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## Universal Design for Learning

### Background

In the spring of 2012, Maureen Reed and Dalia Hanna of the Learning & Teaching Office (LTO) were asked to assemble a cross faculty committee to study Universal Design for Learning (UDL). This committee was a subcommittee of the University Access Advisory Committee. Its mandate was to make recommendations for faculty training so that Ryerson University remains in compliance with legislation surrounding the Accessibility for Ontarians with Disabilities Act (AODA). The committee created a vision, strategic outcomes, and methods. These are listed below.

**Vision:** The Ryerson teaching community adopts a universal approach in designing, developing, and implementing their courses to reach out to every student on campus.

### Strategic Outcomes:

1. Assist community members to understand universal design.  
Methodology: Create documentation on best practices in universal design, examine what other universities are doing in universal design as it pertains to teaching, examine the suggested practices provided by the Council of Ontario Universities, examine the current practices at Ryerson, and survey all university stakeholders about current practices at Ryerson University in UDL.
2. Based on the activities above, the committee will make recommendations around teaching pedagogy for universal design, communication and promotion of universal design to the Ryerson teaching community, and faculty training in universal design.

### Principles of University Learning

Students attending university take on partial responsibility for learning. Classrooms allow for two-way communication, divergent theoretical perspectives, experiential activities, and self-directed in learning. The Learning Opportunities Task Force of the Ontario government lists the following as principles of adult learning

#### **Students**

1. are willing and able to take on shared responsibility for their learning,
2. gain significant knowledge and skills through two-way communication,
3. learn through reflection on their and others' experiences,
4. are able to integrate new ideas with existing knowledge(logical nesting of course content),
5. learn best when they perceive information to be useful and to have immediate application,
6. learn best when they are offered opportunities for self-directed learning, and
7. learn best when they feel that they are being supported in experimenting with new ideas and skills (Bryson).

## Definition of Disabilities

Implementing UDL requires the use of a social model of disability rather than a medical model. The medical model views disabilities as a deficiency to be fixed, while as the social model treats disabilities as a difference. The two models are summarized in the table below:

**Table 1 - Medical model and social model**

Medical model	Social model
Disability is a deficiency or abnormality	Disability is a difference
Being disabled is negative	Being disabled, in itself, is neutral
Disability resides in the individual	Disability arises from interactions between the individual and society
The remedy for disability-related problems is cure or normalization of the individual	The remedy for disability-related problems is a change in the interactions between the individual and society, including making changes to the learning context itself
The agent of remedy is the professional who affects the arrangements between the individual and society	The agent of remedy can be the individual, an advocate, or anyone who affects the arrangements between the individual and society

Source: Gill, C. (1994) *Two Models of Disability*. Chicago Institute of Disability. University of Chicago

## Definition of UDL

Universal Design for Learning (UDL) is the design of instructional materials and activities that allow learning goals to be achieved by individuals with wide differences in their abilities to see, hear, speak, move, read, write, understand English, attend, organize, engage, and remember (Ivy Access Initiative, Brown University)

The essential qualities of UDL include valuing each learner's unique perspectives and accommodating individual differences in learners' backgrounds, interests, abilities, and experiences.

The cardinal rule of UDL is that there is no single method for representing information that will provide equal access for all students; no single method of expression that will provide equal opportunity for all students; no single way to ensure that all students are engaged in learning because any method that works for some students may present barriers to learning for others (ERIC/ OSEP, 1998; as cited by Mino , 2004). Accordingly Universal Instructional Design emphasize flexibility in curriculum and instruction.

## Traditional Definitions of Accommodations vs. UDL

Simply put, if a course follows UDL principles it is accessible, thus reducing the need to accommodate students. Below is a table developed at the University of Ottawa that succinctly describes the difference between the Accommodation Approach and the UDL (accessible) Approach.

**Table 2 - Accommodation approach and Universal design approach**

<b>Accommodation approach</b>	<b>Universal design approach</b>
Access is a problem for the individual and should be addressed by that person and the disability service program	Access issues stem from inaccessible, poorly designed environments and should be addressed by the designer
Access is achieved through accommodations in and/or retrofits of existing requirements	The system/environment is designed, to the greatest extent possible, to be usable by all
Access is retroactive	Access is proactive
Access is often provided in a separate location or through special treatment	Access is inclusive
Access must be reconsidered each time a new individual uses the system, i.e. is consumable	Access, as part of the environmental design, is sustainable

Source: Access Service – Student Academic Success Service. *A Guide for Professors: Minimizing the impact of learning obstacles*. University of Ottawa.

