Universal Instructional Design

Creating an Accessible Curriculum at the University of Victoria

Editors:
Teresa Dawson and Laurie Keenan

Library and Archives Canada Cataloguing in Publication
Teresa Dawson and Laurie Keenan

ISBN 978-1-926747-34-7

Printed and Bound by First Choice Books

www.firstchoicebooks.ca

Printed in Canada

Acknowledgments: The history of a collaboration…

This work began in 2003 as a very enjoyable collaboration between Access*Ability* Services (directed by Tina Doyle) and Teaching and Learning Services (then directed by myself) at the University of Toronto at Scarborough. Both *An Instructor's Handbook: Teaching Students with Disabilities and Special Needs, 1997* (edited by Deanne Fisher and published by the Office of Student Affairs, U of T) and *Teaching and Learning for Diversity at UTSC, 2003* (published by Teaching and Learning Services, UTSC, and funded by a grant from the Office of the Vice-President of Human Resources and Equity) provided starting points for the original publication. Staff from both offices, in addition to Tina and myself, contributed enormously to the original including: Sarah Bassnett, Sarah King, Susan Weaver, Diane Gradowski and Ken Jones. Both offices also contributed funding and many hours of goodwill and in-kind time.

Perhaps it is the nature of those concerned with supporting the learning experience for students with disabilities, but when I arrived at UVic I immediately found communality with my colleague here, Laurie Keenan, who is the Manager for the Resource Centre for Students with a Disability (RCSD) at UVic. I mentioned the publication I had worked on with my colleagues in Toronto and expressed my wish to update it and to adapt it for the BC context. Laurie was both extremely kind about the prior work that had been done and characteristically enthusiastic about helping me produce a new publication designed for UVic that respected the work of my former colleagues but also made it relevant to the needs of the UVic community. The result was another highly enjoyable collaboration.

Laurie and I would like to thank the staff of the RCSD and the Learning and Teaching Centre (LTC) at UVic for their help and support in creating the new version of this publication, particularly Patricia Maedel for her initial research and Darryl Gorrie for contributing his expertise in the area of assistive technologies. RCSD and LTC staff have given us extremely useful feedback on early drafts. Laurie Waye, David Cecchetto, Justin Harrison and

Marg MacQuarrie all helped check and update the bibliography so that it is current at time of going to press.

When I wrote to Tina Doyle about our UVic project she was, as always, immensely supportive. This work is dedicated to her and to all our colleagues who continue to work across Canada and beyond in support of student success. Above all we would like to thank the students who have inspired us, including Kathryn Grill, Kelly Ludlow, Weston Roda and Kirist Suomi. Any errors are ours alone.

The cover illustration was inspired by an image from the Learning Opportunities Task Force, Ministry of Training, Colleges and Universities, Government of Ontario, 2002, that is available as a graphic poster from the University of Guelph http://www.tss.uoguelph.ca/uid/UIDposter.cfm.

Funding and support for this project were generously provided by the Office of the Vice-President and Provost at the University of Victoria.

For additional copies of this publication please contact the Learning and Teaching Centre at ltc@uvic.ca or 250-721-8571. Also available in alternative format from the RCSD, inforcsd@uvic.ca.

Teresa Dawson, LTC
September 2009

CONTENTS

FOREWORD 7

INTRODUCTION 9

CHAPTER 1:
DEFINITIONS OF DISABILITIES AND THE CONTEXT OF
ACCOMMODATION AT THE UNIVERSITY OF VICTORIA 11
1.1 DISABILITY BROADLY DEFINED 11
1.2 FUNCTIONALITY AND DISABILITY 12
1.3 WHAT IS ACCOMMODATION? 13
1.4 WHY DO WE ACCOMMODATE
STUDENTS WITH DISABILITIES? 14
1.5 RIGHTS AND RESPONSIBILITIES 15
1.6 THE RELATIONSHIP BETWEEN ACCOMMODATION AND UID 18

CHAPTER 2:
USING THE SEVEN PRINCIPALS OF UID
TO THINK ABOUT YOUR TEACHING 19
2.1 WHAT IS UNIVERSAL INSTRUCTIONAL DESIGN? 19
2.2 THE HISTORY OF UID 19
2.3 BENEFITS OF UID FOR STUDENTS WITH DISABILITIES 20
2.4 THE SEVEN PRINCIPLES OF UID 20

CHAPTER 3:
SUGGESTIONS FOR INCORPORATING
UID INTO YOUR COURSE PLANNING AND DELIVERY 25
3.1 PLANNING YOUR COURSE: THE IMPORTANCE OF THE SYLLABUS 25
3.2 DELIVERING YOUR COURSE 27
3.3 FACILITATING INTERACTION 29
3.4 PROVIDING RESOURCES 32
3.5 STUDENT ASSESSMENT 33
3.6 PHYSICAL ACCESS 35

CHAPTER 4:
COMMON TEACHING AND LEARNING GOALS
AND TYPICAL WAYS TO ACHIEVE THEM 37

CHAPTER 5:
IN THEIR OWN WORDS: EXAMPLES OF
SUPPORTIVE TEACHING PRACTICES AT UVIC 47
5.1 RESPECTFULLY CELEBRATING UVIC PROFESSORS 47
5.2 AN EXCERPT FROM A STUDENT SPEAKING ABOUT ONE
PROFESSOR WHO SUPPORTED HER 48
5.3 CREATING A WELCOMING ENVIRONMENT FOR COMMUNICATION 49
5.4 TIPS FOR HELPING STUDENTS TO LEARN 50

CONCLUSION: UID AS AN ON-GOING PROCESS 51

APPENDIX A:
SOME EXAMPLES OF WHAT CONSTITUTES A DISABILITY 52

APPENDIX B:
ASSISTIVE TECHNOLOGY 54

BIBLIOGRAPHY AND RESOURCES 59

FOREWORD

As a result of our close work with faculty and instructors across UVic, we are fully aware how much colleagues want to do their best to accommodate students with disabilities. We know that UVic as a community strives to be open and welcoming to students with disabilities, and our offices work together with many of you to try and achieve this goal every day. But legislation can be confusing. Not all appropriate courses of action are immediately apparent or necessarily intuitive. UVic colleagues have very busy lives and have to design and implement courses under considerable fiscal and time constraints. Larger classes, challenging teaching environments and the competing demands of teaching, research and service all play a part. We know that thinking about disability can appear to add another layer of complexity to an already overwhelming list of things to consider for our colleagues. We wanted to help with this issue and to demonstrate that teaching that accommodates students with disabilities (over and above being the law!) can be easy to do as well as extremely rewarding–not just for all students in your course but also for your own sense of teaching satisfaction.

This publication is therefore offered in response to requests we have had from many of you for assistance in navigating the apparent minefield of disability and accommodations legislation, policy, guidelines and recommendations, as well as to offer some very practical ideas you can implement in your class. The main message we would want to convey is that incorporating considerations of disability into your teaching, whether through principles of Universal Instructional Design or other means, is an on-going process. No one has all the answers and we are just beginning to explore the richness of the impact new ideas in this area can have on the curriculum at UVic. What makes a difference is having a willingness to reflect on teaching practice. If this book encourages you to take the first step, to try one new idea next time you teach, and to share the results with others, we will have achieved our goal.

Laurie Keenan
Manager
Resource Centre for Students with a Disability
University of Victoria

Teresa Dawson
Director
Learning and Teaching Centre
University of Victoria

Introduction

The number of students with disabilities attending university has increased significantly over the past two decades (Ontario Ministry of Training, Colleges and Universities, 2002). While this is a positive development, recent provincial government reports have determined that students with disabilities often face barriers in universities (Ontario Human Rights Commission, 2003). As a result several provinces have passed legislation to address this issue. For example, in British Columbia (BC) we are guided by the BC Human Rights Code of 1996 and in Ontario the Ontarians with Disabilities Act (ODA) was passed in 2001. Partly as a result of this legislation, universities and colleges have been responding with their own plans for action within their provincial and institutional contexts.

At UVic, the Strategic Plan, "A Vision for the Future—Building on Strength," was published in 2007 and had as its first goal (p. 13) "to recruit and retain a diverse group of exceptionally talented students, faculty and staff and to support them in ways that allow them to achieve their highest potential" (University of Victoria, 2007). The Strategic Plan goes on to point out that concrete strategies and approaches are required to turn this goal into reality, for example, through the development of procedures and guidelines where necessary, and through the broad sharing of best practices in teaching and learning in a variety of ways and contexts (p.23).

As a result, on the procedural side, Fred Ford, from the School of Child and Youth Care and an expert in this area, was charged with drafting a set of updated procedures for the (January 2006) policy AC1205 "Academic Accommodation and Access for Students with Disabilities" for the UVic community to be released in 2009. On the implementation side, the Academic Accommodations Advisory Committee was struck in 2007, chaired by then AVP Jim Anglin (now chaired by the new AVP Student Affairs, Jim Dunsdon), and considered a number of key areas where improvements could be made. In the meantime, other campus-wide discussions and feedback indicated that further concrete support for instructors and students would be beneficial.

One such area was in curriculum design and delivery. The main question here was "How can instructors design curriculum so as to remove barriers for students with disabilities, allowing them to fully participate in the educational process to the maximum of their potential?" One approach to this question that has gained wide recognition across North America is to use the principles of "Universal Instructional Design" (adapted from the universal design principles employed by architects and builders to make buildings accessible for everyone) to rethink and enhance curriculum.

In the spirit of sharing best practices, therefore, this booklet introduces faculty to the concept of universal instructional design (UID) in a practical sense and demonstrates the relative simplicity with which inclusive teaching practices can be used. Chapter 1 begins by defining disability and outlines the required accommodations at UVic in the context of recent legislation. Chapter 2 introduces the seven principles of UID as a way of thinking about making teaching more accessible for all students. Chapter 3 suggests concrete ways that UID principles and other accessible-friendly ideas can be incorporated into your class planning and delivery throughout the term. There is some deliberate overlap between Chapters 2 and 3 depending on how individual instructors prefer to think about pedagogy in their own disciplinary context. Chapter 4 offers a series of common curricular goals that colleagues might have and suggests a variety of ways that each can be achieved, as a way of thinking more broadly about how learning outcomes can be attained and assessed in a disciplinary context. Chapter 5 provides some clear examples from UVic students as to how specific professors have helped them to learn in their courses, which we hope will provide inspiration for others. Finally, the bibliography presents a selective list of resources to assist you if you wish to explore further.

This publication is intended as a reference for dipping into at will. It is very important to remember that no one can possibly (nor should one) make all the suggested changes immediately. Rather, as you read through these ideas, think about which ones make the most sense for you, and then try one or two to begin with. Simply keeping the UID principles in mind and being open are excellent first steps. Once you start to explore, you will have new ideas of your own that you will want to incorporate and hopefully share with others, thus enabling all of us to continue the work of building a positive and inclusive community at UVic.

Chapter 1: Definitions of disabilities and the context of accommodation at the University of Victoria

This chapter describes the conceptual approach to disability used throughout the handbook, outlines the accommodation process we are ethically and legally required to provide, and discusses the various rights and responsibilities of everyone involved.

