and university than students with LD who do not use the services they find appropriate to them (Bender, 2004 29) – understanding that other barriers discussed earlier in this review such as peer and professor attitudes may mitigate effectiveness of the strategies no matter how many supports are accessed and utilized.

29 Bender’s textbook, *Learning Disabilities: Characteristics, Identification, and Teaching Strategies*, in its fifth printing since 1992, is a comprehensive review of the key factors and issues related to learning disabilities, including a strong chapter on adults with LD and vocational/PSE opportunities. While examining LD from childhood through adulthood, the content covers many of the subject areas discussed in this literature review, including characteristics of students with LD, transitions between educational levels and academic supports – all relevant to higher education. The summary, reflective discussion questions and sources at the end of each chapter provide context and useful additional reading. While American, the book presents core concepts and principles that are transferable to the Canadian setting, and some of the references not specifically discussed in this review offer alternative insights applicable to a variety of institutions and jurisdictions. One of the more extensive, topical and appealing references located during this search, it is recommended for educators, administrators and scholars dealing with LD at colleges and universities in Canada.
PART SIX: 
NON-ACADEMIC SUPPORTS

“Whatever else disability is, it is a phenomenon that exists in the complex web of society, in the midst of social relations. How a society is organized shapes the appearance of disability. What counts as both a disability and its meaning are fashioned within the framework of societal organization ... The standard for disabled people is not actually nondisability and normalcy but ordinariness ... that derives from the reduction of everyone (all difference) to the nebulous interpretive category – people.”

(Michalko, 2002, pp. 144, 152)

Overview

Canadian scholar Rod Michalko discusses disability generally in the context of “coming out” (2002, p. 175), striving to do what “others” do by accepting the disability and belonging through the disability, not trying to imitate the non-disabled. His insightful treatise, based on personal experience with a visual impairment, includes anecdotes of strangers’ negative attitudes, borne of fear and/or ignorance, forcing uncomfortable and uncalled for exclusion. The observations are highly relevant in the context of learning disability, a less visible handicap strongly shaped and impacted by attitudes – of and by the self and by others – in the classroom and in the social context of campus life.

Throughout this review, the notion of attitudes in the social context – notably, that of classmates and instructors – is a dominant factor in the successful inclusion, integration and achievement of students with LD in higher education. Evans, Assadi and Herriott (2005) stress that attitudes are learned and that positive, non-discriminatory attitudes toward people with disabilities can be fostered through regular contact, collaboration and communication. This interaction goes beyond the classroom, coursework and academic experiences with faculty and fellow students. Equally important are non-academic supports anchored in the overall campus environment, diversity espoused by the institution, career and counselling/psychological
services, the social experience and financial aid. The balance of this section focuses on the key literature pertaining to these considerations.

**Campus Environment**

The campus climate “sets the stage” for the provision of access and access-related policies in ensuring that all students have equal opportunities to learn, to thrive and to participate fully in the post-secondary education experience. Few studies investigate campus attitudes and climate specifically; rather, this topic is swept into a larger discussion of service provision on campus.

Commonly-cited research by Upton and Harper (2002) focuses on disability-related attitudes on campus, wherein 852 university students at one Midwestern university in the United States are surveyed on the premise that attitudes have an impact on how people and specifically SWD are perceived and treated by their peers, faculty and staff. Results reveal that female students regard academic accommodations for students with LD more favourably than do male students. Asked to determine the disabilities most deserving of accommodations, students interviewed chose more visible disabilities as most deserving, with LD fifth on a list of disabilities ranging from cerebral palsy (most deserving according to this assessment) to Spina bifida (least deserving). On the basis of these findings one could conclude there is a void in the knowledge within the general student population of the nature of specific learning disabilities and how they manifest themselves in individuals. The authors suggest that faculty should have an opportunity to model respectful and proper treatment of students with disabilities and that this may be a significant avenue for looking at enhancing students’ perceptions and attitudes toward students with disabilities.
This study is limited in that it does not specifically focus on the environmental aspects of students’ experiences with LD but hints at some considerations and observations related to the reaction to the general student population of students with all disabilities. Moreover, it is American, with a limited sample. Nonetheless, the findings can be useful in starting the dialogue on the subject in the Canadian context. Additionally, a number of unanswered questions can serve as a guide for future research on awareness on campus generally of specific learning disabilities and how this knowledge translates to the campus environment and attitudes—notably, how it is accessed, encouraged and fostered.

Anecdotally, while PSE institutions generally are progressing in enhancing campus awareness of disabilities through in-service training, faculty and staff manuals, online information, “disability awareness days” and campus media coverage, for example, these improvements are being realized without the concerted commitment or appropriate investment of staff and funding to make these initiatives happen. Further studies in this regard could explore best practices and allocation of resources, including staff, funding, and time in support of campus-wide awareness building initiatives for learning disabilities specifically. (Other related research considerations are discussed in the next part of this paper in the Conclusions and Recommendations section.)

**Diversity Initiatives**

A “sensitivity to the spectrum of ability, gender, and ethnic/minority status is critical to the effectiveness of future transitional models” (Gregg, 2007, p. 225). A component of a student’s experience of access on campus is evident in the institution’s degree of celebration of and emphasis on diversity issues and initiatives. As noted earlier in this review, exactly how and how much a college or university in Canada devotes to furthering access issues, particularly with
respect to diversity factors, is largely a matter of individual institutional discretion. In Ontario, for example, to encourage equity, PSE institutions are provided public funding designated for special needs student services, but they have autonomy in how the monies are spent (Bat-Hayim & Wilchesky, 2003). Enrolment, demographic and cultural diversity priorities certainly influence their respective policies on special needs initiatives.

Diversity is a growing area of interest within disability and access discussions and a strong consideration of future research. It covers the various categories discussed elsewhere in this review and will be mentioned only briefly here.

Within the literature there appears to be little specifically written about students with LD and their integration to campus from a cultural rather than simply a social perspective. A report titled Diversity and the Postsecondary Experience (Higbee, Lundell & Duranczyk, 2007) may serve as a strong guidepost for future inquiry in this area. A number of the guiding tenets in the document are appropriate starting points in formulating research questions pertaining to diversity, particularly related to LD access issues. The “sample questions” for further inquiry are derived from those authors’ principles. (Other recommendations for further research are discussed in Part 7.)

- The educational institution should articulate a commitment to supporting access to higher education for a diverse group of students, thus providing the opportunity for all students to benefit from a multicultural learning environment. (Sample question: During the admissions process, do SWLD feel welcome?)

- An educational institution’s organizational structure should ensure decision-making is shared appropriately and members of the educational community should learn to collaborate in creating a supportive environment for students, faculty and staff.
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*(Sample question: Does discrimination hinder students’ opportunities to participate fully in the PSE institution’s activities?)*

- Professional development programs should be made available to help faculty and staff understand the ways in which social group identifications such as race, ethnicity, home language, religion, gender, sexual orientation, social class, age and disability influence all individuals and institutions. *(Sample question: Are administrators, faculty and staff aware of their personal attitudes toward people from diverse groups?)*

- Educational institutions should equally enable all students to learn and to excel. *(Sample question: Are students treated with respect by faculty and staff?)*

- Educational institutions should help students understand how knowledge and personal experiences are shaped by contexts (social, political, historical, etc.) in which they live and how their voices and ways of knowing can shape the academy. *(Sample question: Is a course that explores multicultural perspectives a degree requirement at the PSE institution?)*

- Educational institutions should assist students in acquiring the social skills needed to interact effectively within a multicultural educational community. *(Sample question: Have students had the opportunity to participate in simulations, role playing, writing from another’s perspective, or other activities that enable them to gain insights into the impact of stereotyping, prejudice and discrimination?)*

- Educational institutions should provide support services that promote the intellectual and interpersonal development of all students. *(Sample question: Are support services
such as career planning and placement, course and program counselling, tutoring and adaptive technology equally accessible to all students?)

An additional resource that provides alternative insights on diversity is published by the National Center for the Study of Postsecondary Educational Supports, administered by the Rehabilitation Research and Training Center at the University of Hawai`i at Manoa: *Cultural Empowerment of Students with Disabilities in Postsecondary Education*, JoAnn Yuen and Brian Shaughnessy, 2001. The document can be accessed at:

http://www.rrtc.hawaii.edu/products/phases/phase2.html

**Career Services**

Career services support is integral to the discussion of successful transition from higher education to the workforce and to the quest for equal opportunity for all students in higher education. For students with LD, a particular concern is access to this resource, which is pivotal in acquainting students with their aptitudes and interests and developing job search proficiency among other life skills that contribute to informed career decisions.

Currently a popular topic in the LD field, post-academic life for graduates with LD is the focus of a growing body of knowledge with literature in this area being fairly broad, although empirical research is quite limited. Noteworthy documentation is anchored by Canadian scholarship going back more than two decades. Of particular note is the pioneering work of Jayne Greene-Black, a York University disability service provider, who embarked on a review of career barriers confronting students with LD at the post-secondary level. At the time, York’s Learning Disabilities Programme was the one of the first university initiatives in Canada to provide such comprehensive and specialized services to students specifically with LD and one of the first such extensive programs in North America. Greene-Black (1988) suggests career
counsellors need not be working within a LD program to be supportive to students with LD. Greene-Black states that the messages students receive regarding the realities of the work world may be discouraging, and supporting them during this transition is imperative. While the paper does not share major research findings in this area of study, Greene-Black concludes the review with reference to an examination of employment success factors among students with LD during the summer of 1987. Findings reveal that all 18 of the students surveyed had secured summer employment. Not one student was unemployed or unsuccessful in the individual job search. While dated, Greene-Black’s paper is an important ground-breaking reference as it set the stage for further research with respect to “on the job” barriers, career development for and career challenges faced by people with LD.