### Principles of UDL

There are general principles that guide UDL in and outside of the classroom. Most of the principles identified at various post-secondary institutions are simply good teaching pedagogy. Below is a list of principles compiled by Ohio State University:

- Identify the essential course content.
- Clearly express the essential content.
- Integrate natural supports for learning (i.e. using resources already found in the environment such as study buddies).
- Use a variety of instructional methods when presenting material.
- Allow for multiple methods of demonstrating understanding of essential course content.
- Use technology to increase accessibility.
- Invite students to meet/contact the course instructor with any questions/concerns (*Fast Facts for Faculty*, Ohio State University)

The Learning Opportunities Task Force breaks down and categorizes UDL principals with actions that promote each principal. These methods can be found at:

<http://www.ontla.on.ca/library/repository/mon/8000/243213.pdf>

### Best Practices in UDL

Most universities favour three best practices in UDL:

#### **Representation:**

A variety of methods are used to present course content (e.g. lecture, web, text, audio) (*Fast Facts for Faculty*, Ohio State University).

#### **Engagement:**

A variety of teaching methods are used to capture the student's attention (discussions, reflections, individual projects, etc).

**Expression:**

The instructor allows students to demonstrate their knowledge in a variety of ways and is flexible for students who have barriers in expression (e.g. oral presentations for those with reading disabilities) (*Fast Facts for Faculty*, Ohio State University).

**Misconceptions about UDL**

Faculty often hold misconceptions about UDL. Some common misconceptions are listed below:

- Universal Instructional Design is 'spoon-feeding' students course content, information, and strategies
- Universal Instructional Design means watering down the program standards of performance
- In Universal Instructional Design, we provide so much information to students that they will not come to class
- Simply using technology is the same thing as using technology to support the principles of Universal Instructional Design
- Universal Instructional Design is a formal educational theory or model that is to be followed precisely
- Universal Instructional Design is only for students with specific learning and other disabilities (Bryson).

**Recommendations for Practice at Ryerson**

The following recommendations were developed based on our review of higher education institutions in Canada and the United States, a literature review, and stakeholder surveys.

**General Recommendations**

1. Establish a UDL committee to oversee the development of a communications plan, the implementation of UDL in teaching pedagogy, and faculty training
2. Conduct an annual evaluation of the UDL strategy and UDL outcomes

**Other Overarching Implementation Recommendations**

For students:

- Student reps from each faculty will act as liaison between students and the UDL committee
- Students should be trained in the principles of self-advocacy with respect to UDL.  
<http://accessproject.colostate.edu/sa/>

For faculty:

- One member of the LTO or UDL committee, specializing in UDL, will annually visit each school's faculty or departmental council meetings to raise awareness.
- Continuous updates will be provided via links to relevant resources on campus, external resources, and academic publications on universal design.
- Develop awards for innovative Universal Design practice at Ryerson .
- Consider developing a Canadian university publication similar to *Universal Design in Higher Education: From Principle to Practice* by Harvard University Press.

- Panel presentation will be given during the school year and/or annual Ryerson Faculty Conference
- Awareness workshops will be held during the school year through LTO, Faculty Learning and Teaching Committees and Senate Learning and Teaching Committee
- In person or online/video training for faculty will be developed, with certificates provided as proof of completion.
- A mentoring program will be established.
- Consider highlighting UDL practices in faculty annual reports.

### *a. Syllabus/Outline*

The course syllabus should be considered a document that students rely on to plan for their upcoming year. A course syllabus should contain course goals, course description, course objectives, learning outcomes, instructor contact information, accommodation statements, assessment strategies, policies on missed classes and late assignments, weights of assessed material, due dates, schedule of class topics, associated readings and activities by date, a list of student resources (e.g. Writing Centre, Math Assistance Centre, Access Centre, Centre for Student Development and Counselling, etc).