1.1 DISABILITY BROADLY DEFINED

The term disability should be used to refer to conditions that are ongoing, episodic, and either past or present, as well as for unequal treatment because of a perceived disability. Disabilities that are not visible to others are classified as "non-evident disabilities." For example, learning disabilities, mental health disabilities, and chronic fatigue syndrome are non-evident disabilities. Episodic disabilities such as epilepsy and environmental sensitivities are non-evident most of the time. Whether or not disability is evident, people with disabilities are entitled to fair and equal treatment. People should not be treated unequally because they have, or are perceived to have, a disability.[1] Disabilities that are not visible may be less well recognized or understood. It is

[1] In terms of the legal basis for this assertion, according to the Canadian Charter or Rights and Freedoms (1982) "Every individual is equal before and under the law and has the right of the equal protection and equal benefit of the law with regard to discrimination based on race, national or ethnic origin, colour, religion, sex age, or mental or physical disability." In Canada, provincial human rights acts and the Canadian Charter of Rights and Freedoms provide the legal framework for equality (Government of Canada, 1982). Most human rights legislation requires that persons with disabilities not be discriminated against, and be treated equally with respect to the provision of services (including post-secondary education). For example, in British Columbia we are governed by the BC Human Rights Code (Government of British Columbia, 1996).

important that stereotypes, stigma, barriers and otherwise unfair treatment do not result from a lack of knowledge about a disability.

What is of note here is that provincial legislation tends to interpret the definition of disability quite broadly. This is true in British Columbia where the BC Human Rights Commission generally considers many health conditions such as heart disease, asthma, HIV/AIDS and depression to be a disability.[2]

1.2 FUNCTIONALITY AND DISABILITY

In recent years, the study of disability has emerged as a subject of research in the social sciences. In sociology, psychology, political science, and economics, for example, disability has come to be seen as another attribute, like ethnicity, gender, sexual orientation, and class, which has historically been used as a means of discrimination (Hahn, 1985). Following women's studies, queer studies, and race studies, disability has also become an important issue in the humanities, where the formation of subjectivity, relations between power and knowledge, and social justice issues are explored (for example, Prince, 2009; Moss and Dyck, 2003: Garland-Thomson, 2002; Kudlick, 2003; and Linton, 1998). Research on disability has shown that different value systems are embedded in different approaches to disability, and each approach carries implications for public policy. While recognizing that there are a range of approaches to disability and acknowledging that definitions of disability are debated within the interdisciplinary field of disability studies, this handbook uses a public policy model of disability as its guiding approach.

The recent (2002) International Classification of Functioning, Disability and Health (ICF) is the framework that the World Health Organization (WHO) uses. The measurement of disability in relation to functionality in public policy is an important indication of a recent shift in the perception of disability and represents a change in attitudes towards people with disabilities. The ICF's approach shifts the focus away from disability and towards the ability of all people to function at their potential in any given environment. It provides a consistent, international standard for measuring and comparing

[2] For examples of the breadth of definition of a variety of disabilities in BC please see Appendix A

both health and disability, and, as such, it is applicable to everyone rather than to people with disabilities in particular.

The ICF adapts two earlier models to form a new model that more accurately conveys current approaches towards disability. In the medical model of disability, a disability was considered an attribute of a person, and medical treatment or another form of intervention was used to attempt to change the person. In contrast, the social model of disability identified disability as a social problem rather than as a feature of a person. In this case, disability required a response that modified aspects of the social environment, including social attitudes and physical surroundings. Adapting aspects of each model, the ICF's new model claims that disability results from a combination of personal attributes and the conditions of the environment in which we live. Thus, a model that takes into account both the medical and social aspects of disability provides a more complex and less reductive approach to disability. The ICF uses the term "biopsychosocial" to describe the model in which health and disability are viewed as a result of biological, individual, and social conditions (World Health Organization, 2002).

The biopsychosocial model acknowledges that health and disability are changing conditions and that everyone can experience a form or degree of disability at some time in their lives. By recognizing disability as a universal human experience, this approach "normalizes" disability.

The ICF's model of disability provides a practical basis for developing and implementing guidelines for universal instructional design, which are discussed in Chapters 2 through 5 of this handbook. A bibliography with a selection of books and articles from disability studies is also included for those interested in current research on disability.

1.3 WHAT IS ACCOMMODATION?

Accommodation is the process by which suitable arrangements are made for people with disabilities. In the context of the University, an accommodation is any change that enables students with disabilities to participate equally in the environment and activities of either a particular class or of university life in general. This includes making changes to course delivery, assessment methods, the types of resources provided, and physical access to a class. It involves removing barriers of all kinds, including physical or architectural

barriers, information or communication barriers, as well as those caused by attitudes, policies or practices. Some commonly experienced barriers are detailed in the table below.

Medical approach + Social approach = Biopsychosocial approach

TABLE 1: TYPES OF BARRIERS

Physical	A door knob that cannot be operated by a person with limited upper-body mobility and strength
Architectural	A hallway or a door that is too narrow for wheelchairs or scooters
Informational	Handouts written in a typeface that is too small to be read by people with low vision
Communicational	A professor who simply talks louder when addressing a student who is Deaf
Attitudinal	A professor who makes students feel that accommodations are an inconvenience and a "special favor"
Technological	Creating lecture notes in pdf format without using the accessibility feature, which enables use with adaptive software
Policy / Practice	A policy that requires students in a program to take a full course load

Source: Adapted from Council of Ontario Universities Working Group, 2002.

Accommodations are often easier to implement than imagined. Many of the accommodations made for students with disabilities, such as the adjustments in teaching methods suggested in Chapters 2 - 5, usually benefit all students.

1.4 WHY DO WE ACCOMMODATE STUDENTS WITH DISABILITIES?

It is to everyone's advantage to accommodate students with disabilities. By improving the possibility for people with disabilities to become integrated into the academic community, the University fosters the health and prosperity of both the community and the individual. As part of UVic's mission, as

outlined in the Strategic Plan, we are committed to "environments for work and study that are safe, supportive, inclusive and healthy, foster mutual respect and civility, recognizing that people are our primary strength" (p. 6). Further, one of UVic's three stated core values articulated throughout the Strategic Plan is upholding the "equal rights and dignity of all persons" (University of Victoria, 2007, p.7).

1.5 RIGHTS AND RESPONSIBILITIES

The responsibility for accommodating students with disabilities does not just rest with the instructor, so do not feel you are alone in this endeavor; rather it is shared among various groups at different levels, including the University, the RCSD, the instructor and the student him/herself.

1. The University

Universities have an ethical and legal duty to accommodate people with disabilities. The legal duty is governed by The Charter of Rights and Freedoms and provincial human rights statutes. The British Columbia Human Rights Code states clearly that you cannot be discriminated against because you have a disability (Government of British Columbia, 1996). Therefore the University of Victoria is required to provide educational services without discrimination on the basis of disability.

The University has a range of responsibilities in the accommodation process. These include (adapted from the Ontario Human Rights Commission, 2003): [3]

- Providing access to education;
- Working proactively to reduce discrimination, negative attitudes, and stereotypes on the part of educators, administrators, and other students;
- Developing policies and procedures as appropriate;
- Supporting appropriate accommodations and positive accommodation processes;
- Sharing best practices wherever possible;
- Cooperating with the parties involved in, and responsible for, the accommodation process.

[3] See also the University of Victoria's updated (January 2006) policy AC1205 "Academic Accommodation and Access for Students with Disabilities" for the UVic community (University of Victoria Senate, forthcoming 2009).

2. Resource Centre for Students with a Disability (RCSD)

The RCSD collaborates with students, instructors, staff and the community to create learning environments that are equitable, inclusive and usable (www.rcsd.uvic.ca). It promotes and facilitates awareness and access through programs, collaborations, and accommodations. Its role is not only to provide the student with assistance, but also to support instructors. For the purposes of accessing RCSD services and supports, a disability includes any long-term or recurring physical, mental, sensory, psychiatric or learning impairment that may affect a student's performance in an academic setting. A disability may be permanent, long-term, or recurring in nature.

3. The student

The Academic Accommodation and Access for Students with Disabilities University Policy AC1205 outlines the responsibilities of everyone involved in the process of creating and implementing a plan for academic accommodation (University of Victoria Senate, 2009). While students with disabilities have the right to accommodations, they also have an important role in the process. According to the Policy (3.2):

"Students with disabilities seeking academic accommodations are expected to contact the RCSD to initiate the process of determining and arranging the appropriate academic accommodation in individual situations.
Specifically, students with disabilities will:

- *(a) Identify their individual needs and provide appropriate documentation of their disabilities with sufficient notice given to enable the university to make the necessary academic accommodations;*
- *(b) Engage in discussion and explorations of appropriate academic accommodation options that will facilitate their access to university academic programs or services;*
- *(c) Where appropriate, take reasonable measures to address their particular needs and personal requirements relating to the need for academic accommodation;*
- (d) *Fulfill their part in implementing the provisions of the academic accommodation."*

4. The instructor

Instructors play a key role in planning with the student to accommodate their disability. They are encouraged to be proactive and helpful in the accommodation process and to consult with RCSD and the Learning and Teaching Centre for advice and assistance.

Instructors are responsible for participating in accommodation in the following ways (Ontario Human Rights Commission, 2003):[4]

- Students' requests for accommodation should be taken in good faith, unless there are legitimate reasons for doing otherwise;
- When necessary, outside advice or an expert opinion should be sought;
- Instructors must maintain confidentiality;
- Faculty have a duty to educate themselves about disability-related issues, to interact with students in a non-discriminatory manner, to engage in the accommodation process, and to provide appropriate accommodation;
- Faculty responsible for designing or developing new or revised facilities, services, policies, processes, courses, or curricula have a responsibility to ensure that these are designed inclusively, with the needs of persons with disabilities in mind.

Confidentiality is a key part of this process. Although a student seeking accommodation for a disability must self-identify, instructors do not have the right to know the nature of the disability, except to the extent necessary to participate in the accommodation process. In addition, instructors are required to keep all information regarding the student's disability confidential. Sharing information about a student with a faculty or Teaching Assistant (TA) colleague, even in the context of trying to assist that student, is not permitted.[5]

[4] See note 3

[5] In BC all information regarding a student's disability is confidential. The collection, protection, retention and disclosure of such information are governed by the provisions of the BC Freedom of Information and Protection of Privacy Act (1996). Questions regarding confidentiality and the accommodation process should be directed to the RCSD www.rcsd.uvic.ca.

1.6 The relationship between accommodation and UID

Universal Instructional Design (UID) as described in the following chapters benefits students with a variety of abilities and backgrounds. Barriers to learning can be eliminated or reduced for students with disabilities when the principles of UID are practiced. However, it is important to note that certain students will continue to require specific accommodations according to their individual needs above and beyond what UID can achieve. Understanding the relationship between necessary disability accommodations as outlined in this chapter and the principles of UID discussed in Chapters 2 -5 below should assist you in developing inclusive teaching and assessment strategies that meet everyone's needs.