In the 1990s, a modest amount of research was conducted on PSE institution graduates with LD in terms of career patterns and employment status, and a handful of articles were published on characteristics of adults with LD and coping mechanisms in the workplace. Empirical research data on access to career services in higher education is scant but significant in its contribution to the small body of literature, relevance to career program development and impetus for future research, particularly with respect to current characteristics of, career services used by and career paths of today’s graduates with LD.

In the category of pivotal early research is the work of Adelman and Vogel (1990), who surveyed education and business management graduates with LD from a private college in the United States holding business-related positions. The disability had clearly impacted their productivity and ability to handle task timelines. Academic coping strategies were found to have been employed to compensate for workplace challenges. Many of the former students said they capitalized on their strengths to succeed in their job. Results of this small study indicate the
necessity for adults with LD to be well acquainted with their disability and its impact beyond the academy. The authors suggest increased information to students before they graduate on career choices, aspects of specific jobs and compensatory strategies that can assist in navigating careers successfully. Technology is not a considered factor as its advent as an assistive tool was just emerging at the time. Nevertheless, key aspects of the findings hold relevance as a reminder of the interplay of students’ need for self-determination, pro-activity, and other skills and knowledge that can influence their success and access to successful employment training and outcomes. The results also serve as a launch pad for further exploration of student interests, faculty and staff awareness, collaboration among service providers and evaluation of career services among the diverse student populations on campus beyond students with LD.

In a subsequent review of the literature on 10 topics related to adults with LD and employment, Adelman and Vogel (1993) find that 50 per cent of graduates with LD feel they had not received adequate career related services. The researchers also determine that the compensatory strategies employed by individuals with LD on academic work at the post-secondary level are also used in job settings, similar to their earlier findings. Related recommendations include a call for career counsellors to be better trained on the needs of and accommodations required by students with LD; a component of career services to include discussion of disability discrimination in the workplace; and career mentoring opportunities. This work is helpful in today’s context as a platform for considering how service providers can collaborate to provide career services and related types of strategies and skills instruction aimed at improving access to these supports and ability to overcome obstacles in the transition process, particularly with interviewing and the job search process more extensively.
In a more broadly-based study, Enright, Conyers and Szymanski (1996) suggest an expanded role for career counsellors to work with the unique needs of college students with disabilities, including assistance in adapting to the campus environment, acquiring appropriate accommodations and transitioning to employment. However, they note that these functions can also be performed by other academic advisors, student affairs staff, faculty members and/or peer counsellors. The authors provide an overview of career-related issues relevant to the needs of students with various forms of disabilities that reinforce earlier research, covering subjects well documented in the literature such as the importance of a student’s decision-making ability, self-concept, and the connection between the type of disability and the specific career services required. Two article sections are particularly noteworthy – on transitions between higher education and the workforce and access and accommodations in career services – in their potential application to PSE institutions across jurisdictions and their enhancement of career services. The authors underscore the need for career services staff to be aware that some students/graduates with disabilities have lower self-esteem and a lack confidence in their ability to succeed and, thus, to be mindful of making modifications to their career programs for these individuals. Examples of workplace accommodations could include: alternative formats for print materials, personalized versus group instruction, extra time for counselling with breaks built into the sessions, use of word processors or computers to record the discussion, and advice on issues such as disclosure one’s disability, utilizing available resources, and how to request appropriate workplace accommodations.

Research by Hitchings, Luzzo, Ristow, Horvath, Retish and Tanners (2001) highlights students’ lack of awareness in regard to career options, a limited amount of understanding of the career-decision making process, and deficient skills for successful employment. The study
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examines career development needs of 97 students with LD from three post-secondary institutions in the American Midwest. Findings suggest that students’ career development activities on campus are quite limited, and that most students have difficulty describing their learning disability and how it affects them in their career searching and planning activities.

A number of key studies by Joseph Madaus of the University of Connecticut contribute eloquently to the literature on careers and students/graduates of post-secondary education who have a LD. For example, Madaus, Foley, McGuire and Ruban (2002) feature a ground-breaking longitudinal study involving 132 graduates with LD from a large public post-secondary institution in the United States, conducted between 1985 and 1999, to determine disclosure practices of these students in their careers. The researchers report an “alarming” finding (p. 368): close to half of the respondents who do not disclose their disability cite a perceived fear for their job security or a concern about negative attitudes affecting relationships with co-workers or supervisors. Moreover, more than half state that there is no reason to disclose the information. While the sample is limited in size, ethnic diversity and demographics (90 per cent being white, non-Hispanic American) and the study does not address access issues, it has some relevance as a platform for research on disclosure within career services programs at PSE institutions, albeit as only one small component.

Another study conducted by Madaus, Ruban, Foley and McGuire (2003), utilizing the same sample as Madaus et al (2002), confirms that the use of self-regulatory strategies/accommodations and perceptions of employment self-efficacy are important predictors of employment satisfaction and success among students with LD in higher education. “Self-efficacy” refers to how an individual perceives him/herself to be capable of using a set of skills to achieve a certain level of performance (p. 160). The authors also state that disability support
programs largely focus on topics related to students’ academic success, and that an enhanced focus on the abilities of students with LD to become independent learners may foster more positive outcomes in their careers and in other settings as they transition from the post-secondary environment into the working world. Two key recommendations centre on (1) looking at how students with LD acquire positive self-perceptions of self-efficacy and individually appropriate self-regulatory skills for use in their careers and (2) investigating the employment experiences of graduates with LD to design and to improve career transition programs.

In a more recent study, Madaus (2006) seeks to fill the gap in research related to employment outcomes of adults with LD. In a follow-up investigation of 500 graduates with LD from three universities in the United States, Madaus provides a comprehensive overview of the employment experiences of graduates with LD. Topics include demographics, education, employment status (that is, field, job title and salary), disclosure practices, the areas of work affected by the LD, and compensatory strategies. Close to three-quarters of the interviewees report that their LD impacts their work, notably, with respect to writing skills, reading comprehension and processing information. Only about 10 per cent say that they had disclosed their LD while applying for a job, while close to 20 per cent indicate they disclosed the fact after being hired, and close to half never disclosed the information.

Kerka (2002) provides a succinct and useful review of the research on career development issues and characteristics of successful adults with LD in the workforce, emphasizing that career services programs must be multifaceted as career development is,

A cyclical process that involves self-knowledge about personality, interests, skills and abilities; understanding of the world of work and the requirements of specific occupations; and the ability to match one’s abilities and skills satisfactorily with an occupation and a work environment. Other aspects that influence the process are occupational aspirations, self-efficacy expectations, and career maturity, (p. 1).
Gerber, Price, Mulligan and Shessel (2004) report results of a study on career and LD focused on the employment experiences of 25 American and Canadian adults with LD. While not directly addressing career services in higher education, findings have implications for the determination of services that could be provided in the post-secondary environment to facilitate students’ transition into the workforce. This research investigates the experience of getting the job, experiences on the job, advancement, and personal attributes that lead to successful career outcomes. Two-thirds of respondents indicate that they had found their first job through a friend of family member and a similar number say that they had not disclosed their LD during the interview process. Two-thirds of the Canadian adults interviewed say that they were formally interviewed for their first job. Only about a third had discussed their LD with their employer and the majority report a positive response as a result of the disclosure. It is interesting to note that neither the Canadian nor the American participants have a good understanding of their respective country’s legislation on disability access. Gerber et al sum up the salient concerns herein:

The specific issues that surround LD in the workplace – self-disclosure, self-advocacy, reasonable accommodations, and the use of disability laws – cause one to wonder about the degree of penetration of the ADA 30 and the Canadian Charter of Rights and Freedoms into American and Canadian workplaces. It seems that penetration is predicated on a set of complex inter-relationships involving the employee with LD, the context of employment, and the degree of self-determination as driven by the actions of self-disclosure, self-advocacy, and knowledge and use of the disability laws, (p. 290).

Findings of this study provide strong guiding questions for future research on and for the design and evaluation of career services programs and access to these supports for students with LD. Other noteworthy findings, references and insights into the experiences of students with LD

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30 Americans with Disabilities Act, 1990, protects the right of access to two- and four-year colleges, and universities and/or to engage in other types of PSE considered essential for job training (Reilly & Davis, 2005, in Brown & Percy (2007).

Other relevant resources covering subjects related to people with disabilities and careers are also recommended. By no means exhaustive, the following initiatives and organizations are repositories of materials and links to a wide variety of other references. *(Refer to the annotated directory for more information on JVS Toronto, NEADS and York University.)*

- Ability Edge (national internship program): [http://www.abilityedge.ca](http://www.abilityedge.ca)
- JAN (accommodation by disability: LD): [http://www.jan.wvu.edu/media/lear.htm](http://www.jan.wvu.edu/media/lear.htm)
- York University LD program: [http://www.yorku.ca/cdc/ldp/](http://www.yorku.ca/cdc/ldp/)

**Counselling/Psychological Services**

The literature shows that students’ level of involvement on campus and their social experiences can be affected significantly by their feelings of adjustment and self-esteem. Emotional adjustment to PSE is generally a complex recipe that can result from the outcome of students’ experiences during transition, academic performance and social interactions. For
students with LD, adjustment is also a result of individual attributes, academic and family background, and the interplay with their environment. Beecher, Rabe and Wilder (2004) observe:

“In addition to unique academic challenges, students with disabilities may experience new forms of discouragement, frustration or anxiety, and/or other emotional concerns as a result of their new responsibilities and unique stressors. College/university counsellors are likely unaware of the unique career and/or emotional concerns encountered by students with disabilities and may lack the training to know how to advise or assist these students in dealing with these concerns” (p. 84).