1. Create a template syllabus and example syllabus for faculty use.
2. Provide faculty with the following best practices:
  - a) Review the syllabus in the first class and refer to it often.
  - b) Make the syllabus available in an electronic format, share a copy with the Accessible Format Production Librarians
  - c) Provide the course syllabus and access to it via the course web page, well in advance of the first class so that students can begin planning for their year.
  - d) Allow students to express concerns about issues highlighted on the syllabus (due dates, field trips, etc)

### *b. Course Delivery*

Based on the principles outlined above, faculty should use a variety of teaching methods, use natural supports, and encourage student engagement through face-to-face interaction and technology.

### ***Recommendations***

1. Faculty should identify course objectives and learning outcomes in their individual courses
2. Course expectations should be explicit and delivered in multiple formats (e.g. verbally, on the course outline, on the course web page)
3. Faculty should use multiple means of presenting material in class, including, where appropriate, lecturing, activities (e.g. demonstrations, laboratories, group projects, case studies), video, technology, etc.
4. Faculty should present single concepts in more than one way (e.g. a demonstration followed by a lecture explaining relevant concepts)
5. If using presentation technology, faculty should be sure slides are easy to read (i.e. large font, not too text-heavy).
6. Faculty member should encourage natural supports within their class (e.g. peer-to-peer mentoring, use of office hours, teaching assistants, study groups, opportunities for questions, etc.)

7. Faculty-student engagement should be encouraged (e.g. use of office hours, email, web postings, discussion boards, etc.).
8. Faculty should use technology to enhance learning (e.g. clickers, Google drive, web 2.0, etc.).
9. Faculty should consider posting notes for difficult concepts, or a providing a simplified version of the slides used in class.
10. When lecturing, faculty should moderate language, replacing terms such as “this or that” with specific descriptions.
11. Faculty should encourage student participation in multiple ways (e.g. questions, small groups, pairing students, discussions, etc.).
12. Faculty should consider creating guided notes (notes where some material is left off) that students can use during lecture. \*
13. Faculty should update course material annually, keeping the course relevant and current.
14. Faculty should repeat important concepts and provide additional examples of these concepts.
15. Faculty should relate important course concepts to real life through the use of news stories, personal stories, research stories, and case studies.
16. Faculty should assist students, especially junior students, in learning study techniques, writing, and numeracy
17. If planning to provide materials to students, faculty should do so before the class day so students may print or use them as a guide during lecture.
18. Faculty should review the previous day’s content at the beginning of class and allow students to ask questions, and summarize important points at the end of each class.
19. Faculty should give students a short break part way through class.
20. Faculty should allow students to record lectures or use note takers.
21. Faculty should repeat student questions before answering.
22. When lecturing, faculty should ensure that all students can see and hear them, as well as see the PowerPoint or board.
23. Faculty submit videos to the Ryerson Library for captioning services well in advance of needing them for class
24. Faculty should allow students to ask questions without raising their hand.
25. Faculty should provide verbal explanations for PowerPoint slides, material on the board, and any graphs or charts used in class.
26. If distributing printed materials (e.g. tests), faculty should provide printed materials in black and white
27. Consider using a textbook that is available electronically as well as in print editions (offering it in larger print)
28. In laboratories, faculty should be aware of any student in need of accommodations. Faculty members should also ensure that all chemicals and equipment are clearly labeled.

\* For more information on guided notes, see: Heward, W.L. Guided Notes: Improving the Effectiveness of Your Lectures. *Ohio State University*.

<http://ada.osu.edu/resources/fastfacts/Guided-Notes-Fact-Sheet.pdf>

### ***c. Student Resources***

Student resources include those for accommodation and those provided by Student Services.

#### ***Recommendations***

1. Faculty should work with the Access Centre to determine, identify, and implement resources that can assist students with accommodations inside and outside of class.

2. Faculty should highlight on-campus student services that would assist all students in learning (e.g. English Language Support, Library, Writing Centre, Math Assistance Centre, Health Centre, etc).
3. Faculty should encourage (where appropriate) students to bring copies of assignments when using supports (e.g. Writing Centre, Math Assistance, Library research skills workshops).
4. Faculty should recognize and support student self-advocacy.

#### *d. Student Assessment*

The gold standard for Universal Design and student assessments is diversity, choice and flexibility. Professors should note that while it is important that assessments be “fair,” this does not mean that assessments must be “the same.” Assessments should be designed according to these principles. With these principles in mind, here are some recommendations for instructing professors about including Universal Design in their assessments.