CHAPTER 2:
Using the seven principals of UID to think about your teaching

As Canadian universities have sought to accommodate students with disabilities, they have looked to a variety of experts for advice on how best to approach the challenges presented. Considerable consensus has emerged around the utility of using what have become known as Universal Instructional Design (UID) principles in order to make the curriculum more accessible. Perhaps the appeal of this approach, in particular, comes from the fact that it does not just help students with disabilities but rather offers a positive opportunity to make learning more accessible to everyone.

2.1 WHAT IS UNIVERSAL INSTRUCTIONAL DESIGN?

Universal instructional design (UID) is a methodology for designing course materials, activities, and environments that are usable by a wide variety of students. UID offers principles for designing a curriculum that is accessible and applicable to students with different learning styles, abilities, and backgrounds. It allows students to engage in the learning process, regardless of their physical, sensory, organizational, and linguistic abilities, and it emphasizes the learner by respecting differences in pace and ability. Adapting to the needs of learners involves flexibility on the part of the instructor; however, many concepts of UID can be easily implemented.

2.2 THE HISTORY OF UID

The practice of UID in education adapts the principles of universal design that were developed by architect and designer Ron Mace (Mace, 2002). Frank Bowe, a professor in special education and rehabilitation at Hofstra University in New York, first translated these architectural design principles into terms that are useful for education (Bowe, 2000b). Others have since taken up this model and have continued to adapt and refine the ideas for particular programs and institutions (McGhie-Richmond *et al*, 2007). Sheryl Burgstahler from the Disabilities, Opportunities, Internetworking, and Technology (DO-IT) program at the University of Washington describes UID as a means of designing "instructional

materials and activities that make…learning goals achievable by individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, attend, organize, engage, and remember" (Burgstahler, 2002). The University of Guelph-Humber has also adopted UID, and this section incorporates and modifies many of the UID principles and guidelines developed there (Teaching Support Services, University of Guelph, 2002 and 2003).

2.3 Benefits of UID for students with disabilities

The philosophy surrounding UID "recognizes that with enhanced awareness and knowledge, many aspects of the educational environment can be designed from the outset to be more inclusive of students with disabilities. The possible outcomes of this proactive approach to educational access are promising and include the potential for reduced barriers to learning, decreased time and cost of retrofitting accommodations, the development of new partnerships when considering inclusive design, compatibility with broader campus initiatives to support student diversity, and the tacit message to students with disabilities that they are welcome in the higher education environment" (Scott, 2003 *et al;* see also Harrison and Beres, 2007).

2.4 The seven principles of UID

The following section details the now commonly accepted seven principles of UID (see box) and provides specific examples as to how each might be implemented in a curricular setting.[6]

THE SEVEN PRINCIPLES OF UNIVERSAL INSTRUCTIONAL DESIGN
1. Accessibility
2. Flexibility
3. Straightforward and intuitive use
4. Effective and clear instructional methods
5. Supportive learning environment
6. Minimizing unnecessary tasks and requirements
7. Adequate Space

[6] These seven principles are revised and adapted from the work of several authors including Bowe (2000a), Teaching Support Services, University of Guelph (2003), Hart and Gauthier (2002) and the Centre for Access and Disability Services, Georgian College (2003).

1. Accessibility

Methods of instruction and educational materials should be useful to and accessible by students of all abilities. When possible, provide instruction using methods and materials that all students will be able to use, and, when necessary, provide equivalent alternative means for achieving those educational goals.

Avoid stigmatizing students who require alternate methods, and provide a way for students to approach you privately to discuss their needs and to arrange accommodations.

Examples

- Use a variety of instruction methods so that students have more than one opportunity to understand course material. For example, assign course readings, review key concepts in class, and organize small group exercises where students can apply the concepts.
- Provide accessible web-based course material so that students can access material for review and follow up class sessions with on-line resources.

2. Flexibility

Course instruction should be designed to accommodate a wide range of learning styles and abilities.

By offering course material in a variety of forms, you make it possible for students to select the formats they find most accessible. Allow some flexibility in the way students participate in a course, and be aware that students will digest the material at various rates.

Examples

- Provide a range of assessment methods. Students could, for instance, be asked to either write an essay or give a presentation. If appropriate, allow students to choose whether they work individually or in groups.
- During a lecture, pause occasionally to allow students both to keep up and to assimilate the material. Give examples to demonstrate important concepts.
- Use on-line discussions so that students who do not feel comfortable speaking in class can participate in the discussion of course material.

3. Straightforward and intuitive use

Course materials should be well organized and easy to use, regardless of students' experience, knowledge, language skills, or current level of

concentration. Students with certain learning disabilities have particular difficulty organizing information, but all students benefit from a clear, hierarchical order that demonstrates the relationship between information and ideas. Where possible, and without compromising course content, eliminate unnecessary complexity.

Examples
- Provide a course syllabus that clearly outlines the goals and expectations of the course.
- Ensure that course material is appropriate for the level of the course.
- Reinforce course goals in each class by providing an outline that emphasizes key concepts and shows their relation to the course as a whole.[7]

4. Effective and clear instructional methods

Lectures and other course materials should be delivered in a way that is accessible to students with different sensory abilities under all kinds of conditions. Important information, in particular, should be available in various forms (visual, auditory, tactile). According to UID specialist Frank Bowe, redundancy is a key feature of accommodating students with physical and learning disabilities, but it is also beneficial for all students (Bowe, 2000a).

Examples
- When possible, select texts that are available in both print and digital format so that, for example, students with low vision can use a screen reader to easily access the readings.[8]
- Explain difficult concepts and theories in a logical, step-by-step manner and using multiple teaching methods, and give students the opportunity to practice applying concepts.

[7] A template for generating class outlines is available from the Learning and Teaching Centre (2007).

[8] See the chart of Assistive Technology in Appendix B for a description of a screen reader.

5. Supportive learning environment

Course design and methods of instruction should be welcoming and inclusive. Try to establish a class environment that is comfortable for all students and where students respect the diversity of class members. Incorporate opportunities for students to apply course material to relevant tasks, and provide feedback on their performance. Encourage collaboration and cooperation, and review material with students at regular intervals. Since students benefit from frequent contact with their instructors, try to provide the opportunity for interaction.

Examples

- Help students form study groups, or set up an on-line discussion forum.
- Include a statement in the course syllabus outlining your expectations for the classroom environment and encouraging students to discuss any individual needs with you.
- Put a welcoming statement on your syllabus that lets students know you are open to assisting them and supportive of helping them achieve their goals (see box-over).
- Design course assignments so that they are integrated. Most beneficial for student learning are long-term projects that build skills and understanding through a series of smaller cumulative assignments.
- Provide students with feedback on each assignment to help them progress to the next stage of the larger project and to build and reinforce learning.[9]

6. Minimizing unnecessary tasks and requirements

In order to maximize the energy students expend on learning, plan your course to avoid unnecessary administrative or physical work (Bowe, 2000a).

Examples

- Make required course readings easily accessible. If you are using individual articles, offer them as a prepared course pack rather than requiring students to photocopy the readings themselves.
- Design fieldtrips to maximize learning but minimize physical exertion.

[9] A template for providing formative feedback on student assignments is available from the Learning and Teaching Centre (2007)

7. Adequate space

Ensure that there is adequate space in your classroom to accommodate students' physical requirements and the modes of instruction you will be using.

Examples

- Check that your classrooms or labs are suitable for students with a variety of physical characteristics and for those using assistive devices.
- Ensure that students have a clear line of sight to you and to any visual material.

Sample syllabus statement regarding assisting students with disabilities in a course

All students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the Resource Centre for Students with a Disability (RCSD) as soon as possible. The RCSD staff are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations http://www.rcsd.uvic.ca. *The sooner you let us know your needs the quicker we can assist you in achieving your learning goals in this course.*

CHAPTER 3:
Suggestions for incorporating UID into your course planning and delivery

Universal instructional design (UID) entails designing a curriculum that does not create barriers for students. Developing teaching and assessment strategies that integrate all students' needs from the outset helps to provide an inclusive environment, and it makes it easier for students with disabilities to achieve their learning goals. The following sections outline methods for incorporating the principles of UID into different aspects of a course.[10] They are organized in an order consistent with the sequence of course planning and delivery. Do not try to do everything at once. As with any instructional innovation, just start small with something that is of interest to you and that you feel can make the biggest difference to your students.

3.1 PLANNING YOUR COURSE: THE IMPORTANCE OF THE SYLLABUS

The planning stage is the ideal time to begin to integrate accessible features into your curriculum.

When you are making choices about aspects of your course, such as policies, delivery methods, and modes of assessment, try to avoid creating barriers for any students.

A carefully prepared syllabus is particularly important to students with disabilities. For those who need to make special arrangements, the syllabus gives them advance notice of readings, assignments, and special activities. For instance, students who need more time to complete assignments can start early if they have the assignment guidelines, and students can arrange for accommodations such as alternate format materials (electronic or audio). Students with learning disabilities, in particular, benefit from a written document that clearly outlines the expectations and procedures of the course;

[10] Adapted and revised from Teaching Support Services, University of Guelph (2002).

however, all students are able to get more out of a course if they are given a comprehensive syllabus with clear goals.

When it comes to your syllabus:

- Define your goals for the course. What course content and what skills do you expect students to learn?
- Decide how you will present the material so that it is logical and easy to follow. Introduce core concepts and progress to complex ideas and their application. Introduce students to the big picture of your discipline and your course before dealing with specifics.
- When choosing texts for your courses, check if there is a suitable book that is available in electronic format. If the text you prefer is not available in electronic form, talk to the publisher about the possibility for the future.
- Choose modes of assessment that will be suitable for all students. On-line timed tests, for example, can create barriers for students who require additional time. Considering this during the planning phase will save time later if a student requires extra time as an accommodation.
- Review your syllabus and look for opportunities to include details that will help everyone (see Syllabus box below for suggestions). For example consider a "Statement for students with disabilities" that makes all students feel welcome (see Statement box in chapter 2).

CONSIDER INCLUDING THE FOLLOWING SPECIFIC ITEMS IN YOUR SYLLABUS

- A description of the course
- The course goals and learning objectives
- The prerequisites or skill requirements for the course
- The instructor's name, class location, office hours and location, email, and phone number
- A list of required texts or other resources
- A statement encouraging students who require accommodations to speak to you privately (see Statement box)
- A description of the assignments and their weight
- Policies on missed classes, late assignments, and academic misconduct
- Resources for support, such as the Writing Centre, the Math Help Centre, and Learning Skills Support http://learningcommons.uvic.ca/
- A schedule of dates indicating topics, readings, field trips, and assignments, which would allow students to make special arrangements in advance (e.g., transportation, sign language interpreters, daycare.)

3.2 DELIVERING YOUR COURSE

The accessible delivery of material can make a significant difference in a student's level of success in your course, which, in turn, has the potential to get students excited about learning for its own sake. Overall, the suggestions given in this section provide significant benefits to students with disabilities; however, here again, all students benefit from the clarity and straightforwardness of these modes of teaching.

1. Getting started

- Give students a hard copy of the syllabus and go through it with them during the first class. Essential information should be conveyed orally and in writing.
- Discuss the organization of the course and why you have chosen that particular structure.
- Students learn best when they can build on what they already know and when they can see how they will benefit from new knowledge. Connect what they know to the learning objectives of the course and to what they will need to know in upper-level courses or in their careers (Biggs, 1999).
- Explain how the activities and assessment methods used in the course will help students to achieve the desired learning objectives.