The importance of supporting the psychosocial well-being of students with LD is a subject that warrants significant attention. Counselling and psychological services personnel on campus play the vital role of serving as emotional supports to these students and as catalysts in their successful academic outcomes. Little research has been conducted specifically on access to counselling or psychological services for students with LD in higher education. The focus has been on the personality attributes of success (that is, self-determination, self-esteem, motivation and perseverance), transition strategies and learning skills. Moreover, the literature on psychosocial needs of post-secondary students with LD is not straightforward. For example, topics overlap in the discussion of available counselling services, workshops or instructional considerations for students with LD, transition services and self-advocacy workshops during orientation. The literature that follows focuses exclusively on the psychological needs of students with LD in higher education and access to counselling services.

In an earlier Canadian study by Saracoglu, Minden and Wilchesky (1989) of York University comparing university students with and without an identified LD, those with LD were found to experience a poorer emotional adjustment and self-esteem than those students without LD. Additionally, many university students with LD suffered from low self-concept, interpersonal difficulties and high levels of stress.
At about the same point in time, American researchers Ness and Price (1990) reviewed the counselling needs of students with LD in the context of a transition project at the University of Minnesota over a two-to-three year period. The researchers noted that a combination of four formats of counselling services would allow for the greatest facilitation of students’ self-advocacy and self-awareness skills in meeting their mental health needs in university:

1. Individual counselling;
2. Group counselling – including discussion of school choices, planning accommodations, disability support, understanding LD, assertiveness training and stress management;
3. Disability awareness training – students learning about their own LD, identifying their strengths and weaknesses, dealing with denial and seeking self-advocacy training;
4. Vocational counselling. They suggest that service providers focus on parental assistance and information, role-playing/disability accommodation and situation simulations with students and “creating a network of postsecondary counselors who are willing to work with secondary LD service providers” (p. 20).

In a review of counselling needs among late adolescent and adults with LD, Rosenthal (1992) echoes the sentiments of other researchers in the value of combining individual and group counselling opportunities to support social skills and vocational interests and the opportunity for students to gain self-awareness and understanding.

While these studies and some of the recommended strategies are dated, they offer a strong introduction to the issue of counselling students with LD at the PSE level. Indeed, more recent examination of this area offers similar observations and conclusions. For example,
Beecher, Rabe and Wilder (2004) determine that the common counselling themes for students with disabilities generally include the need for the establishment of a therapeutic alliance with students, addressing students’ learned helplessness, increasing students’ sense of responsibility, self-advocacy, accountability and awareness of service resources available to them. These themes may be helpful for the purposes of creating counselling workshops and supports for students with LD, keeping in mind the individual needs of students and that not all of these notions are appropriate for all students with LD.

In a study conducted at the Open University in Israel, a distance learning post-secondary institution with an open admissions policy and flexible self-study method, Heiman and Precel (2003) compare 191 students with LD with 190 students without LD, exploring in particular students’ perceptions of factors that help or impede their success. The students with LD are found to experience more stress, nervousness, frustration and helplessness during exams than students without LD. While not surprising, this research supports the impetus for further inquiry on how counselling and psychological services may alleviate some of these feelings commonly experienced by students.

In a similar study at the same institution, Heiman and Kariv (2004) examine the coping strategies of 130 undergraduate students with LD and 146 students without LD at the same institution. Through self-reported instruments, students’ stress levels, supports and strategies are assessed. Students without LD report higher stress levels than students with LD. The researchers explain this finding by noting that the students with LD employ more emotional coping strategies than the students without LD. As this study is retroactive, the researchers also state that the finding may be impacted by the students’ weak recollections of their stress and struggles while they are experiencing obstacles.
Another recent study by Heiman (2006), also from the Open University in Israel, investigates the social support networks, stress, sense of coherence and academic success of 191 students with LD compared to the experience of 190 students without LD for the same four factors. Findings show students with LD perceive themselves to have less social support than their peers without LD. Moreover, students without LD are more likely to attribute their academic success to study skills and personal academic characteristics while students with LD connected their success, or lack thereof, to external factors. While instructive, the results are subject to three key limitations: individual variance due to the specific nature of a student’s LD, variance between different subjects of study/majors, and differences due to the distance learning setting rather than an on-campus experience.

Future studies of counselling needs should take these myriad of factors into consideration. Indeed, a greater understanding of students’ inner battles allows for more accurate and effective counselling programs and interventions. While Canada’s post-secondary education system differs in structure, oversight and other characteristics from the Israeli system, including differences between a distance-learning experience versus an on-campus experience, the value of the Heiman work in the Canadian context lies in the variables associated with the counselling and emotional needs of students with LD.

Rath and Royer (2002) suggest that PSE institutions provide psychological support to students with LD through therapy, peer support groups and counselling. They cite York University’s Language and Learning Seminar as an “excellent example” (p. 370) of a program that makes use of therapy and counselling in the context of a specially-designed course. The authors note that the program, taken by students with LD who also have difficulty with social skills, features some training in language and writing, as well as time spent in therapy groups
which encourages the development of social skills and sharing of emotional experiences, allow members to discuss proven strategies for overcoming problems associated with their disabilities, as well as helps to dispel fears and to combat a perceived lack of control and to recognize the universality of their experiences with LD.

The Social Experience

A sense of belonging and shared experience is important to all students. Students with LD often work inordinately harder than their peers to achieve the same or similar academic results. Consequently, students with LD often find that they have significantly less time available for extra-curricular activities or socializing on campus. Further, as widely documented in the literature, students with LD typically have concerns about the stigma of disclosing that they have a learning disability to another student, or even to staff or faculty members. As a result, students with LD may find themselves isolated and feeling lonely, which can lead to depression and academic withdrawal due to their disengagement with the campus and its available supports.

Many studies anchored in empirical research as noted in this review indicate a positive relationship between students’ self-esteem and their overall adjustment to post-secondary education. A component of their positive self-regard and self esteem may be their level of involvement with campus based activities. Social experiences on campus may involve participation in extra-curricular activities, which are an integral aspect of the college/university experience for all students.

In Canada, NEADS launched a project in 2004 titled, “Inclusion of Students with Disabilities in College and University Sponsored Activities” 31, to explore the accessibility of PSE extra-curricular activities for students with disabilities in Canada. The review focuses on

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31 Highlights of this project are posted on the NEADS website at:http://www.neads.ca/en/about/projects/inclusion/
orientation events, student elections, campus organizations and clubs. The result of this research is an accessibility guide for campus programmers to make extra-curricular activities inclusive (Gaulin & Dunn, 2005). While not a research publication, creating this manual required consultation with students on their campus experiences. Key programming topics covered include barriers to participation, ways to make events inclusive, mandating accessibility as a criterion for funding applications, and development of an event accessibility checklist and accommodation request form. Guidelines touch on technology, communication planning, event literature, location, establishment of key contacts for students requesting accommodations, and sensitivity training for staff.

In the United States, the University of Minnesota Disability Services has published a practical guidebook, Accessing Student Life: Steps to Improve the Campus Climate for Disabled Students (Chelberg, Harbour & Juarez, 1998), which provides an overview of activity planning and access initiatives on campus and a discussion of barriers to student life, with a useful section detailing four fundamental “access environments” (p. 6) that are also hurdles: the physical, informational, programmatic/policy and attitudinal. This comprehensive tool to enhancing access to social activities on campus also serves as a platform for future research in this area on the basis of the multiple topics covered.

**Financial Aid**

One of the key barriers to higher education in Canada for students with LD is financial. In recent research by Chaplin (2011), three of seven students interviewed with learning disabilities regarding their transition to college mentioned that they had experienced a strain on finances and this had either interrupted their studies or had presented them with a significant source of stress. Additionally, in a comprehensive study of debt incurred among college students
with disabilities in Ontario it was found that 55% of part-time and 25% of full-time students with disabilities had experienced hardship and college interruption as a result of students’ challenges financially (Chambers, Sukai, and Bolton, 2011). Junor and Usher (2003) refer to three phenomena that constitute this hurdle: 1. price constraints – the program cost is too high relative to the benefit earned; 2. cash constraints – people do not have enough money to meet the cost; and 3. debt aversion – often the result of the first two concerns. However, the costs can also be looked at in terms of offsets, the foregone opportunity costs of employment, for example, relative to formal education. While Junor and Usher do not examine these factors in relation to students with LD, they indicate that financial barriers are greatest for the aboriginal population and students from low-income families relative to people with disabilities, “who appear to be over-represented among Canadian post-secondary students” (p. 113)

Their research underscores a general theme in the literature that financial matters are to some degree a barrier to access for all students, with and without visible and invisible disabilities, although they also point out the non-financial reasons cause people in these populations to self-select themselves out of higher education.

Financial aid on a needs-based allocation in the form of loans and grants is also found to be a key factor in persistence at the PSE level for all students with and without disabilities – particularly the non-repayable grant component, which can limit debt accumulation by substituting for loans or providing additional funds not provided through loans (Parkin & Baldwin, 2009)

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32 Holmes (2005) observes that individuals with disabilities tend to be over-represented in Canadian colleges and under-represented in universities.