#### **Recommendations**

1. **Learning assessments should reflect the course goals and should be designed in a backwards manner:** Backward design begins by developing course objectives and then outlining appropriate means of assessing whether these objectives have been met by students in a way that reflects the course goals.
2. **Assessment should be flexible:** Assessment should use a combination of modes of expression (e.g. writing, speaking, drawing, making, presenting) to demonstrate the learning of course content. Choice and variety in demonstrating mastery of necessary course skills and content is key. For example, some students might not do as well at timed tests and would do better if offered take-home tests. In contrast, other students might have difficulties with take-home tests (e.g. due to family responsibilities) and would do better with timed tests. Allowing students a choice of assessment method can help meet their individual requirements. In addition, consider that there might be a number of ways to demonstrate mastery of the course material. Offering multiple methods of assessment (even if students are not given a choice of assessment) will assist students in demonstrating knowledge.
3. **Deadlines should be flexible:** Some students with disabilities will experience good weeks and bad weeks, and these cannot always be predicted in advance. Avoid deadlines that are too harsh (e.g. if not handed in on time the student gets a zero). Instead allow for negotiation.
4. **Assignments should give opportunities for feedback:** It is helpful to give students feedback throughout the process of completing longer assignments. Consider having parts of these assignments due at different stages and provide feedback along the way.
5. **The Access Centre can be an invaluable resource:** If professors are unsure about whether their assessment methods are fair and accessible, the Access Centre can help ensure that tests are accessible to diverse student needs (e.g. online tests can be read by electronic readers, graphs can be translated by readers for visually impaired students, etc.). In addition, faculty should consult with the Access Centre if concerned about individual accommodations.

#### *e. Course Web Pages/Blackboard*

Faculty will likely need resources and assistance to perform many of the following requirements. The Information and Communications Working Group of the Access Advisory Committee is creating

recommendations around Blackboard use. However, below are issues that will need to be addressed for faculty. It should be clear that these issues need to be considered but may not necessarily be the responsibility of individual faculty. For example, faculty should have alt tags and captioning for their materials but may not be responsible for creating these alt tags or captioning.

Course web pages should be perceivable, operable, understandable, and work with current and future technologies (W3C, 2004).

### ***Recommendations***

1. **Perceivable:** Images, charts and graphs should be alt tagged with helpful descriptions, high contrast text and backgrounds should be used (e.g. black on white), captions and audio transcripts should be provided for audio and video clips, and color alone should not be used to convey meaning.
2. **Operable:** Links and buttons should be accessible through tabbing from the keyboard, a method to skip navigation should be provided so users go directly to a content page, and multimedia players should be operable with the keyboard as well as with the mouse.
3. **Understandable:** Links are descriptive and pages are structured with headings, tables include a header, and the pages read in the expected order.
4. **Robust:** The website (including PDFs and documents) can be read with a variety of browsers and assistive technology (University of Arkansas).

### ***f. Online Delivery***

To implement the principles of universal design in online learning, it is recommended that faculty and instructors plan for the diverse range of students that enroll in online courses. The planning should include tools and strategies to enhance the accessibility and usability of the course for students with and without disabilities.

### ***Recommendations***

All the UDL principles applied in the face-to-face classroom may be applied online with particular emphasis on the following:

1. Communication should be based on inclusive language, with clear expectations (e.g. Instructors should model and teach good discussion board etiquette).
2. At the beginning of any online course, instructors should welcome all students and provide basic navigational and course management information and advice
3. Instructors should ensure their course page has consistent navigation and simple design. Student should be able to locate materials and content easily through the learning management system. In addition students should find standard course structure across various courses.
4. Instructors should use accessible technology within the learning management system or when asking students to use social media or external web tools (wikis, blogs, etc.).
5. Instructors should follow best practices for accessible web pages, documents, and multimedia components:
  - Ensure that captions and transcripts are available for audio-visual material, convert PowerPoint presentations to accessible HTML content.
  - Make auditory materials visual and the visual materials auditory.



- Provide students with accessible downloads for necessary plugins, example: Adobe Flash or Adobe Reader.
  - Use clear formatting: backgrounds, color, links, fonts.
6. Instructors should utilize accessible technologies and provide guidance on how to obtain specific accessibility related accommodations.
  7. Online courses should be designed to facilitate readability and minimize distractions.
  8. Online courses should be designed to accommodate the use of assistive technologies such as screen readers, magnifiers, etc.