2. Teaching methods

- Plan on incorporating different modes of presentation to deliver course content. Possibilities include: lectures, discussion, small-group work, hands-on activities, and problem solving.
- Allocate time for different topics based on their importance and level of difficulty.

3. Engaging and motivating students

- Make the best use of class time by helping students to prepare. For example, when you assign texts provide questions to guide the students' reading. Questions should build from lower to higher order thinking, thereby modeling the academic process.
- If you assign readings, be sure to integrate them into the class.
- Convey your enthusiasm for the subject matter to your students.
- Use active learning techniques, such as discussions, problem solving, and group work, to engage students (see for example Gross-Davis, 1993, pp. 63-81).

- Keep students excited about learning by identifying what they have learned as the course progresses. This helps students to become self-reflective about their own learning.

4. Clarifying key points and difficult concepts

- Provide definitions of all important terms and concepts. When possible, provide concrete examples and explain their significance.
- Ask students to submit written questions at the end of a lecture or email questions following a lecture, and try to address common problems in the class.
- Find out if there are any on-line learning resources that demonstrate difficult concepts in your discipline. For example, an on-line multi-media resource by Dan Russell, Professor of Applied Physics at Kettering University, offers animations that visualize the behavior of sound and sound waves in numerous situations (Russell, 2003). MERLOT, a Multimedia Educational Resource for Learning and On-line Teaching, provides access to a wide range of materials for the humanities, the social sciences, business, and the sciences (MERLOT, accessed 2009).

5. Organizing and prioritizing information

- Begin class with an overview of the material that you will cover and indicate how it connects with the topic discussed in the previous class.
- Draw attention to the most important points during a lecture and help students understand the conceptual framework for the material.
- At the end of a class, ask students to identify three main points of the lecture. Summaries can be posted online, discussed with a classmate, selectively shared with the class, or handed in to you.

6. Facilitating note-taking

- Provide an outline for each class (easily done via a learning management system) that identifies the main points and shows how the class relates to the goals of the syllabus. By reviewing an outline before a class, many students find it easier to grasp the conceptual framework for the lecture material. Providing diagrams and tables beforehand can also be useful.
- Another approach is to take short breaks periodically throughout a lecture in order to give students a chance to compare and discuss their notes with a partner. This helps to ensure that students have not missed key points, and it often enables them to clarify the conceptual framework for the material.
- Face the class, rather than, for example, the board, whenever you are

speaking. It is especially difficult for students who are Deaf or hard-of-hearing to follow when you are facing away from the class (Gross-Davis, 1999, pp. 33-34).

- Speak clearly and at a reasonable pace. Use variations in tone to indicate important points and to keep students engaged.

7. Addressing different levels of knowledge, learning styles, and rates of learning

- Use accessible, jargon-free language whenever possible. Explain technical or theoretical terms carefully, and consider providing terms on handouts to ensure that students have exact phrasing.
- Use repetition (in a variety of formats), especially for key ideas.
- Try to present information verbally, visually, and through modeling or exercises. This is helpful to students with different learning styles (visual, verbal and kinesthetic), as well as to students whose disability impacts hearing, vision or concentration.
- Review course material with the class before tests or exams, and consider providing a study guide with sample questions from your class outlines or a list of topics.

3.3 FACILITATING INTERACTION

Interaction between the course instructor and students, as well as communication between students, helps to create a good environment for teaching and learning. Students are more likely to seek assistance from each other and from the instructor if they understand the protocols of the course and they have been encouraged to feel comfortable asking and answering questions. If you anticipate that a student with a disability will have difficulty with an aspect of your course such as a field trip or an assignment, speak to the student privately as soon as possible to find a suitable form of accommodation or an acceptable alternative should one be required.

1. Creating a good environment

- During the first class, introduce yourself. Talk to students about your research, share a personal experience that relates to the class, or tell them about your background and interests.
- Ask students to do the same. In smaller classes this can be done verbally, but in larger classes you might ask them to write down answers to a few questions. For instance, ask them, "What do you expect to gain from this

class? What are your academic interests, and what do you hope to do after university?"

- Try to be "learner-centred" rather than "teacher-centered" in your approach. As one instructor put it, "Be interested in your learners instead of trying to be an interesting teacher" (Jones, 2001).
- Explain your expectations for the class environment. Ask students to respect each other and to have tolerance for diversity.
- Respect a student's privacy regarding their disability. This is also an important way of creating a good environment in the class as a whole.
- If a student with a disability approaches you, consider suggesting a meeting with them privately in order to discuss if or how their disability will impact their class work. Ask students if there are particular activities that are challenging for them. Students may be able to suggest variations of these activities that they can participate in more comfortably (Centre for Teaching and Learning, University of North Carolina at Chapel Hill, 2001).

2. Encouraging participation

- Tell students when and how you would prefer to answer questions. For example, allow students to pose questions during a lecture, or ask them to write down questions for a discussion at the end.
- For students who require more time to absorb the material, sending questions by email can be an effective alternative.
- Rephrase student questions for the whole class before you answer them. This can help you to clarify the question, and all students have a better chance of hearing what was said. Write down key points during class discussions so that students who are Deaf or hard-of-hearing can follow.
- Ask students what they know about a topic before you start lecturing, and ask them questions to check if they understand the new material as it is delivered.
- Set up activities in which students interact with each other during class time. This kind of activity is useful for students to develop tolerance for different views, and students can gain insight into their own points of view through comparison with others.
- Group activities can present challenges for some students, but by including students with disabilities in groups, all students may gain new understanding of one another and an increased tolerance for difference. By creating an environment where students with disabilities can participate in all class activities, you convey to the class that students with disabilities are equally important and capable members of the class (Centre for Teaching

and Learning, University of North Carolina at Chapel Hill, 2001; DO-IT website, accessed 2009).

- While all students should be encouraged to participate in class discussions, students with certain kinds of disabilities may feel uncomfortable speaking in front of the class (i.e., a student with a communication or mental health disability). Where appropriate, these students can be given an alternative task, particularly when they are being graded on participation. For example, having students email their thoughts and questions to you after the class demonstrates their knowledge of the material taught in the lecture.

3. Availability outside of class

- Hold regular office hours, announce your availability during class, and ensure that you are on hand during those times.
- Set clear guidelines for responding to email and stick to them. Email can be particularly useful for communicating with students with disabilities that affect their speech, hearing, health, mobility and/or mental health.

4. Facilitating student interaction outside of class

- Set up electronic discussions, a listserv, or a live on-line chat forum for your class. These can be moderated or not, depending on how much time you want to dedicate to them.
- Encourage students to form study and informal peer-groups outside of class.

5. Soliciting and using feedback from students

- Solicit feedback from students on a regular basis with quick questionnaires to find out what is working effectively and what is not. Ensure that the questionnaires are available in alternate format (i.e. enlarged print, electronic, online web survey, etc.). Adapt and modify your teaching methods according to the results.
- Ask students to complete a more detailed evaluation halfway through or towards the end of the course. Incorporate the feedback from students into the course, and use it to further modify the course for the future.[11]

[11] A template for obtaining constructive student feedback for instructors is available from the Learning and Teaching Centre (2007).

6. Working with teaching assistants (TAs)

- When you meet with your TAs, talk to them about general issues regarding teaching students with disabilities, and encourage them to be sensitive to issues of diversity that relate to the course.
- Explain to your teaching assistants that they should follow the same policies as you do, particularly in terms of accommodating students with disabilities, and mentor them on how this is done.

3.4 PROVIDING RESOURCES

Providing course material such as the syllabus, handouts, study guides, and assignment sheets in multiple formats reduces barriers. Give out hard copies during class, but also offer them in an electronic format (online using the UVic intranet or on CD). Students using specialized software, for instance, benefit from this provision.

Assistive technology further reduces barriers for students with disabilities. By cooperating with students and by facilitating the use of assistive technology in the classroom, instructors can make a significant difference in a student's ability to succeed in a course. For instance, by wearing an FM system transmitter that amplifies sound, an instructor can make it possible for a student who is hard-of-hearing to follow and participate more fully in the class.

1. Making course materials accessible

- When creating electronic resources, ensure you use a format that functions with screen readers, such as PDF files (with the accessibility feature enabled) and html. Web pages created in html should use <alt> tags for graphics. This is sufficient where there is little information content. For more extensive information, adding captions helps enormously.[12] Test the accessibility of your web site using testing software such as Bobby, A-Prompt, and WAVE (see, for example, CAST, accessed 2009).
- Try to select videos for the class that are close-captioned. If a video is close-captioned, it will be listed as such in the library catalogue. When suitable material is not available in this form, the RCSD will be able to inform you as to how transcripts of the videos can be created.
- If you place readings on reserve in the library for students, provide students

[12] For assistance with accessibility features and electronic resources at UVic, contact RCSD at www.rcsd.uvic.ca.

with disabilities with their own copies. This will reduce unnecessary difficulties in accessing course material.

2. Assistive technology and services

- Assistive technology includes all forms of technology that help to diminish barriers for students with disabilities.
- Although, as an instructor, you may not be directly involved with assistive technology, you may find that by familiarizing yourself with the options available, you are better prepared to assist students in the accommodation process. See Appendix B for a description of the forms of assistive technology and their benefits.
- It is helpful to know that there are resources on campus that support the use of assistive technology for students with disabilities at UVic, for example in the Library.
- Different kinds of equipment and software are suitable for different disabilities. For students with low vision, for example, a closed circuit television (CCTV) enlarges print so that they can read it. For students who are blind, on the other hand, a screen reader produces a synthesized voice output from computerized text.

3.5 Student Assessment

Because assessment is such an important component of any course, all students must be treated fairly, including students with disabilities. At the same time it is important to recognize that "fair" does not mean "the same." Providing alternative modes of assessment for students with disabilities is a way of accommodating a functional difference caused by a disability and a way of giving these students an equal opportunity to succeed.

1. Alternate assessment methods

- At the beginning of the course, explain how you will assess students, and make sure this is documented in the syllabus. For example, will you be using multiple choice tests or short answer questions? They require different types of assistive software support and telling students about your tests ahead of time allows them to prepare for the appropriate software needed. Similarly, throughout the course, prepare students for upcoming assignments and tests well in advance.
- Use a variety of modes of assessment to address different learning styles, and select forms of assessment that reinforce your learning goals for the course.

- When appropriate, consider offering students a choice of assignment formats. For example, give them the choice of either writing individual essays or doing a group project. This choice will especially benefit students with chronic health conditions, such as cancer, who may find group projects difficult to arrange around medical appointments (Disability Services Unit, Australian National University, 2005).
- Describe the format of a test or an exam, and give examples or practice questions.
- Design questions that test higher-level skills, such as problem-solving, in addition to questions that merely require the recall of information (Gross Davis, 1993, pp. 241-242).
- Give students sufficient time to complete assignments. Students with disabilities frequently benefit from extra time to write tests or exams. Assistive technology can increase the time required to complete a task, and some students may require more time to process information.
- Notify students when you are unable to accommodate them without the support of RCSD (e.g. with assistive technology or extra time or space to complete tests and exams) and refer them to the service for assistance (www.rcsd.uvic.ca).
- Because of time constraints and distractions, in-class quizzes and assignments can be problematic for some students with disabilities. Where appropriate, consider allowing extra time, or give take-home quizzes instead.
- Try to use several different kinds of assessment, and avoid very heavily weighted components, such as an exam worth 50% of the final grade.