33 The report, documented earlier in this review, also notes that financial considerations are not the primary reason many students leave college or university. The majority leave because the program is not a good fit or they find a better option at another institution. While not discussing disability directly, the researchers recommend that PSE institutions identify students in terms of demographics and apply appropriate supports – financial and academic.
Jones, Shanahan, Lamoureux and Gregor (2008) provide additional insights in the literature on financial assistance structures at the PSE system level in the context of increasing accessibility, broadly defined to include the notions of enrolment, retention, completion and academic success.\textsuperscript{34}

The funding structure in the different Canadian jurisdictions is typically complex, consisting of a multitude of overlapping and complicated programs that can leave any student confused about their features and how they can access benefits to which they may be entitled (Russell & Demko, 2005). Moreover, students with LD usually face additional costs related to their disability such as those associated with the purchase of adaptive technological devices, and many who need to supplement their income have difficulty finding summer or part-time work during the school semester because of health conditions or discrimination toward their disability – whether physical or invisible such as LD, particularly if it is disclosed. As Russell and Demko also point out, students with LD generally are not eligible for scholarships because of their academic standing and if they do not attend school full time or are on a reduced academic course load.

On a similar track in the United States, Wolanin and Steele (2004) discuss the added burden SWD have in cataloguing related expenses and attempting to reduce the costs through other support such as vocational rehabilitation, tasks that require strong organizational, computational and self-advocacy skills as well as self-confidence. This presents “a formidable challenge that would test the skills of anyone and is sometimes unreasonable for students with disabilities” (p. 59).

\textsuperscript{34} Anisef et al (1985) quoted by the Higher Education Quality Council of Ontario (2008) discuss “access” in the form of “Type I” – that is, the number of people enrolled in PSE institutions, and “Type II” – that is, who specifically is participating. The view is that more research needs to be done on the latter and whether access is equitable across gender, income, racial/ethnic, age, and other key characteristics. They do not mention disability directly; it is swept into “other important characteristics” (p. 2).
The most current COU (2002) report on access to higher education in Ontario focuses on equity pertaining to people with disabilities, visible minorities and the Aboriginal population, shows that parents are the number one financial resource (cited by more than a third of the respondents with a disability), followed by the Ontario Student Assistance Program (OSAP) 35, personal income and savings. A low response rate to the survey limits generalization across disabilities; however, the finding reinforces a theme in the literature that external sources are essential to the financial well-being of PSE students with a disability. This notion is at the heart of a recent Adaptech Research Network study in Quebec (Fichten, Jorgensen, Havel & Barile, 2006), which explores the perceptions of students with disabilities toward obstacles and facilitators to their academic success. Finances are shown to account for 10 per cent of the barriers and five per cent of the facilitators, although the findings are limited by an incomplete description of what these numbers mean in the context of financial aid overall.

Access issues related to funding are also positioned as a significant barrier to PSE in a widely-cited Ontario Human Rights Commission (OHRC) report (2003), emphasizing that the funding structure for SWD in particular at the PSE level is complex, with varying benefits and eligibility requirements. Other potential obstacles cited include a rise in tuition fees and the time-to-degree factor for SWD, which may be longer due to students taking advantage of a reduced course load and taking longer to complete their programs. The OHRC also cites concerns with the Bursary for Students with Disabilities (BSWD) – the only student financing program with the purpose of helping to ensure equal access to SWD by providing support for expenses not encountered by students without disabilities. However, many submissions to the OHRC note that the BSWD is tied to eligibility for OSAP, students must have a pre-diagnosed disability, and

35 Specific information on assistance for students with disabilities is located on the Government of Ontario website at: http://osap.gov.on.ca/eng/not_secure/app_disable_12.htm
those who have defaulted on OSAP or are overdrawn are ineligible for the bursary. The OHRC calls for a review of both (1) the funding programs for SWD to ensure their requirements do not impose barriers or discriminate against them and (2) the communications vehicles for programs for SWD to ensure the students are able to access important funding information in a timely and effective manner.

Responding to calls for the need to examine financial barriers faced by students with disabilities at the PSE level, the Canada Millennium Scholarship Foundation and the Higher Education Quality Council of Ontario and NEADS (Canada Millennium Scholarship Foundation, 2008) launched in November 2008 a joint study aimed at improving access to higher education for students with both physical and learning disabilities, who are said to incur among the highest levels of debt among the PSE student population. The research utilizes a number of instruments, including online survey, interviews, focus groups and analysis of secondary data. The study is being conducted in collaboration with researchers from the University of Toronto’s Centre for Study of Students in Postsecondary Education, NEADS, and the Canadian Association of Disability Service Providers in Postsecondary Education. At the time this review was being completed in spring 2009, the study was in progress.
PART SEVEN: CONCLUSIONS AND RECOMMENDATIONS

“Students with learning disabilities are legally guaranteed equal educational access, but there is dissention in educational circles as to what constitutes such equality. Basically, there are two approaches that institutions take when addressing the question of equal access. One is to change the student so that he or she is fully capable of functioning in any educational environment, and the second is to change the educational environment so that the student can succeed despite his or her disability. There are reasons for preferring the first approach to the second. If the student’s disability can be corrected by directly improving academic skills or by teaching compensatory strategies, then the student is empowered to succeed in any learning situation. In contrast, if the learning environment is changed to allow the student with a disability to succeed, then there is no guarantee that the student is capable of succeeding in an environment that has not been altered ... There is also the philosophical issue that, after students enter college, education is no longer considered a right of all students but a privilege available to those students qualified to complete college-level work. Because of this belief, colleges are not under the same obligations that elementary and secondary schools are to supply remediation and make vast changes to accommodate individuals with learning disabilities ... It is the authors’ opinion that such beliefs are not entirely unwarranted but that certain modifications that give students with disabilities a boost toward success are definitely worthwhile.”

(Rath & Royer, 2002 p. 359)

Epilogue: Challenges Revisited

Access to post-secondary education for students with learning disabilities is a complex subject that invites debate and controversy. The rather pointed comments by Rath and Royer, widely cited American scholars and educational psychologists at the University of Massachusetts, capture the crux of the fundamental issues reflected in the review of the literature emanating from Canada as well as the United States and other countries, most of which is anchored in the established assumption that students with learning disabilities require some sort of “fix” to be able to access and to succeed at the higher education level, be it through external mechanisms such as accommodations or internal motivators such as self-advocacy.
The various studies documented start with and take a micro approach to the subject of access to the PSE system. The focus, as intimated by Rath and Royer, is not on whether LD should be supported at all educational levels but how this should be accomplished. The research provides information on individual components of the large picture, looking at the students themselves – their backgrounds, course of study, attrition and retention rates; transition between educational levels and deficiencies and/or opportunities therein; academic services focused in particular on accommodations, institutional special needs initiatives in the classroom and on campus, staffing, standards, policies, faculty involvement and technology; and non-academic supports such as career and counselling services and financial assistance.

The discussion builds on the notion that equality and equal opportunity to education are enshrined in the law – in Canada, the federal constitution, implemented by provincial human rights commissions. These principles are a given. Also indisputable is the public imperative to improve access to higher education, institutionalized by government policy, promulgated by enforceable edicts, and embraced by institutions voluntarily as the right thing to do.

However, what appears to be missing in the literature is a macro view – a broader perspective as the starting point for the discussion of access to higher education by students with LD. The attendant foundational focus should be on issues arising from public policy as embedded in the law and in social expectations of what is correct as opposed to what is practical and possible in specific circumstances. These considerations go beyond the blanket assumption that all students with LD should be able to access and to succeed in higher education, meeting the regular admissions standards but with proper additional accommodations.

Moreover, the term “learning disability” is both highly complex and vague, often used interchangeably with other intellectual and developmental disabilities, even with the existence of
formal descriptions that are widely accepted and cited as a standard – such as the LDAC’s comprehensive declaration.

Muddying the picture even more, a significant amount of the research combines learning with psychological and physical disabilities more broadly. Certainly, such macro-level discussion is highly useful in the context of general principles and practices associated with attitudes toward and treatment of people with all manner of disabilities and is referenced in this review as part of the larger social structure that has an impact on LD in the micro view. However, it is clear from the literature that there is a divide between the “visible” and “invisible” disability and that higher emphasis is placed within society, including education, on what is seen and known rather than what is less evident and in the realm of the uncertain.

Reinforcing this difficulty of division is the fact that the definition of LD has been modified a number of times over the years, medically and politically inspired in tandem with advancements in the physical and social sciences that recognize human development and human rights. Bender (2004) chronicles six phases of change in the definition of LD, from the purely “clinical phase” identifying learning deficits as a “difference” from the norm and, hence, a form of “mental retardation” (p. 6), to the current “revitalization phase” that aligns difference with “intervention” and “prevention” where possible (p. 32). The LDAC explains that the new, 2002 definition, updated from 1981, takes into account the biological and genetic nature of LD that “affect one or more of the processes related to perceiving, thinking, remembering or learning”, its lifelong characteristic and impact on all areas of life beyond education (2005d).
Where To Go from Here

Micro Matters

From a micro perspective, this review of the literature indicates that research on access to higher education by students with LD in Canada is still an untapped field relative to other countries, and that, despite many significant studies by Canadian scholars and groundbreaking initiatives by Canadian PSE institutions that are cited by academics and practitioners in the field worldwide, many opportunities remain to enrich the body of knowledge from a purely Canadian perspective.

The dominant topics and common themes identified in this review provide a strong foundation on which to engage in further meaningful exploration of the phenomena of LD and its impacts on students, administrators, faculty and staff in higher education, at a micro level. The following areas have potential for further empirical research in a Canadian context.

Persistence and completion rates.

The literature shows that a higher percentage of students with LD than without disabilities do not graduate. Many are reluctant to take advantage of available support services, for fear of being excluded, labelled or otherwise stigmatized by the disclosure, which has a negative impact on their ability to participate effectively. Other factors of success, or lack thereof, are personal attributes and self-advocacy skills, family support, and educational background, goals and commitments. At the same time, it is clear from the literature that students with LD who complete their studies and attain a PSE credential are more successful in their careers than those who drop out of the higher education system.