### ***g. Faculty Resources and Self Assessment***

Faculty require resources to assist them in using UDL in their classrooms. Resources can be provided in a variety of ways.

#### ***Recommendations***

1. A resource webpage featuring internally created resources on UDL (e.g. templates, links to examples, etc.) and external links to quality resources will be created and housed at the LTO with links to the Accessibility webpage.
2. The LTO Best Practices monthly newsletter will include a short section that highlights a UDL practice each month.
3. UDL practices will be included and highlighted in all LTO workshops.
4. UDL practices will be presented at the Ryerson Faculty Conference.

### ***h. Communication to Faculty about UDL***

Communication to faculty about UDL is critical in order to overcome misconceptions about UDL.

#### ***Recommendations***

1. A short communication piece (written) will be prepared and presented (live) to Dean's Councils, All Programs Governance, and Faculty Teaching Committees.
2. A workshop will be designed and presented at the Ryerson Faculty Conference.
3. The LTO will create a special edition newsletter about UDL for electronic distribution.
4. UDL will be discussed at the New Faculty Orientation.
5. UDL will be part of the Ryerson Accessibility website.
6. Further communication will be sent out via blogs, Twitter, and other web 2.0 platforms.

### ***i. Faculty Training***

Training faculty includes access to resources and communication strategies highlighted in sections (g) and (h). In addition the following is also recommended:

#### ***Recommendations***

1. Online training could be developed and offered to faculty on a volunteer basis (to which a certificate of completion is offered).
2. As part of the UDL website, a monitored discussion board/blog for questions and answers around UDL and access issues could be made available to faculty
3. A short video created by the University Teaching Chairs around UDL could be produced by the LTO

4. A workshop specifically about UDL could be created by the LTO and offered annually
5. A my.ryerson link for faculty explaining UDL could be created.

### **Ryerson Limitations**

A survey was sent to stakeholders (Faculty, Students, Staff) around UDL. The survey identified many strategies that assisted students in learning and were already in use in Ryerson classrooms. In addition, stakeholders identified some barriers to learning, which are summarized below. All survey summaries and individual responses can be found in Appendix A.

### ***Teaching Related Barriers***

- Blackboard has limited accessible tools and components for inclusive learning.
- Some classes depend on visuals that cannot be replaced or presented in another format.
- Online course components are not organized properly in Blackboard.
- Increased number of students in class limits personal communication with each student.
- Students do not inform instructor of accessibility needs (because of peer pressure, large classes, etc.)
- There is a lack of knowledge on how to address students' needs properly.
- Use of videos without closed captioning.
- Added stress when students ask for extra time for tests and exams.
- Lack of discussions in classes.
- Excessive use of online discussions.
- Fear of creating an unfair advantage vs. leveling the playing field when granting students accommodation requests.
- Use of memory type assignments and exams.

Respectfully Submitted,

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Colorado State University  
<http://accessproject.colostate.edu/sa/>

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## Appendix A

### Survey Responses: Faculty, Students and Staff from the Access Center

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#### **Strategies:**

Engagement: Collaborative/Cooperative Learning

- Buzz groups
- Group work

Representation:

- Use alternative delivery formats, including audio, video and PowerPoint
- Post notes in Blackboard for all students with enough details to replace the use of the text book (if needed)
- Handouts
- Alternative audio and video web based resources
- Repeat all questions asked in class
- Online questions and answers

Expression: Communication

- Ask for students profiles
- Office hours
- Provide various communication methods, email, home phone..etc.
- Open and approachable to all students
- Available before and after class

Classroom Setup and Additional Services

- Make sure physical classroom is clear to exit for fire etc.
- Arrange the classroom physically based on students' input

Syllabus

- Provide detailed syllabus
- Adhered to course outline

Course Delivery

- Repeat questions and answers in class
- Use Blackboard tools to communicate with students and facilitate discussion among students (discussion boards, announcements...etc.)
- Speak loudly and clearly
- Use appropriate fonts for online materials through Blackboard
- Accessible field and project trips

Student resources

- Refer to the Access Centre when asked for accommodation
- Provide note takers
- Work with the Access Center for the benefit of the student
- Respond to the students need based on the forms provided by the Access Center