2. Ongoing feedback

- Provide constructive and encouraging feedback on assignments.
- Try to return assignments promptly.
- Whenever possible, give students concrete examples of good work.
- Frequent feedback and smaller, cumulative assignments that break down complex activities such as a research paper into smaller, manageable tasks are helpful to all students and particularly students with learning disabilities, acquired brain injuries, mental health and chronic health conditions (Bean, 1996).[13]

[13] The Writing Centre also provides consultation on effective assignment design (Writing Centre, 2009).

3.6 PHYSICAL ACCESS

When you design your course, you have an opportunity to create an instructional experience that is accessible to all students. Most frequently, instructors have some control over physical, informational, communicational, attitudinal, and technological aspects of a course. Try to avoid creating potential barriers for your students.

1. Awareness and accommodation

- Try to arrange for a classroom that is suitable for your needs and those of your students. Students should have sufficient space to work, and students with mobility aids such as scooters and wheel chairs should be able to navigate the room without having to disturb other students. The AV department has a database giving information on classroom layouts and available technology which is useful in this regard http://web.uvic.ca/mediaservices/classrooms/djindex.htm.
- Encourage students who are blind or have low vision to familiarize themselves with a classroom, science lab, or computer lab when the class is not in session.
- Provide handouts of technical terms so that students who have difficulty taking notes can follow the class. Again, drawing on the principles of universal instructional design, this will be beneficial to all students.
- Give students regular breaks during the class. This is important both for the physical comfort of students and for enhancing the retention of material for all students. Studies show that students concentrate for about the first 10 – 15 minutes in a lecture, but a short rest or even a change in activity results in renewed concentration (Biggs, 1999).
- In large classes, use a microphone so that students can hear you clearly. Students who are Deaf, deafened, or hard-of-hearing may experience difficulty following lectures and contributing to discussions. To make it easier for these students to understand what is going on, repeat student responses and write important points on the board.

2. Options for out-of-class activities and program design

- If you are involved in shaping policies, consider ways of incorporating some flexibility into your department's programs. By starting with clear goals, it may be easier to assess which requirements are essential for the program and which create unnecessary barriers for students.
- Find out in advance if a site for an out-of-class activity is accessible and, when possible, only select accessible sites (Gross Davis, 1993, p. 33). Fieldwork components can present challenges for students with certain kinds of disabilities. If students are unable to participate in fieldwork, where appropriate try to accommodate them in your course by providing alternate ways for them to learn and demonstrate their understanding of the material (see Chapter 4 below).
- Notify students well in advance of any fieldwork or class trips so that necessary accommodations, such as transportation and daycare, can be arranged.
- In classes with laboratory components, work with students with disabilities to find suitable lab partners and to ensure that the working relationship is effective for both students.
- Good safety practices are essential for all students working in laboratory settings, but safety should not be used to exclude students with disabilities from courses with lab components. When necessary, seek the advice of the University of Victoria's Occupational Health, Safety and Environment Office (http://ohs.uvic.ca/).

CHAPTER 4:
Common teaching and learning goals and typical ways to achieve them

Frequently we teach concepts to students in the way we ourselves learned them from our own teachers. We may do this without reflecting if this is the best, or indeed only, way of achieving the learning outcomes we have set for the course. In fact, even when content and methods seem fixed, varying instructional methods can help. In other words, the *way* you teach your subject can make a difference as to who succeeds in your course. The following table provides some common teaching goals and suggests some inclusive ways to achieve them.

TABLE 2: COMMON TEACHING AND LEARNING GOALS AND TYPICAL WAYS TO ACHIEVE THEM[14]

1. Goals common to most courses

Instructional Goal	Some Common Approaches	Questions to Consider (tips for good teaching)
Teach a particular concept or idea	Clear presentation of material (usually oral and visual combined) in a lecture.	• Do your visuals reinforce the messages of your verbal presentation? Are they clear? Are they available in alternative formats? • Can you be seen speaking from the back of the room? • What are the light levels like in class? • Can you break up lecturing with small group work or discussion to accommodate different learning styles and provide an alternative

[14] This table has been adapted and updated from the original, "Common teaching goals and typical ways of achieving them," which appeared in Dawson and Guest (eds.), 2003.

		way to learn a concept? • When you give examples, do you vary the types of people you use to demonstrate an idea? Something as simple as using examples that include people with disabilities can help to make all students feel welcome in the class. More broadly, do you ask yourself "What is missing in my class in terms of voices, perspective, and experiences?" • If material is controversial and presentation in a lecture format may shut down discussion you might try case studies (that present alternative perspectives) as an effective way to teach understanding of issues surrounding, for example, a variety of disabilities.
Convey information (content)	Notes presented in such a way as to make material easy to understand and reproduce. If done well conveys structure (of course and class) to students. Can be accompanied by handouts, textbook chapters to read, PowerPoint notes on the web, etc.	• Are materials (such as class outlines and agendas) posted to the web ahead of time so students can review them in preparation for class? • Are materials on the web simple and clear? Are images described in text format? • Are textbook choices made early enough so that students who need books in e-text have sufficient lead time to organize this (it takes several weeks for an e-text book to be requested from a publisher for blind/visually impaired students or students with learning disabilities)? *TIP*: the Bookstore may be able to help with this.

Teach students a body of literature	Textbook/journal/ on-line readings accompanied by students doing written summaries/essays.	• How will you teach students how to think like an academic and help them to acculturate to academic forms of intellectual inquiry and expression? Teaching a student to think like someone in your field is perhaps one of the hardest things to do since it is so intuitive to long-term practitioners. One approach is to use questions to guide the students' reading. These should be provided ahead of time in written form, allowing students' answers to then be integrated in the lecture and contribute to the building of knowledge in the course.
Apply concepts learned/Find connections/ Problem solving	Problem sets/tutorials to practice and apply (in class or at home) what has been learned in lecture. Examples on the board, or for students to try on their own, or in groups. Modeling of relationships.	• How will you assign students to groups so they can work on a problem together? • How will you deal with any issues that might arise as the result of mixed groups and how will you make sure that everyone gets a turn to demonstrate their knowledge if there is a participation grade?
Teach students to make an effective argument	Students learn to gather and present data and to communicate an argument effectively. Examples might be an oral submission to a "panel of experts", a position paper for a government think	• How can you assist students who find oral presentations very challenging? • What other forms of presentation might be acceptable? • For participation and discussion grades, can students participate in on-line discussion instead?

	tank, a web page in support of a non-profit organization.	
Develop necessary academic skills for success in the discipline	Building research techniques, writing skills, use of technology to make a web page, etc. into assignments for the course. May be in the context of a foundational or methods course. Often includes discussions of how to avoid plagiarism and how to reference sources appropriately. Tends to be very discipline specific. Faculty may incorporate visiting the Writing Centre or the instructional librarians into assignment goals.	• How can you encourage students to use all the necessary resources available to them to meet their educational and career goals? For example, how can you encourage students who have self-disclosed to work simultaneously with both the RCSD programs (learning strategists and tutors) and other UVic support services (such as the Writing Centre) to maximize their ability to succeed in assignments? • Could you build a writing workshop into your syllabus or ask the Writing Centre to reserve a block of time for students working on your essay or professional report?
Engage students in critical thinking	Asking the right questions of students to elicit higher forms of learning. Common methods include: class discussion, group work, having students make presentations that respond to evaluative questions.	• Do students in your class need the opportunity to write their thoughts down ahead of time so that they can reflect and give more thoughtful responses when called upon in class? • What questions should they come to class prepared to answer?

Develop intellectual curiosity in students/ win over the best students to be majors or graduate students	Done by being enthusiastic and excited about the material and its relevance in class, stimulating a questioning attitude, encouraging students to undertake independent study with a faculty member or events that make students feel part of an important scholarly group.	• Can video clips or other materials be used to show students role models in your field? • How can you make it possible for a much greater number of students from diverse situations to see themselves in influential roles and career paths? • Have you recommended the Academic Advising and Career Centres to your students?
Test effectively	Multiple-choice tests, essays, take-home exams, final papers, presentations, and portfolios.	• Be sure to use multiple methods of assessment. • Break down the percentage of a grade attributed to each method or assessment aspect on the syllabus. • Be clear about your assessment methods ahead of time. • Throughout the course, give examples of your testing method so that students can see that you test in the way that you teach. This will also give them a sense of how you structure your thinking vis-á-vis assessment. • Be open to exploring alternative ways for students to demonstrate knowledge or mastery of subject matter by consulting RCSD and the Learning and Teaching Centre for tips on assessment options.

2. Goals that focus on specific practical techniques

Instructional Goal	Some Common Approaches	Questions to Consider (tips for good teaching)
Teaching basic procedures and methodologies (mostly in the sciences)	Often associated with teaching the scientific method. Includes teaching hypothesis testing, accurate measurement, appropriate ways to observe, describe and analyze data, and the conventions for writing up empirical investigations. Usually done as a series of lab assignments or tutorials taught by TAs associated with the course. After a mini-lecture, students are taken through the steps of replicating a "recipe" for an experiment and are taught to understand the relationship between the results and the underlying	• What lab procedures might students find physically or mentally challenging? • What additional safety features could you implement that would benefit everyone? • How might these most effectively be communicated?

	principle that was the rationale for the experiment in the first place. Also involves setting up and operating key pieces of equipment used to obtain data.	
Clinical apprenticeship	Learning diagnosis and application in complex realities of actual real-world patient scenarios. Suggesting treatment options.	• What might the barriers to personal interaction be? How can these be facilitated? • Can technology be used as a tool to help? How have other professionals achieved their goals as practitioners?
Pre-professional training/Experiential education/Service learning/Co-op placements	Have students experience a taste of the real world, usually by applying theoretical knowledge in a real world context. Can also be preparation for a career. Can be job-related, a fieldwork assignment or volunteerism; can be paid or unpaid. If done properly, instructors usually undertake to	• Are some placements inappropriate for some students? If yes, under what conditions? What, if any, safeguards should be put in place? • How might placements be adapted to make them more accessible?

	generate some kind of learning agreement between themselves, the placement and the student.	
Real world demonstration of concepts often focused on the application of classifying techniques for things you cannot easily bring into the classroom because they need to be observed in situ or are too big. Examples include: soils, rocks, whole landscapes, types of settlements, meteorological definitions, climate zones, cultural groups, eco-systems, etc.	Fieldtrips. Students need to see first-hand and in the real world certain concepts they are studying in class. The entire experience may be relevant– it might be argued that you have to see, touch, feel, smell, etc. whatever it is to establish its classification. The fieldtrip is such an integral part of some disciplines (such an established part of its methodology) that colleagues may argue you cannot be of that discipline without knowing this method.	• Are there more easily accessible examples of the concept you are trying to teach? For example, can a particular rock formation be seen from a highway cut? • Could a virtual tour be an acceptable substitute so that all students have access?