Related questions for further research:
• How many students with LD enter PSE institutions in Canada annually? What are the retention and attrition rates? What factors contribute to the retention and attrition? In this context, how important are personal independence and interdependence among the students, other students, faculty and administrators? Are the experiences different between colleges and universities? If so, in which fields? What are the courses of study typically selected and avoided?

• What impact does this knowledge have on public policy related to improving access to higher education? In a study for the Ontario government, Bennett and Wynne (2006) suggest that research be conducted on the influence of parental involvement in the decision making related to special education programs and services in the province. While they focus on primary and secondary levels, the literature is clear that parents are instrumental in a student’s decision to enrol in a higher education facility and have some bearing on persistence.

**Recruiting and admissions.**

Current Canadian literature on recruitment and the admissions practices related to students with LD is rather lean. Fichten, Barile, Asuncion and Fossey (2003) suggest such research should include an analysis of marketing initiatives.

Related questions for further research:

• Are there best practices in Canada and abroad that would inform existing policies and processes and staff training, serving to enhance access?

• How can collaborative communication channels be strengthened between secondary and PSE institutions to move toward more seamless transitions?
Support services.

Evaluating the effectiveness of support services for students with LD at PSE institutions is a longstanding research imperative in this field, going back in the Canadian literature to Hill (1992) who advises on the need to examine the types of services, the extent to which they are available across the system (that is, in colleges, trade schools, universities), and the degree of satisfaction with the assistance students are offered.

Related questions for further research:

- What creative means can be employed in program evaluation (for example, use of graduate interns)?
- How do an individual institution’s unique characteristics impact support services and their effective review?
- What strategies can be implemented if expanded services or program improvement are demonstrated needs but resources are insufficient to bring out the changes?
- Are case studies or best practices available that can help institutions navigate evaluation objectives?

Academic advising.

A subset of support services, this area is gaining increased research attention. While disability service providers are typically acquainted with their student clients and individual caseloads, they may not be as well informed on the particular coursework, program requirements and teaching styles of professors – information that is integral to effective advising. Moreover, while academic advisors generally receive some in-service training on working with students with LD, most do not have the breadth of knowledge about the disability or background on the
individual students with whom they work due to privacy laws, hindering positive collaboration between the parties.

Related questions for further research:

- What impediments do service providers face in attempting to gain information on the students with LD that would be useful in working with the students?
- Are alternative approaches to individual academic advising more appropriate/effective (such as peer tutoring and peer advisement, for example)?

**Career services.**

The literature suggests that transition to PSE is eased when the high school provides prior career orientation to students with LD – and when the PSE institution provides career support services to graduating students on their way into the workforce.

Related questions for further research:

- Are high school staff hired/trained to work specifically with students with LD?
- What career services are typically provided at the PSE level for students with LD? Are guiding principles in place to establish services for students with LD within the career service offices?
- How are students, faculty and staff informed of available services? How many students with LD use these services? Which programs are found to be most helpful and supportive to students with LD? What kind of in-service training is provided to career service providers?
- Is funding specifically earmarked to enhance career services in higher education?
- What kind of collaborative networks can be established to improve the services’ effectiveness in serving students with LD?
• What are the feedback mechanisms from students and employers?

• What variables foster successful transition to graduate work or into the workforce?

• What is the lived experience in graduate studies of students with LD? How many students are enrolled in graduate studies in Canada, and in what academic fields?

• What are the current best practices in institutional career services initiatives?

**Counselling/psychological services.**

The literature shows that counselling services may alleviate some of the anxiety, frustration and feelings of helplessness students with LD experience in higher education.

Related questions for further research:

• To what extent do disability service offices collaborate with counsellors or on-campus psychiatrists to inform service providers about the specific needs and considerations of working with students with LD? Do campus counselling programs avail themselves of information that will help equip them to serve the needs of students with LD?

• What are the most common current counselling needs of students with LD? How are these needs assessed? How do students with LD view the counselling services provided on campus?

• Are there differences between college and university students in terms of counselling needs? Are there differences between genders, among different age groups, income, culture and/or religion? Do students with LD and disability service providers, for example, believe campus counselling services are well equipped and interested in providing services to students with LD?

• What is the prevalence of students with LD also having significant mental health issues or psychiatric disabilities?
Do the counselling needs of students with LD vary according to the age of diagnosis of the LD?

Do students with LD attend general counselling services or specialized workshops? Do they fear disclosure if they attend a plenary session?

Are there best practices in this area?

**Campus environment.**

Encompassing residential life, the notion of campus environment embodies the social, emotional as well as academic aspects that impact success in higher education – notably, with respect to retention and graduation. Research in this area would be valuable in assisting service providers to align housing accommodations, for example, more closely with the special needs of students with LD.

Related questions for further research:

- Are there best practices on enhancing attitude and awareness in terms of accepting and understanding LD? What are the best practices associated specifically with the allocation of resources for building campus awareness of disabilities such as LD in terms of staffing, funding and time devoted to related initiatives as part of in-service training, instructional manuals, campus newspaper coverage and online information, for example?

- What strategies can be employed at the institutional level to heighten awareness and understanding and to improve attitudes of campus personnel in their work with students with LD? What do faculty, staff and students generally know about LD? How do they learn about LD? What are the attitudes and beliefs of faculty, staff and students generally about students with LD on campus? How do students with LD feel about the campus?
Responsibility and accountability.

The literature suggests that responsibility and accountability for students’ successful outcomes in higher education are a partnership between the student and the system.

Related questions for further research:

- What roles can students with LD play in assisting themselves and other students in enhancing their experience at college/university?
- Who has ultimate responsibility for access to and success in higher education – the student with the LD, administration, high school, tutors and/or counsellors?
- What are the perceived experiences of students with LD in higher education generally?
- Are there differences in perceptions between college and university students with LD?

Macro Matters

As noted earlier in this chapter, the literature does not adequately reflect the broader socio-economic public policy considerations of dealing with issues related to LD at the higher education level. The research also does not appear to address the impacts of current public policies and institutional responses designed to assist students with LD beyond the parties with immediate interests – notably, other students, faculty and the tax-paying public. A number of key questions arise, which are not easily answered, anchored as they are in the notions of who ultimately benefits and who pays. In particular:

   Equity and fairness.

Related questions for further research:
To what extent does striving toward fairness for one constituency lead to unfairness to another? To what extent does equality transcend into privilege? For example, if an instructor alters rules on coursework for students with LD, treating them differently from others who are deemed not to have LD, is this difference a sufficient handicap to create a level-playing field? At what point do the scales tilt the other way, toward the student with LD?

Where do “gifted” students who have their own special needs fit into the mix? Are they treated like all other students without declared LD? Are they not disadvantaged by not being accommodated for their difference? The literature does not address this constituent group in the context of accommodation.

“Reasonable accommodation.”

In the literature, “reasonable” is discussed in the context of maintaining academic integrity and standards, and effectiveness for the student with the disability at a personal level. Less focus is evident on the connection to the impact on other students, faculty and staff at a personal level, the financial outlays required to maintain the services and the ultimate cost/benefit relationship.

Related questions for further research:

- Correspondingly, what is the definition of “reasonable accommodation”? How is “reasonable” – as in making accommodations – measured, and from whose perspective?

- What are the financial costs to the post-secondary institutions of providing accommodations?
Transitions.

In the literature on LD, transition from high school to college/university is assumed as a direct link between the two levels. A missing element appears to be a discussion of exit and re-entry at a later point in time – that is, a bridge between the levels – the notion that a student with LD, or any student, has the option of leaving the academic system after high school to enter the workforce or to engage in other activities, including training for a trade-related field, thereby, potentially developing in the individual greater self-awareness and perhaps better preparation for traditional higher education. Moreover, the literature on LD in higher education does not seem to capture the notion of inter-institutional movement and attendant assessment of academic improvement with such transfers.

It is documented in the literature generally that students who leave often return to higher education after some time pursuing other interests (Grayson & Grayson, 2003) and tend to be more motivated and successful than students who may not be ready for PSE and who make the leap straight out of high school without the required self-discipline and interest, typically meeting forced expectations of parents that college/university is the right thing to do as a stepping stone to the right job/career.

Related questions for further research:

- To what extent is a break from the academic system after high school a favourable step toward later entry into and successful outcomes in college/university for students with LD? Would a break or a “gap year” alter the level of disengagement and poor academic performance?
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- What is the experience of students with LD in trade schools or other vocational training outside the mainstream academic route of diploma/certificate/degree-granting colleges and universities?
- Do students with LD have a history of moving across PSE institutions? Are such transfers influential in improving their academic performance?

In a classic, highly cited article on student attrition, Tinto (1982) posits that people enter PSE with a huge variety of interests, skills, values and commitments as they relate to higher education broadly and to the specific institution into which entry is gained specifically and that not all students are “equally equipped either in skills (academic, social, or otherwise) and/or intellectual capacities to finish a given course of study” (p. 696), nor are all motivated to finish their programs. While he agrees that students who are socially and intellectually engaged on campus are more successful in school – a comment that extends to all students, not just those with disabilities – he also poses the “difficult question” (p. 698) raised in this discussion: What are the net cost and benefit to institutions of acting to improve retention and to attempt to integrate students for a potentially successful outcome? This consideration needs to be examined in the Canadian context of learning disabilities as a part of the discourse on socio-economic policy and tradeoffs within the framework of the principles of expanding access and improving equal opportunity to access to higher education.
STUDENTS WITH LEARNING DISABILITIES: ACCESS TO HIGHER EDUCATION IN CANADA

ANNOTATED DIRECTORY OF COMPOSITE RESOURCES

Organizational Sources

The following lists feature major groups – community, educational and governmental – that advocate on behalf of and/or provide support to individuals with a broad range of disabilities, including learning. The emphasis is on Canadian sources, many of which carry links to organizations abroad, with a handful of references to international facilities working to advance research on LD.