3. Other common goals

Instructional Goal	Some Common Approaches	Questions to Consider (tips for good teaching)
Citizenship	Proper behavior in class such as respect, equity and rules of academic debate. The student's place in the larger world context and associated responsibilities of same, such as implications and ramifications for social problems, issues and values.	• How can you use your course and classroom to mentor/model respect for others? • How will you use the opportunities generated by class interactions to do this? • How will you teach students to make a controversial point effectively and persuasively but without personalizing it or hurting the feelings of others? • How will you give and receive feedback with these goals in mind?

CHAPTER 5:
In their own words: Examples of supportive teaching practices at UVic

It is likely that you have had many students with disabilities in your classes at UVic. Depending on your subject and your teaching methods, as well as the nature of the disabilities involved, you may or may not have been aware of this. Students with disabilities can be some of our very strongest students. In this chapter we share teaching and learning tips from the students themselves, inspired by some of the best teachers they have encountered at UVic.

5.1 Respectfully celebrating UVic Professors Penny Codding, Slim Ibrahim and LillAnne Jackson

By a 4th year student in Mathematics with a minor in Statistics

Whenever my professors somehow managed to transform a static class into something interactive, my grasp of the material increased. For instance, in my first year chemistry classes (Chem 101 and 102), my professor would have each of us anonymously answer three or four multiple-choice questions using a remote controlled device. Then those results would immediately be displayed on the classroom screen in the form of a bar graph. She could see if we understood the material completed in the last lecture, explain to us the answer to the question, and fill in gaps in our knowledge of the material. This was an extremely effective learning tool for me because it helped me know whether or not I understood the material without being embarrassed.

For another example, in my third year partial differential equations class (Math 326), my professor would present us with the mathematical concept and then immediately ask us to work on an in-class problem. He would proceed to walk around the room and help anyone who had a question. Afterward, he would return to the front and answer the question. It became a very helpful tool in assessing my progress in the class. Many math courses already have tutorials, which

serve a similar function, however the experience of having this inside the classroom when the material is fresh is unparalleled. Also, in my computer science class (CSC 115) when it would have been difficult to ask students to write code in class, it was interactive when the professor passed out sheets in class of half-made code and asked us to fill in the blanks. These techniques impressed in our memory the concepts being presented in class.

Understandably, it is nearly impossible to make every class "interactive", however a professor can always form a hospitable learning environment where questions can be asked and insights shared. Finally, an overlooked area where a professor could help those of us with learning disabilities is during the administration of exams, which are given in a separate facility. It has been very helpful when some professors have taken the initiative to come by the exam site or made available a phone number where they may be reached for the entire extended exam period. Ultimately, it was those professors who were respectful and understanding with their students and made an effort to present material in creative ways, who have had the greatest impact on my learning.

5.2 An excerpt from a student speaking about one professor who supported her

By a 4th year student in Science

When disability was first brought up, the Prof was accepting and understanding. This was evident by the fact that the Prof asked specifically what she could do to help mitigate the disability, "what has helped you in the past?," etc. Ultimately, the Prof took the time to show she would be willing to support any problem that arose due to my disability.

Due to the Prof's empathizing nature I was able to explain that, if possible during the lecture, it would be of immense benefit if she faced the class when she spoke. This enabled me to lipread the Prof and helped me gain the necessary important information from the lecture. This means, for me, to help compensate for some of my disabilities would not have been possible if the Prof did not face the class when she spoke i.e. if she had faced the blackboard instead.

She was incredibly patient – always willing to explain the concept another way if necessary. She would write down things as much as possible when explaining her answers to questions in order to help eliminate verbal processing difficulties.

Recognize that the wording of questions can sometimes be difficult due to processing defects, therefore, if I found a question was unclear, the Prof allowed me to write down how I interpreted the question. This was an immense help as it allowed her to know what question I was answering.

Some days are better than others. Therefore, allowing students to ask for a convenient time to ask questions other than the scheduled office hours is really helpful. This also eliminates the distraction and noise that may be present if other people show up to the scheduled office hours.

With time the Prof developed of deeper understanding of my disability through observations and therefore made her own suggestions to help accommodate the disability.

5.3 CREATING A WELCOMING ENVIRONMENT FOR COMMUNICATION

By a 4th year student majoring in Russian studies and minoring in physics

I'm a 4th year student majoring in Russian studies and minoring in physics. I have bipolar disorder which has posed some unique challenges during my university career. Keeping a regular schedule and keeping down stress levels are important aspects of my treatment. Unfortunately university isn't an ideal environment for that.

The accommodations that help me are mainly ones that ease my stress. I often require flexible due dates for assignments without penalization. It helps to have a detailed syllabus at the start of class with all the assignments and reading lists so I can plan out the semester. I also require adequate time to prepare for a lecture. If something is handed out during one class, I most likely will not be able to complete it for the next class. I also request time and a half for my tests. Usually I can complete a test during the normal allotted time but the extra time helps me keep my stress levels manageable.

I regularly have to miss classes. Sometimes I have doctor appointments; sometimes I just feel too poorly to go to school. This can cause a problem in classes with participation/attendance marks. I ask my profs to keep my situation in mind when assigning those grades and trust in their sense of fairness and compassion. On occasion I may ask to be given an extra assignment to make up for the participation aspect of the course.

I think the most important thing an instructor can do is to be compassionate with all students. Some students might be having problems but haven't formally

registered with the university for various reasons. We don't always have stamps on our head advertising our problems. If an instructor is approachable and understanding their students will come to them.

5.4 TIPS FOR HELPING STUDENTS TO LEARN

Compiled from a number of student authors

- *The most important thing is to build a relationship with students who the RCSD has sent a memo about.*
- *It is VERY helpful if the instructor can open the lines of communication.*
- *Instructors could recognise that it is difficult for students to approach them, and very difficult to ask them for things.*
- *Checking in with them regularly to avoid letting things slide, or the anxiety of the students having to ask would be ideal.*
- *Instructors need to know AHEAD OF TIME what the academic and RCSD process is. The more familiar they are with both systems and possible accommodations before hand, then the less stress that is felt throughout the semester for students waiting to find out what is possible. This will also eliminate the lag time of professors finding out what can be done (grades submitted later, etc.).*
- *Clear course outlines with assignment deadlines and descriptions from the beginning of the semester are important for students to prepare for what lies ahead.*
- *Provide notes to the student after class or copies of the overheads if used so that students can make sure they have the notes correctly.*
- *Be aware that online weekly discussions are difficult for some students because you are constantly going online to answer questions and look for comments to your post, etc. It is difficult to plan around this. Commenting and keeping up with other groups' members can be very challenging and distracting. Having alternative assignments such as a commentary, or answering questions directly to a professor would be helpful for some students.*
- *Optional smaller deadlines for larger projects are helpful.*
- *Main suggestion is that the instructor approach the student from early on in the semester and check in regularly. Makes a BIG difference to the student.*

CONCLUSION:
UID as an on-going process

UID is not a panacea. It will not completely remove the need for individual accommodations, nor will it eliminate many of the challenges faced by students with disabilities. However, it does represent two steps in the right direction: it moves us towards changing attitudes that contribute to the difficulties students with disabilities face; and it is a step towards making higher learning more accessible to all.

As you review and revise your own teaching practices in light of UID, observing that you are already following many of the principles, the Learning and Teaching Centre and Resource Centre for Students with a Disability invite you to participate in an ongoing conversation about inclusive teaching practices at UVic. Discuss UID with colleagues, with teaching assistants, and perhaps even with students. Consult the resources presented in this booklet, try some new ideas and make use of on-campus services. Finally, let us know what you are doing and how it is working, and do not hesitate to suggest ways in which our offices can further assist you to achieve your teaching goals for all students in your courses.

APPENDIX A: SOME EXAMPLES OF WHAT CONSTITUTES A DISABILITY (WITH THE RELEVANT LEGAL CASES)

Disability Example	Case Examples
Allergies and asthma	Morgoch v. Ottawa (City) (No.2) (1989), 11 CHRR D/80 (Ont. Bd. Inq.)
Auditory linguistic processing and retention (memory) problems	British Columbia Public School Employer's Association and BCTF (Coutts Grievance) (1998) 78 L.A.C. (4th) 289 (Jackson)
Bipolar disorders	Oak Bay Marina, infra; Shuswap Lake General Hospital and BCNU (Lockie Grievance), infra
Carpal tunnel syndrome	Lilydale Co-operative, June 6, 1995, Korbin 146
Chronic fatigue syndrome	Brimacombe v. Northland Road Services Ltd. (1998), 33 CHRR D/53 (BCHRT)
Diabetes/insulin dependence	McKenzie v. Quintette Coal Limited (1986), 8 CHRR D/3762 (BCCHR)
Dyslexia—a learning disability (reading) in which the ability to comprehend written symbols and words is impaired	Gill v. Canada (Public Service Commission) (1996), 25 CHRR D/439 (F.C.T.D.); Arnold v. Canada (Human Rights Commission) (1997) 1 F.C. 582 (T.D.); Green v. Canada (Public Service Commission) (1998) CHRD No. 5 (Q.L.; aff'd, (2000) F.C.J. 778 (Q.L.) (T.D.)
Fibromyalgia	Kami Holdings, July 26, 1996
Migraine headaches	London Civic Employees, CUPE Local 107 v. Corporation of Town of Ingersoll (2003) OLAA, No. 554 (Q.L.)
Panic anxiety disorder	Sansome v. Dodd (cob "Portside Paul's Fish and Chips") (1991), 15 CHRR D/393, (1991) BCCHR D/17 (Q.L.); Silzer v. Chaparral Industries (86) Inc. (1994), 20 CHRR D/155 (BCCHR); Cameron v. Fletcher Challenge Canada Ltd. (1995), 24 CHRR D/506 (BCCHR)

Post-traumatic stress disorder	Gardiner v. Ministry of the Attorney-General, April 1, 2003 decision of A. Mohammed of the BCHRT
Severe depressive disorders	Berg v. University of British Columbia, (1997) BCCHRD No. 21 (Q.L.); Rafuse v. B.C (Ministry of Tourism and Ministry Responsible for Culture) 2000 BCHRT No. 42, see esp. paras 102-104; Willems-Wilson v. Allbright Drycleaners Ltd., (1997 BCHRT D/26 (Q.L.)
Soft tissue injuries	Marchand v. 3010497 Nova Scotia Ltd. (Unreported decision of Cusack of N.S. Bd. Inq., dated April 20, 2006)

Source: Canadian Union of Public Employees (CUPE), 2006.

Abbreviations:
BCCHR—British Columbia Council of Human Rights
BCCHRD—British Columbia Council of Human Rights Tribunal Decisions
BCHRT—British Columbia Human Rights Tribunal
CHRD—Canadian Human Rights Tribunal Decisions
CHRR—Canadian Human Rights Reporter
LAC—Labour Arbitration Cases
OLAA—Ontario Labour Arbitration Awards

APPENDIX B: ASSISTIVE TECHNOLOGY

Type of technology	Description
Accessible on-line learning tools	Web-based teaching programs, such as Moodle and Blackboard, which can be used for distance learning.
Alternative keyboards	Keyboards with different layouts and sizes for students who have difficulty working on conventional keyboards.
Alternative mouse systems	Alternative pointing systems that replace a mouse for people who have trouble maneuvering one.
Braille embosser and text-to-Braille conversion	Hardware that prints a copy of a text document in Braille. Software that converts plain text to Braille.
Closed circuit television(CCTV)	A video magnification system that allows a person with low vision to enlarge text and images.
Electronic aids to daily living system	Either a device or a system that allows a person to operate appliances and electrical equipment such as a computer, a phone, and electrical switches using voice activation or remote control.
FM system transmitter	A device that amplifies sound for a person who is hard-of-hearing. Available in many locations on campus.
Grammatical/Spelling support tools	Either grammar/spelling correction and support tools, such as the grammar/spell check on a word processing program, or grammar learning tools, which aim to actively improve the grammar of the user.
Haptic devices	A mouse or other device used with computer software, which allows a person to use a computer by receiving tactile feedback. The user feels rather than sees the Graphical User Interface.
Linux accessibility	Linux is a free computer operating system, which offers accessibility features similar to those of commercial operating systems (Microsoft and Macintosh). Screen readers, and screen magnification are examples of the accessibility resources.

Neural interface devices	People with severe physical disabilities can use these devices, which operate using the small electrical signals generated by eye movements or brain waves, to control a computer or an electrical device attached to a computer.
Non-display based personal digital assistants	Personal digital assistants are handheld computers that are used as organizers, note takers, and communication devices. Non-display PDAs use aural output, Braille displays, and Braille keyboards rather than text-based and visual displays.
On-screen keyboards	Instead of a conventional physical keyboard, this is one that is permanently visible on-screen. It can be used with any type of pointer device, and is therefore helpful for people with many kinds of physical disabilities.
Optical character recognition (OCR)	A process that converts an image of text, such as a scanned paper document or textbook, into text that can be edited and then read aloud on a computer. Kurzweil is a common OCR reading tool, used with a scanner, for students with print impairments.
Personal Digital Assistant (PDA)	Handheld computers that are used as organizers, note takers, and communication devices. People with learning or cognitive disabilities often find them helpful.
Refreshable Braille display	A device that can read text from a computer and convert it to Braille, one line of text at a time. Particularly useful for mathematical or scientific formulas, musical notation, etc.
Screen magnifiers	Software that enlarges the information on-screen for people with visual disabilities. They are designed to run with the operating system and commonly used programs. ZoomText is a common screen magnifier.

Screen readers and talking browsers	Screen readers produce a synthesized voice output from text displayed on the computer screen and from keystrokes entered on the keyboard. Talking browsers are similar except that they are specifically designed for internet use. JAWS is a common example of one that does both.
Speech synthesizers	A device used for speech output. Typically, they are used with screen readers or OCR/scanning programs for people who are blind or have print impairments.
Switches (operational)	People with mobility disabilities often use these to operate computers or other electronic devices. Switches can be buttons, a sensory plate, or touch-free devices that are easier to activate than standard keyboards or other controls.
Text-to-speech systems	Converts text from a computer document, such as a word-processing document or a web page, into audible speech heard through the computer speaker. Like screen readers, text-to-speech systems can be used with optical character recognition; however, text-to-speech software is different from screen reading technology because it does not read any system information.
Voice output communication aids	Electronic devices that generate print and/or spoken text. These are useful for people who cannot communicate adequately through natural speech.
Voice recognition systems	Voice recognition systems use voice as an input device. Students with learning disabilities such as a written output disorder, or those with a range of mobility-related disabilities, can use them to dictate text into a computer or to give commands to a computer.

Word prediction	Software that predicts words based on word frequency and context. Some kinds include features such as checking spelling as you type, lists of possible words, speech synthesis, and hotkeys for frequently used words. Word prediction helps students with learning disabilities, slow typists and people with minor visual impairments with text entry.

Source: This chart is adapted and updated from one entitled "Technical Glossary" from the Adaptive Technology Resource Centre, University of Toronto (2004).

BIBLIOGRAPHY AND RESOURCES

The principles of UID can help you to identify areas of your teaching that can be adjusted for greater accessibility. To facilitate your teaching and learning process, the following section lists resources available to assist you in your research in the areas of disability and UID.

DISABILITY AND ACCOMMODATION

Access*Ability* Services, University of Toronto at Scarborough. "Access*Ability* Homepage." Toronto, ON, 2003. Available: http://www.utsc.utoronto.ca/~ability/ (August 2009).

Canadian Association of the Deaf. "Universal Design." Ottawa, ON, 2007. Available: http://www.cad.ca/en/issues/universal_design.asp (August 2009).

Canadian Union of Public Employees (CUPE), British Columbia "Definition of disability for human rights purposes." Burnaby, BC, 2006. Available: http://www.cupe.bc.ca/files/definition_of_disability_for_human_rights_purposes_nov_06.pdf (August 2009).

Council of Ontario Universities Working Group on the Ontarians with Disabilities Act. "The Ontarians with Disabilities Act, 2001, Education and Disability: Human Rights Issues in Ontario's Education System." Toronto, ON, 2002. Available: http://www.ohrc.on.ca/en/resources/discussion_ consultation/Education (August 2009). Also http://www.ohrc.on.ca/en/ resources/Guides/AccessibleEducation (August 2009).

Government of British Columbia. "BC Human Rights Code." Victoria, BC: Queen's Printer for British Columbia, 1996. Available: http://www.bclaws.ca/ Recon/document/freeside/--%20H%20/Human%20Rights%20Code%20%20RSBC%201996%20%20c.%20210/00_96210_01.xml (August 2009).

Government of Canada. "Canadian Charter of Rights and Freedoms." Ottawa, ON: Queen's Printer, 1982. Available: http://www.efc.ca/pages/law/ charter/charter.text.html (August 2009)

Hewlett, Maureen. "University of Northern British Columbia's Instructors' Handbook for Accommodating Students with Disabilities." Disability Services, UNBC, 2000. Available: http://www.unbc.ca/assets/disabilities/instructors_handbook.pdf (August 2009).

Hildyard, Angela (ed.). "University of Toronto Ontarians with Disabilities Act Accessibility Plan, 2003-04." University of Toronto: 2003. Available: http://www.hrandequity.utoronto.ca/Assets/reports/oda/0304.pdf?method=1 (August 2009).

Kent State University Classroom Accommodation Network (CAN). "Universal Design." Kent State Center for Disability Studies, 2008. Available: http://www.classaccommodation.org/Universal%20Design.htm (August 2009).

Ministry of Citizenship, Government of Ontario. "Ontarians with Disabilities Act, 2001, Bill 125." Toronto, ON: Queen's Printer for Ontario, 2001 (2004). Available: http://www.odacommittee.net/ODA_Bill_2001.html; also available: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_ 01o32_e.htm (August 2009).

National Institute for the Deaf. "Class Act: Universal Design." New York: Rochester Institute of Technology. Available: http://www.rit.edu/ntid/drt/classact/side/universaldesign.html (August 2009).

Office for Equal Opportunity Programs, Yale University. "Teaching Students with Disabilities." New Haven, CT: Yale University. Available: http://www.yale.edu/rod/disabilities.html (August 2009).

Ontario Human Rights Commission. "Policy and Guidelines on Disability and the Duty to Accommodate." Toronto, ON: Queen's Printer for Ontario, 2001. Available: http://www.ohrc.on.ca/en/resources/Policies/PolicyDisAccom2/view (August 2009).

Ontario Human Rights Commission. "The Opportunity to Succeed: Achieving Barrier-Free Education for Students with Disabilities." Toronto, ON: Queen's Printer for Ontario, 2003. Available: http://www.ohrc.on.ca/en/resources/discussion_consultation/ConsultEduDisablty2/view (August 2009).

Ontario Ministry of Training, Colleges and Universities. "Learning Opportunities Task Force, 1997-2002: final report." Government Documents of Ontario. Toronto, ON: Queen's Printer for Ontario, 2002.

University of Victoria. "Strategic Plan: A Vision for the Future: Building on Strength." Victoria, BC: University of Victoria, 2007. Available: http://web.uvic.ca/strategicplan/ (August 2009).

University of Victoria Senate. "Updated (2006) policy AC1205: Academic Accommodation and Access for Students with Disabilities." Victoria, BC: University of Victoria, forthcoming 2009. Latest available: http://www.uvic.ca/shared/shared_usec/docs/policies/AC1205_2340_.pdf (August 2009).

World Health Organization. "Towards a Common Language for Functioning, Disability, and Health: The International Classification of Functioning, Disability and Health (ICF)." Geneva: World Health Organization, 2002. Available: http://www3.who.int/icf/beginners/bg.pdf (August 2009).

UNIVERSAL INSTRUCTIONAL DESIGN AND EFFECTIVE TEACHING PRACTICES

Bean, John. *Engaging Ideas: The Professor's Guide to Integrating Writing, Critical Thinking, and Active Learning in the Classroom.* San Francisco: Jossey-Bass Pub., 1996.

Biggs, John. *Teaching for Quality Learning at University*. Philadelphia, PA: Society for Research into Higher Education and Open University Press, 1999.

Bowe, Frank. *Design in Education – Teaching Non-Traditional Students.* Westport, CT: Greenwood, 2000a.

Bowe, Frank. U*niversal Design in Education.* Westport, CT: Bergin and Garvey, 2000b.

Burgstahler, Sheryl. "Universal Design of Instruction," University of Washington, 2002.Available: http://www.washington.edu/doit/Brochures/Academics/instruction.html (August 2009).

Centre for Access and Disability Services, Georgian College, Ontario. "Principles of Universal Instructional Design." Barrie, Ontario: Georgian College, 2003. Available: http://www.georgianc.on.ca/c4a/uid_principles.htm (August 2009).

Center for Instructional Development and Research, University of Washington: http://depts.washington.edu/cidrweb/inclusive/ (August 2009).

Center for Teaching and Learning, University of North Carolina at Chapel Hill. "Teaching for Inclusion." University of North Carolina, 2001. Available: http://cfe.unc.edu/pdfs/TeachforInclusion.pdf (August 2009).

Center for Universal Design. "The Center for Universal Design: Environments and Products for all People." North Carolina State University, January 2002. Available: http://www.design.ncsu.edu/cud (August 2009).

Dawson, Teresa and Tina Doyle (eds.). "Universal Instructional Design: Creating an Accessible Curriculum." Toronto, ON: Access*Ability* Services and Teaching and Learning Services, University of Toronto at Scarborough. 2003. Available: http://www.utsc.utoronto.ca/~tlsweb/events/publications/images/uidbook.pdf (August 2009).

Dawson, Teresa and Kristen Guest (eds.). "Teaching and Learning for Diversity at UTSC." Toronto, ON: UTSC, Teaching and Learning Services, 2003.

Disabilities, Opportunities, Internetworking, and Technology (DO-IT). "The Faculty Room." University of Washington, 2001. Available: http://www.washington.edu/doit/Faculty/Strategies/Academic/Groupwork/ (August 2009).

Disability Services Unit, Australian National University. "Alternative Assessment for Students with Disabilities." Australian National University, 2005. Available: http://www.anu.edu.au/disabilities/resources_for_staff/alternative_assessment.php (July 2009).