The lists are not intended to be exhaustive but rather are representative of the extensive and growing range of services being offered to improve access to education, particularly higher education. Moreover, it is beyond the objectives of this review to note all of the initiatives that all Canadian colleges and universities are undertaking for students with LD. The vast majority of institutions canvassed have in place some form of special services, which continue to be enhanced. Those listed go beyond basic information.

The listings are in alphabetical order within each category. Links to disability-related legislation and regulations are found in the earlier narrative sections of this review and are not documented in this directory.

Community

Canadian Abilities Foundation (CAF)
Similar to the Council of Canadians with Disabilities, this group aims to stimulate dialogue on disability among people with and without disabilities, and to enhance access to services and all aspects of living, including learning, for those in need of special assists. Links to international literature and news of community initiatives are featured on the website.
http://www.abilities.ca/

Canadian Association for Community Living (CACL)
The CACL is a national federation of more than 40,000 individual members, 400 local associations and 13 Provincial/Territorial Associations for Community Living. CACL works with government on policy research and awareness-building. Projects involve learning disability studies in PSE. The CACL also administers through York University an initiative to further
inclusive education in Canada, focusing on training, consultation research and information sharing between educators and the community. The Inclusive Education Canada (IEC) website features links to resources that include post-secondary education:
http://www.inclusiveeducation.ca/learn/publications.asp The February 2009 edition of AUCC University Affairs features a recent paper co-written by Bruce Uditsky, Chief Executive Officer of the Alberta Association for Community Living and Dr. Anne Hughson, Associate Professor, Community Rehabilitation and Disability Studies at the University of Calgary. Both also collaborate on related community events, university curriculum and research on inclusive education for students with LD.
http://www.cacl.ca/

Council of Canadians with Disabilities (CCD)
While not focused on education, its broad range of information on access and human rights is relevant to associated issues in higher education. The CCD offers insights into areas of concern and developments related to public policy on disability in Canada.
http://www.ccdonline.ca/

EnableLink
A Canadian website with a link to the online version of Abilities Magazine and a massive directory of 5,000 disability organizations. It also provides a large database of articles and other resources relating to education, employment, recreation, transportation, among other topics, and contact information for government councils on disability.
http://www.enablelink.org/

JVS Toronto (links from the Alder Centre: Adult Learning Disabilities Employment Resources)
This is a non-profit community organization that partners with the government and business sectors. Its stated aim is to help people from all backgrounds and walks of life to succeed at school, work and life. It runs a Learning Disabilities Centre providing employment programs that assist individuals to understand their LD, to determine a suitable employment goal, to access employment, to secure workplace accommodations and to provide support to help maintain the job. (The Alder Centre home page is located at: http://www.aldercentre.org/contact/index.html) http://www.jvstoronto.org/index.php?page=Learning-Disabilities-Centre

Learning Disabilities Association of Canada (LDAC)
The website is a mine of information on LD generally, with more than 50 links, including its 12 provincial and territorial affiliates, the Adaptive Technology Resource Centre at the University of Toronto, government agencies, education and medical associations and facilities in Canada and abroad. The Resource Centre features a variety of topical literature, suggested books and a section on LD and the law. The 2005-2007 research initiative, PACFOLD, is accessible through the home page. Based in Ottawa. (Jurisdictional affiliates, such as the Learning Disabilities Association of Ontario, also feature a rich range of publications, links, workshops and other online resources: http://www.ldao.ca/) http://www.ldac-taac.ca/
Learning Disabilities OnLine
An American website that provides comprehensive information on learning disabilities and related conditions such as dyslexia, attention deficit disorder, reading and speech difficulties. Provides links to other LD related websites and connections to higher education institutions with strong supports for students with LD.
http://www.ldonline.org

Education

Adaptech Research Network
In partnership with NEADS, Adaptech conducts research on the use of computer technologies by Canadian college and university students with disabilities. Its purpose is to provide resources and to advocate for full access to technology in education for these students. Email: adaptech@dawsoncollege.qc.ca Website: www.adaptech.org

Association of University Centers on Disabilities (AUCD)
The AUCD, based in Maryland, supports a national network of university-based interdisciplinary programs focused on research, education, leadership training, policy development, and direct service for people with disabilities. The website features a number of links to related resources such as federal government departments and agencies, including education, and a large range of community groups advocating on behalf of individuals with disabilities. A web page devoted to PSE carries more links specific to higher education, including research centers, disability-oriented events, publications and submissions on public policy, and articles on subjects such as transition from high school and higher education options.
http://www.aucd.org/template/page.cfm

Association on Higher Education and Disability (AHEAD)
Based in the United States with a focus on public policy and support services, this international organization includes members from Canada, England, Australia, South Africa and Japan, among other countries. Its website has links to research materials dealing with disability on issues such as critical support mechanisms and best practices. AHEAD members have full access to the Journal of Postsecondary Education and Disability; current and archival issue abstracts are available to the public.
http://www.ahead.org/

Canada-wide Accessibility for Post-secondary Students (CanWAPSS)
An advocacy and support channel for post-secondary students with disabilities, providing consulting for student services offices, administrators, faculty, staff and community organizations. Runs disability awareness workshops and events to dismantle barriers for students with disabilities. Features links to service providers and student groups.
http://canwapss.com/index.html

Canadian Association of College and University Student Services (CACUSS)
The website has links to a wide variety of services, including information for students with disabilities, and provides an additional source for dialogue on disability issues. The CACUSS
website houses CADSPPE web pages located at:
https://www.cacuss.ca/en/divisions/CADSPPE/overview.htm?jsessionid=1A5B0C2CD4C1F625A67909D9B39C0925
https://www.cacuss.ca/splash.htm

**Canadian Centre on Disability Studies (CCDS)**
Based in Winnipeg, this is a university-affiliated centre focused on research and education on disability issues serving to develop collaboration between disability and academic institutions and to advocate for improved legislation and private sector support for individuals with disabilities. The website has a variety of links for libraries, assistive technologies, human rights groups, education societies and certain PSE institutions. [http://www.disabilitystudies.ca/](http://www.disabilitystudies.ca/)

**Canadian Council on Learning (CCL)**
While predominantly focused on children at the primary and secondary school level, the website of this national advocacy and research group working toward equitable access to education by all Canadians features a strong section on post-secondary education that includes studies on access and attainment by under-represented groups, including students with disabilities. The annual reports are based on both Statistics Canada data and the CCL’s own empirical inquiry involving government ministries in Canada and organizations such as the Organization for Economic Cooperation and Development: [http://www.ccl-cca.ca/CCL/Reports/PostSecondaryEducation?Language=EN](http://www.ccl-cca.ca/CCL/Reports/PostSecondaryEducation?Language=EN)
The comprehensive and accessible website also provides links to the *Journal of Applied Research on Learning* and a catalogue of worldwide references. [http://www.ccl-cca.ca/CCL/Home?Language=EN](http://www.ccl-cca.ca/CCL/Home?Language=EN)

**Canadian Council on Social Development (CCSD)**
The website for this non-profit research organization offers free access to a wide range of research initiatives, including an array of statistical data on post-secondary education, policy statements and submissions to government, and research reports – advocating equality and empowerment of all disabled and otherwise disadvantaged individuals. [http://www.ccsd.ca/home.htm](http://www.ccsd.ca/home.htm)

**Canadian Disability Studies Association (CDSA)**
The CDSA is a group of disability scholars, educators and activists. The website – updated frequently – profiles university degree programs in disability studies, notably, Manitoba, Ryerson and York, and literature (books, journal articles, reports and policies) related to post-secondary education and disability, including learning. References to publications (books and articles) by Canadian scholars and links to disability-related organizations are featured on the website. This resource is a strong springboard for further research. [http://www.cdsa-acei.ca/](http://www.cdsa-acei.ca/)

**College Committee on Disability Issues (CCDI)**
The CCDI is an advisory body for Ontario’s Colleges of Applied Arts and Technology, reporting to the Coordinating Committee on Student Services (CCSS) and the Committee of Presidents of Colleges Ontario. Its mandate is to research and to advance recommendations to the Ontario Ministry of Training, Colleges and Universities on sector-wide issues, policies and practices.
affecting students with disabilities. The website, hosted by Loyalist College, carries submissions and guidelines related to LD in education. A comprehensive resource guide developed July 2008 covering accommodations, learning strategies and assistive technologies as fundamental supports for students with LD and an earlier guide that includes specific LD student profiles and links to legislation are also accessible through the website.

http://www.loyalistc.on.ca/services/ccdi/resources.html

**HEATH Resource Center**
This is an online clearinghouse administered through The George Washington University. The website carries a vast amount of information on PSE such as transition from high school, financial assistance and other supports. While developed for students with disabilities, the website also carries a variety of statistical materials, including research reports, a newsletter and fact sheets, of use to academic scholars. Links to American statistical data banks, government services and legislation, advocacy groups and educational centers working on behalf of individuals with LD are also plentiful.

http://www.heath.gwu.edu/index.php?option=com_content&task=view&id=1001&Itemid=4

**Institute on Disability and Human Development**
Part of the Department of Disability and Human Development at the University of Illinois at Chicago, this website offers free access to submissions and a newsletter, with a bibliography of international academic research work on disability that includes learning.

http://www.idhd.org/default.asp

**Inter-university Disability Issues Association (IDIA)**
This is a group of disability service providers representing 24 post-secondary institutions in Ontario. The mandate is to share strategies to improve access to and success in higher education by students with disabilities. A large number of useful links to disability-related organizations and government agencies and ministries are provided, in addition to direct links to disability service offices at each of the member institutions.