Gross Davis, Barbara. *Tools for Teaching*. San Francisco: Jossey-Bass Pub., 1993.

Jones, Jack. "Creating a Positive Interactive Learning Environment." Nipissing University, North Bay, Ontario, 2001. Photocopy.

Learning and Teaching Centre, University of Victoria. "Teaching Support." University of Victoria, 2007. Available: http://www.ltc.uvic.ca/servicesprograms/resources/index.php (August 2009).

Learning and Teaching Centre, University of Victoria. "Suggested syllabus statement." University of Victoria, 2007. Available: http://www.ltc.uvic.ca/servicesprograms/resources/documents/Suggested%20Accessibility%20Statement%20for%20your%20Syllabus%20(2).doc (August 2009).

Mace, Ronald. (2002). "What is universal design?" Center for Universal Design National Institute on Disability and Rehabilitation Research, United States Department of Education. Available: http://www.design.ncsu.edu/cud/projserv_ps/psservices.htm#des (August 2009).

McGhie-Richmond, Donna, Kathryn Underwood and Anne Jordan. "Developing Effective Instructional Strategies for Teaching in Inclusive Classrooms." *Exceptionality Education Canada* 17.1, (2007): 27-52.

McGuire, Joan M., Sally S. Scott, and Stan F. Shaw. "Universal Design and Its Applications in Educational Environments." *Remedial and Special Education 27.3 (2006*): 166-175.

McGuire, Joan M., Sally S. Scott, and Stan F. Shaw. "Universal Design for Instruction: The Paradigm, Its Principles, and Products for Enhancing Instructional Access." *Journal of Postsecondary Education and Disability* 17.1 (2003): 11-21.

Northern Illinois University. "Suggestions for Syllabi Statements." Illinois, 2004. Available: http://www.niu.edu/caar/resources/Syllabi.pdf (August 2009)

Russell, Dan. “Acoustics and Vibration Animations.” Flint, Michigan: Kettering University, 2003. Available: http://www.gmi.edu/~ drussell/Demos.html (August 2009).

Scott, Sally S., Gladys Loewen & Carol Funckes. "Implementing Universal Design in Higher Education: Moving Beyond the Built Environment." *Journal of Postsecondary Education and Disability* 16.2 (2003).

Teaching Support Services, University of Guelph, Ontario. “Seven Principles of UID.” University of Guelph, 2003. Available: http://www.tss.uoguelph.ca/uid/ (August 2009).

Teaching Support Services, University of Guelph, Ontario. “Universal Instructional Design (UID): A Faculty Workbook.” University of Guelph, 2002. Available: http://www.tss.uoguelph.ca/uid/ (August 2009).

Writing Centre, University of Victoria: http://www.ltc.uvic.ca/servicesprograms/twc.php (August 2009).

WEB ACCESSIBILITY, MEDIA AND TECHNOLOGY

Adaptive Technology Resource Centre (ATRC). “Technical Glossary.” Toronto, ON: University of Toronto, 2004. Available: http://www. utoronto.ca/atrc/reference/tech/techgloss.html (August 2009).

CAST (Center for Applied Special Technology) Inc.: http://www.cast.org/ (August 2009). Specifically “Bobby”: http://cast.org/products/Bobby/index.html Wakefield, MA: CAST (August 2009).

DBTAC Southwest ADA Center. “IT Toolbox on Universal Design” from the “Disability Law Resources Project.” Available: http://www.dlrp.org/html/IT/toolbox.html (August 2009).

Disability Services, University of Colorado Boulder: “Accessible Webpage Design: Resources.” University of Colorado, 2009. Available: http://library.uwsp.edu/aschmetz/Accessible/pub_resources.htm (August 2009).

DO-IT (Disabilities, Opportunities, Internetworking, and Technology) program, University of Washington. Resources: http://www.washington.edu/doit/Resources/udesign.html; Technology: http://www.washington.edu/doit/Resources/technology.html; Programs: http://www.washington.edu/doit/Brochures/Programs/ud.html (August 2009).

Hart, Norma and Susan Gauthier. "Principles of Universal Instructional Design and Adaptive Technology: An Integrated Model." Barrie, Ontario: Georgian College, 2002. Available: http://www.georgianc.on.ca/c4a/uid_principles.htm (August 2009).

Multimedia Educational Resource for Learning and Online Teaching (MERLOT): http://www.merlot.org/ (August 2009).

National Centre for Accessible Media (NCAM): http://ncam.wgbh.org/ (August 2009).

Trace Research and Development Centre. "Research to Make Everyday Technologies Accessible and Usable." Wisconsin: Trace Institute, 2007. Available http://trace.wisc.edu/ (August 2009).

Web Accessibility Initiative, World Wide Web Consortium: http://www.w3.org/WAI/ (August 2009).

SCHOLARSHIP ON DISABILITY

For those interested in scholarly debate around the scholarship of disability, the following represents a selection of viewpoints (not necessarily endorsed by the editors of this book).

Barton, Ellen. "Disability Narratives of the Law: Narratives and Counter-Narratives."*Narrative Inquiry* 15.1 (2007): 95-112.

Berberi, Tammy, Elizabeth C. Hamilton, and Ian Sutherland, (eds). *Worlds apart?: Disability and Foreign Language Learning.* New Haven: Yale University Press, 2008.

Brownworth, Victoria A. and Susan Raffo, eds. *Restricted Access: Lesbians on Disability.* Seattle, WA: Seal Press, 1999.

Burch, Susan and Ian Sutherland. "Who's Not Yet Here?: American Disability History." *Radical History Review 94 (Winter 2006):* 127–47.

Crooks, Valorie A. and Vera Chouinard. "An Embodied Geography of Disablement: Chronically Ill Women's Struggles for Enabling Places in Spaces of Health Care and Daily Life." *Health & Place* 12.3 (2006): 345-352.

Davis, Lennard J. *Enforcing Normalcy: Disability, Deafness, and the Body.* New York: Verso, 1995.

Davis, Lennard J., Ed. *The Disability Studies Reader,* (2nd ed.). New York: Routledge, 2006.

Edgington, Kristine and Jillian Roberts. "Serving youth with physical deformity in Canadian schools: Ethical guidelines for non-discriminatory practice." *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* (On-line journal), 6.2, Art. 44 (2005).

Garland-Thomson, Rosemarie. "Integrating Disability, Transforming Feminist Theory." *National Women's Studies Association Journal,* 14.3 (2002): 1-32.

Ginsberg, Sarah M. and Karen Schulte. "Instructional Accommodations: Impact of Conventional vs. Social Constructivist View of Disability." *Journal of the Scholarship of Teaching and Learning 8.2* (2008): 84-91.

Hahn, Harlan. "Toward a politics of disability: definitions, disciplines, and policies." *The Social Science Journal,* 22 (1985): 87-105. Available: http://www.independentliving.org/docs4/hahn2.html (August 2009).

Harrison, Gina L. "The spelling strategies of students with varying graphophonemic skills: Implications to instruction and intervention." *Exceptionality Education Canada, 1*5 (2005): 57-76.

Harrison, Gina L. "Written expression instruction." *Teaching students with reading difficulties and disabilities: A guide for educators*. Saskatchewan Learning. Available: www.sasked.gov.sk.ca/branches/curr/...ed/.../ teachreaddiffanddis.pdf (August 2009).

Harrison, Gina L. and Deborah Beres. "The writing strategies of post-secondary students with writing difficulties." *Exceptionality Education Canada,* 17 (2007): 221-242.

Harrison, Gina L. and Lisa Krol. "Relationship between L1 and L2 Word-level Reading and Phonological Processing in Adults Learning English as a Second Language." *Journal of Research in Reading* 30.4 (2007): 379–393.

Hillyer, Barbara. *Feminism and Disability.* Norman: University of Oklahoma Press, 1993.

Hole, Rachelle. "Narratives of Identity: A Poststructural Analysis of Three Deaf Women's Life Stories." *Narrative Inquiry,* 17.2 (2007): 259 – 278.

Jordan, Anne, Eileen Schwartz, and Donna McGhie-Richmond. "Preparing teachers for inclusive classrooms." *Teaching and Teacher Education* 25 (2009): 535–542.

Katsiyannis, Antonis, Dalun Zhang, Leena Landmark and Anne Reber. "Postsecondary Education for Individuals with Disabilities: Legal and Practice Considerations." *Journal of Disability Policy Studies* 20.1 (2009): 35-45.

Kmetic, A., Reading, J. and Nowgesic, E. (2005). "Disability and chronic conditions (excluding diabetes)." Chapter 4 in "First Nations Centre – National Aboriginal Health Organization, First Nations Regional Longitudinal Health Survey (RHS) 2002/03 Survey Results for Adults, Youth and Children Living in First Nations Communities" (pp. 52-63). Ottawa, ON. Available at: http://cahr.uvic.ca/programs-publications.htm (August 2009).

Kudlick, Catherine J. "Disability History: Why We Need Another 'Other' *The American History Review* 108.3. (2003): Available: http://www.historycooperative.org/journals/ahr/108.3/kudlick.html (August 2009).

Linton, Simi. *Claiming Disability: Knowledge and Identity*. New York: New York University Press, 1998.

Malhotra, Ravi. "Expanding the Frontiers of Justice: Reflections on the Theory of Capabilities, Disability Rights, and the Politics of Global Inequality." *Socialism and Democracy* 22:1 (2008) 83-100.

Mandel Morrow, Lesley, Robert Rueda and Diane Lapp, eds. *Handbook of Research on Literacy and Diversity*. New York: Guilford Press, 2009.

Morris, Jenny. "Impairment and Disability: Constructing an Ethics of Care that Promotes Human Rights." *Hypatia* 16.4 (2001). Available: http://muse.jhu.edu/journals/hypatia/v016/16.4morris.html (August 2009).

Moss, Pamela with Katherine Teghtsoonian. *Contesting Illness: Processes and Practices.* ON: University of Toronto Press, 2008.

Moss, Pamela with Isabel Dyck. *Women, Body, Illness: Space and Identity in the Everyday Lives of Women with Chronic Illness.* Latham: Roman & Littlefield, 2003.

Pliner, Susan, and Julia Johnson. "Historical, Theoretical, and Foundational Principles of Universal Instructional Design in Higher Education." *Equity and Excellence in Education* 37.2 (2004): 105-113.

Prince, Michael J. *Absent Citizens: Disability Politics and Policy in Canada.* Toronto: University of Toronto Press, 2009.

Stiker, Henri-Jacques. *A History of Disability*. Trans. William Sayers. Ann Arbor: University of Michigan Press, 1999.

Thorson, Helga and Rasma Lazda. "Initiatives to Educate Foreign Language Faculty on Teaching Students with Disabilities," in Tammy Berberi, Elizabeth Hamilton and Ian Sutherland (eds.) *Worlds Apart? Disability and the Foreign Language Classroom*. New Haven, CT: Yale University Press, 2008.

Vance, Mary Lee, (ed.). *Disabled Faculty and Staff in a Disabling Society: Multiple Identities in Higher Education.* Huntersville, NC: Academic Success Press, 2009.