http://idia.mcmaster.ca/

**National Alliance for Secondary Education and Transition (NASET)**
This is an American voluntary coalition of more than 40 organizations and community groups advocating for the rights of special education needs. A key area of focus is successful participation in postsecondary education and training, responding to the growing issue of transition challenges as documented in this review. The strategic planning toolkit posted on the website can be modified for use in other jurisdictions.

http://www.nasetalliance.org/

**National Center on Secondary Education and Transition (NCSET)**
This American-based group based in the University of Minnesota (College of Education and Human Development), government funded, provides technical assistance and disseminates information related to secondary education and transition for youth with disabilities to enable their success in further education and employment. It facilitates the work of NASET. The website is highly accessible, with a wide range of research and current news reports, a number of
which may be applicable to the Canadian setting, plus links to other key U.S.-based community
and advocacy groups.
http://www.ncset.org/

National Education Association of Disabled Students (NEADS)
The website hosts a discussion forum and provides access to results of research projects related
to education and employment. It has a link to the Adaptech Research Network run out of
Dawson College in Montreal and makes available a range of guides for employers, educators and
students with LD, covering subjects such as transition to post-secondary education and faculty
training. Based in Ottawa, it is run out of Carleton University.
http://www.neads.ca/en/

Postsecondary Education Research Center (PERC)
This hands-on, tools-based website is focused on providing resources on college options for
students with intellectual disabilities. While the content is American, the Resources page is
particularly useful for Canadian scholars researching PSE and LD, notably, the extensive web-
based postings of journal articles and briefs and links to other research sites, including the
National Center on Secondary Education and Transition (NCSET), (http://www.ncset.org/) with
its own array of research material accessible free of charge.
http://www.transitiontocollege.net/

Rohe\r Institute
Formerly operating from York University, the human rights policy research group is no longer
active and the cached website content is not available. However, a review of the research and
publication listings still visible on the site provides leads to documents that may be located
through various library archives or by sending an email with a related query to the CACL, which
is facilitating requests for archived content and will expedite prepaid orders: inform@cacl.ca . A
number of the back materials can be purchased at a nominal fee. As this review was being
completed in March 2009, the CACL was in the process of launching a new Institute – the
Institute for Research on Inclusion and Society.
http://www.roeher.ca/english/about/about.htm

Special Needs Opportunities Windows (SNOW)
Administered through the University of Toronto, SNOW is an education service of the Adaptive
Technology Resource Centre. It features information on Ministry of Ontario guidelines on
special education, and special education supports, including computers and tutorials. It provides
strategies for teaching and a list of community and government resources for people with special
needs, caregivers and educators.
http://snow.utoronto.ca/index.php

Post-secondary Education Institutions

Brock University
Brock has a powerful website that includes a detailed handbook for faculty and staff on the
subject of disability, with a focus on “ability”. Presented in plain language, the guide explains the
fundamentals of various “disabilities” and “accommodation”, with information on the
University’s support programs and contact information for community services. Similar guidance is provided for students.
http://www.brocku.ca/sdc/disABILITIES/

Dalhousie University
Dalhousie provides an example of a strong website that features a range of accessibility services for SWD. The information is clearly documented, comprehensive and easy to navigate, including University policies and links to various related sources for support.
http://studentaccessibility.dal.ca/FAQ's/

Fanshawe College
Fanshawe has an informative website that presents the College’s disability policies clearly and provides links to a number of practical resources, including the LDAC and Learning Disabilities OnLine.
http://www.fanshawec.ca/EN/disability/default.asp

George Brown College
George Brown’s comprehensive website includes a service directory and background information for students with a wide range of disabilities.

McGill University
McGill’s extensive website houses links to access services at universities across Canada, a unique feature not typically found on college/university websites. Also provided are links to broader support groups such as NEADS, Adaptech and the University of Toronto’s Adaptive Technology Resource Centre.
http://www.mcgill.ca/osd/

Mount Royal College
The College’s website for Learning Skills Centre lays out key aspects of accommodation for students with disabilities. The College also offers a two-year diploma in disability studies with credits transferable to certain university degree programs.
http://www.mtroyal.ca/learningskills/disabilitieservices.shtml
http://www.mtroyal.ca/ProgramsCourses/FacultiesSchoolsCentres/HealthCommunityStudies/Programs/DisabilityStudiesDiploma/index.htm

Queen’s University
This web page is a portal to a variety of instructional materials for faculty and students.

Ryerson University
This website features Ryerson’s new School of Disabilities Studies, with links to disability related organizations and Abilities Magazine.
http://www.ryerson.ca/ds/index.htm

Seneca College
Seneca provides a range of services related to disabilities, including learning. Recent new initiatives are an intensive Summer Transition Program for students and training for faculty (such as the Customer Service for People with Disabilities workshop, a regulatory requirement under Ontario’s 2005 disabilities legislation) offered through the Resolution, Equity and Diversity Centre for Faculty and Staff Development. http://www.senecac.on.ca/students/healthservices.html

**University of British Columbia (UBC)**

**University of Calgary**
Calgary’s website features its Community Rehabilitation and Disabilities Studies programs. Calgary is affiliated with the Vocational and Rehabilitation Research Institute, the website of which provides access to recent publications and the annual Disability Digest, dealing with a wide range of disabilities.

**University of Manitoba**

**University of Toronto (St. George) AccessAbility Services**
The website features information and access to supports for students with disabilities to ensure their integration into all aspects of university life. Mentors and other volunteers, notably, for note-taking accommodation, and students with special needs can register for special services through this site. The focus is on academic skills and self-advocacy. http://studentlife.utoronto.ca/accessibility.htm

**University of Toronto (Scarborough) AccessAbility Services**
The website features links to a broad range of educational and medical groups worldwide, publications and resources that include peer support and financial assistance. Its stated mission is to help students with disabilities to access all facets of university life, to provide and to coordinate services and programs for students with disabilities, and to increase public awareness of inclusive values. Note: Similar services are provided at the Mississauga campus.
http://www.utsc.utoronto.ca/~ability/
http://www.utm.utoronto.ca/~w3access

**University of Winnipeg**
The website for Winnipeg’s Disabilities Services and Disability Resource Centre includes information on accommodations for students and responsibilities for faculty with a view to ensuring equal and fair access. A detailed brochure on the Centre is also posted.
http://www.uwinnipeg.ca/index/services-disability
York University
York is documented in the literature as a pioneer in disability services at the university level in North America. A comprehensive faculty resource guide and references to the Ontario Human Rights code, among other legal issues, are featured on this policy and instructional web page: http://www.yorku.ca/facultyawareness/understand-learning.html
The Learning Disabilities home page also provides a vast array of information on LD and a list of community counselling and support resources of use to students and of potential interest to the general reader and researcher: http://www.yorku.ca/cdc/ldp/

Government

Ontario Human Rights Commission (OHRC)
The OHRC focuses on protecting individuals against discrimination and improving their rights as enshrined in the federal charter. The OHRC enacted the first human rights code in Canada. Education is featured in the publications, policies, fact sheets and guides sections of the website, as well as highlighted home page features. Provides links to other human rights commissions across Canada.
http://www.ohrc.on.ca/en/issues/disability

Persons with Disabilities Online
A federal government initiative, this website provides access to information on programs and services for individuals with disabilities, caregivers and providers. It is a collaborative effort of four ministries: Human Resources and Social Development, Industry, Natural Resources and Transport. While not LD specific, it offers an additional body of resources and links to other government and non-governmental agencies.
http://pwd-online.ca/pwdta.jsp?&lang=en&ta=83&fontsize=0

Literature Review Compilations

While by no means a reflection of all the existing literature reviews on LD in higher education, the following references represent cohesive and comprehensive catalogues that chronicle a number of seminal works in the field and provide a strong platform for further inquiry on the basis of their respective citations. Moreover, while some of the material is dated, a number of the findings and observations may be transferable to current program planning for students with LD and offer a longitudinal view of the research.
Higher Education Quality Council of Ontario (HEQCO/ Educational Policy Institute (EPI)
Access, Persistence, and Barriers in Postsecondary Education: A Literature Review and Outline of Future Research
Released September 2008. Published by the HEQCO and produced by the EPI, this review provides an overview of current research on access to and retention within the PSE system. It focuses on the under-represented areas of the research, highlighting disability as a major gap and emphasizing that continued research is necessary. The 45-page study is available on the HEQCO website at:

Learning Disabilities Association of Canada (LDAC)
Released August 10, 2005. An examination of literature on LD that addresses a wide range of factors associated with LD across the lifespan, covering education, health, employment, family life and finances. Materials featured were published between 1990 and 2005. The section on higher education, albeit brief, references a Quebec study not found in other literature on LD. The majority of the citations are American, reinforcing the dearth of Canadian data on the subject. Available on the LDAC website.

Charlotte Mull 36, Patricia Sitlington, Sandra Alper
An analysis of 26 articles published 1985-2000 related to PSE services for students with LD. Eleven program factors evaluated include definition of LD, characteristics of adult learners, type of institution, admission procedures, assessment, program accommodations, faculty and staff training and program evaluation. Among key conclusions is the need for seamless pathways within the education system at all levels such that, for example, secondary school teachers are informed on and share with students information on LD related resources at colleges and universities.

Stanley Paul, Western Michigan University
Mainly a review of the literature about the status of American students with a range of disabilities, not specifically LD, this compilation is useful for the legislative background provided and discussion of essential academic and social supports for students with disabilities and student experiences in the PSE setting from these perspectives.

36 The article is catalogued under the surname “Hull” in the ProQuest 5000 database. Wilson Education Index, Expanded Academic ASAP and Gale Cengage General FileOne have the item listed under “Mull”.

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Dissertations

The following dissertations are related to LD in higher education in Canada (five doctoral, six master), published within the past 10 years. They are featured in this directory for their comprehensive treatment of the literature, historical context and alternative perspectives that are contributing significantly to this growing body of knowledge within the Canadian framework. They reflect recent graduate work focused on LD as it relates to PSE in particular but do not represent all the Canadian theses on the subject. They are hereby presented in alphabetical order according to author surname. One of these is a study of a Canadian university prepared by an American scholar for a U.S.-based university. They are available in their entirety through either Theses Canada Portal or ProQuest Dissertations & Theses: Full Text.


This case study identifies challenges and successes perceived by students with LD at an Ontario university through face-to-face interviews. Main difficulties are coping with parental separation and learning to become more independent in adapting to university life; and coming to grips with LD and dealing with reconceptions of parents, peers and faculty and their own biases. Strong support through the disability services office and from faculty are among the key success themes.


A hermeneutic phenomenological study (interviews and narratives) of high-achieving female students diagnosed with LD, this study aims to fill a gap in the research, typically focused on males, and to assist psychologists, counsellors, faculty and other professionals in improving services for students with LD at all education levels, including post-secondary. The women interviewed felt vulnerable simply because they learned in different ways from the majority and expressed a need for more positive information on LD and for public awareness, an important direction for the future.

This study seeks to determine success factors in education for students with LD, notably, coping strategies such as compensating for weaknesses and the role of problem-solving. For the six individuals who self-identify themselves as successful, time management and organizational skills are essential to managing their disabilities for life, not just schooling. Obstacles highlighted include ineffective interventions and supports in the school system. The “deficit model” of remediation typically used in the structured setting is found to be stigmatizing, focused on negatives and “repairing” weaknesses as opposed to building on individual strengths. Suggestions for change include personal tutorial services and exam accommodation rooms at the high school level, with a view to reducing drop-outs and encouraging consideration of higher learning.

Chaplin, Elyse. 2011. The Experience of Students with Learning Disabilities Transitioning to Postsecondary Education. (Doctoral dissertation: University of Toronto/O.I.S.E. UMI Number pending)

This study is an exploration of how students with learning disabilities understand and experience their transition from high school into postsecondary education. Through in-depth interviews with seven graduates, four parents, and four staff of a private high school for students with disabilities, in-depth interviews were conducted to elicit personal narratives of students’ transition experiences. This study provided insight towards bridging the gap in providing further insight into the factors which impede and support students’ success. This research extends Goldberg et al.’s (2003) framework of success attributes by examining this stage of students’ lives in respect to their utilization and relevancy of previously identified success factors. Additionally, this research contributes to the existing body of knowledge on transition, best practices, success attributes, as well as the importance of students’ motivation and resiliency. Recommendations for future research as well as implications for students, educators, and parents are discussed.


This study, anchored in interviews with adult university students only recently identified as having a LD, seeks to determine their coping strategies – past, present and potentially in the future. The four participants had been forced back to school because of problems in their careers/personal lives. Cognitive dissonance emerges with respect to self-image and self-esteem as a major factor in learning arising from prior educational experiences (an unsympathetic environment, inflexible systems) and conflicting self-evaluation of their intelligence. Anxiety over learning, higher than found in the average student population, also impacts learning. This study clarifies the need to identify children with LD as early as possible.

While this study focuses primarily on psychiatric disabilities, other non-visible disabilities, including learning, are part of the research. Findings demonstrate that gender and access to disability information exert the strongest influence on attitudes toward disability. Disability training for faculty is suggested as a means of combating some of the negative attitudes. The study also reinforces the trend among students with disabilities not to seek supports through their institution’s formal disability services for fear of facing stigmatizing attitudes as a result of such disclosure.


This case study, comprising surveys with students with disabilities and interviews with service providers, explores a perceived gap on the part of the students in the disability policy and practices at this institution. A “communication disconnect” among faculty, students and providers is a key reason for a widening rift. An expanded role for disability studies is suggested to improve understanding of disability on campus and in the broader community. The literature review, while limited, references certain Canadian sources not located in other publications.


Through participant narratives, this thesis explores the lived challenges and barriers students with LD face in higher education and their solutions to gain success. A recent study, it provides more current information about the Canadian situation than found in other similar explorations, including cogently articulated and supported perspectives on difficulties gaining consistent statistical data due to the lack of national policies on education and the immense variation in identifying, assessing, accommodating and tracking students with LD. Two key themes emerge: difficulties of transitioning from high school to PSE, and the social marginalization faced by individual with learning disabilities generally.


This qualitative study involving 15 college students with LD explores their conceptual understanding of LD on the basis of self-awareness and the social context (that is, peers, instructors and classmates) of college learning. The participants display a strong sense of self-knowledge and say they are able to capitalize on their strengths and to compensate for their weaknesses. They do not define LD as a disability but as a difference in learning attributed to an internal personal development process as opposed to being externally driven. The researcher recommends peer support groups and the use of Universal Instructional Design to enhance inclusion.

In this study of 21 university students with LD and 21 without LD matched on age, gender and Grade Point Average and compared on motivational and attributional achievement characteristics, no differences are determined on self-reported task completion motivation, planning and organization habits. However, students with LD are found to be less mastery oriented, to exhibit more sadness, to have a lower sense of self-worth, and to be more inwardly oriented – characteristics that may determine persistence and pursuit of PSE. An understanding thereof may assist in the improvement of supports.


While focused on primary school learning through classroom observation, the implications for research and practice extend to PSE on the basis of suggestions for adaptive techniques that apply to lifelong learning, such as academic partnering in pairs rather than in groups, although using a variety of collaborative learning formats (whole class, small groups as well as pairs) may foster successful participation for students with LD and their academic and social success. Two critical issues arising for future research centre on what constitutes a “learning disability” versus a “learning difference” and how curriculum and classroom context may set students up for difficulty rather than success.


Through surveys/interviews of college and university staff and students at three Alberta PSE institutions, this study examines inclusive education, describing its practices and benefits for students. At the time, the notion was rather novel in PSE generally as a way to support adults with intellectual disabilities to be included into mainstream college and university campus life – “the most elite form of adult education” (p. 104). (Refer to the CACL IEC initiative, documented in this directory for related information.)

**Working Groups and Task Forces: Discussion Papers and Reports**

The following papers and reports have contributed to consultation on issues associated with education and disability generally, including higher education and LD, from a Canadian perspective. They are representative of concerns advanced by stakeholders in government, education and the broader community in submissions and representations across the country.
Alberta Learning and Alberta Community Development


Debra Russell and Robin Demko, authors. Completed May 2005. An environmental scan, the far-reaching report comprises a review of the literature on learning disability, provides historical context for financing accommodation, presents results of a research project involving service providers and recipients, advances suggestions for improved accommodation, documents related legislation and provides links to PSE disability services and certain government bodies charged with implementing human rights protections. The 81-page report is available through the Alberta government Advanced Education and Technology website at:


Human Resources and Social Development Canada (HRSDC)

Advancing the Inclusion of People with Disabilities: 2006

The Ministry’s annual report features discussion of disability and education at the primary, secondary and post-secondary levels using Statistics Canada data from the 2001 Census and the national Survey of Labour Income Dynamics. Although more current data from the 2006 Census are available as profiled in this literature review, this HRSDC report allows for a longitudinal view of progress in terms of higher education participation and persistence by people with disabilities, including learning. The 110-page report is available on the HRSDC website at:


Ontario Human Rights Commission (OHRC)

The Opportunity To Succeed: Achieving Barrier-free Education for Students with Disabilities – Consultation Report

Released July 2003. Covers PSE aspects, notably, financial (funding – bursaries and grants, tuition), privacy, attitudinal and structural discrimination. Includes substantive discussion of legal precedents and the nature of appropriate accommodation. Recommends remedial action to remove impediments in government and college/university policies and practices. Integral to current legislative changes and institutional initiatives to improve the educational experience of SWD through non-discriminatory services and coordinated delivery of these services. The 87-page report is posted on the OHRC website at: http://www.ohrc.on.ca/en/resources/publications

Guidelines on Accessible Education

Released September 2004. The guidelines contain the Commission’s interpretation of provisions of the Ontario Human Rights Code relating to discrimination against students with disability. Although not binding on human rights tribunals or courts, they set standards for education
service providers, employers and policymakers to facilitate compliance with the Code. The 43-page document is posted on the OHRC website at:
http://www.ohrc.on.ca/en/resources/publications

*Education and Disability: Human Rights Issues in Ontario’s Education System – Consultation Paper*

Released July 2006. Provides background to Commission positions on integration and participation by students with disabilities in the education system at all levels. Section 2 on PSE features a description of demographics, including students with LD, and a review of provincial funding structures. The 22-page paper is posted on the OHRC website at:
http://www.ohrc.on.ca/en/resources/publications

**Ontario Ministry of Training, Colleges and Universities (MTCU)**

*Ontario: A Leader in Learning – Report and Recommendations*

Released February 2005. Commonly called the Rae Commission study, this review of PSE in Ontario gave rise to the Higher Education Quality Council of Ontario. It explores five themes and attendant challenges: accessibility, quality, system design, funding and accountability. Among key recommendations, 15. *Students with Disabilities* proposes that government require schools to ease the transition to post-secondary education, provide funding for enhanced academic and career counselling on campus, allow for the evolution of centres of research and service excellence, and distribute funding for supports and services according to the size of each institution’s population of students with disabilities. The 132-page report is available on the MTCU website at: http://www.edu.gov.on.ca/eng/document/document.html
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