## Student assessment

- Offer different methods of evaluation
- Provide extra time to complete tests and assignments for students with learning challenges
- Provide special accommodation to write final exams through the Access Center
- Individualized accommodation based on student's needs
- Online tests
- Open book tests
- Extensions for assignments
- Different ways to evaluate student participation, other than written or oral
- Offer choices for assessments/evaluation whenever possible

## Online Delivery

- Many of the above items are applied in the online environment

## Faculty resources and self assessment

- Early submission for book orders/lists for conversion to accessible formats
- Use electronic text books and materials
- Favour publishers that offer multiple formats
- Choose only captioned media/videos for class
- Use highly legible print articles for course packs

### *Barriers:*

#### **Teaching Related Barriers**

- Blackboard has limited accessible tools and components for inclusive learning
- Classes depending on visuals cannot be replaced or presented in another format
- Online course components are not organized properly in Blackboard
- Increased number of students in class limit the personal communication with each students
- Students do not inform instructor of accessibility needs (peer pressure, large classes...etc.)
- Lack of knowledge on addressing students' needs properly
- Use of videos without closed captioning
- Added stress when students ask for extra time for tests and exams as a result of being unfair to all students
- Lack of discussions in classes
- Need various options to select between online in class courses
- Too much use of online discussions
- Fear of creating an unfair advantage vs. leveling the playing field when granting students
- Use of memory type assignments and exams

#### **Physical Barriers:**

- Inaccessible classroom arrangements
- Black boards are not cleaned every day, no chalk provided in classes
- Lack of efficient AV equipment and sound systems in some building (KHE)
- Need ability to dim lighting in Kerr Hall and Ted Rogers Business Building
- Need to reduce traffic noise from Church St. in Kerr Hall and excessive temperature of rooms
- Better office capabilities for Chang school instructors
- Not enough seating for people with disabilities

**Awareness:**

- Lack of awareness
- Culture of competition
- Last-minute hiring of faculty
- Unplanned assignments in classes.
- Unaware of supports available (LTO, DMP, Accessible Library Services)
- Students' reaction and perceptions of persons with any disabilities or learning challenges
- Use of inappropriate language regarding the students' disability
- Lack of inclusiveness; students feel left out

Detailed responses:

**Responses from Survey on Accessible Teaching and Learning at Ryerson- Access Centre Staff**  
(1 Response)

Q1. Please list activities and strategies that faculty could use to make their courses accessible to all of their students with and without disabilities.

- Submitting book orders/lists ASAP so that they can be made available for conversion to accessible formats
- Choosing more texts and materials that are available in electronic format. Favour publishers that offer multiple formats
- Choosing only captioned media/videos to be posted or shown in class
- Ensuring that only highly legible print articles are selected for reprotexts/course packs
- Posting slides to Blackboard for all
- Offering choice in assessment/evaluation whenever possible.

Q2. What barriers exist in creating courses that allow faculty to meet all of their students learning needs? How might these barriers be overcome?

- Lack of awareness - culture of competition.
- Fear of creating an unfair advantage vs. leveling the playing field.
- Last-minute hiring of faculty - assignment of classes.
- Unaware of supports available (LTO, DMP, Accessible Library Services)

**Responses from Survey on Accessible Teaching and Learning at Ryerson – Faculty**  
(24 Responses)

Q1. Please list activities and strategies that you use to make your course accessible to all of your students with and without disabilities.

- Combination of text and visual aids
- use Blackboard for lecture slides
- I repeat student questions so that everyone can hear them.
- I make sure students know they can approach me with personal questions by email or during office hours.

- Use Blackboard extensively to post lecture notes, suggested problems, solutions, etc.
- Bb: put all slides used up for whole semester; do not put up examples so students still come to class
- Ask for profiles before first day to be e-mailed then act on any special concerns
- Provide alternative delivery formats when requested; have them ready just in case
- Offer to let students read hard copy lectures in my office and keep all lectures there all semester
- Tell everyone about the Access Centre; cooperate when asked to find student note takers etc.
- Allow audio taping of lectures if requested by all
- Make sure physical classroom is clear to exit for fire etc.
- Offer to see them in office hours even after course completed (resumes etc.)
- Provide enough detail that students can succeed without reading the textbook
- Use buzz groups each class to allow exchanges
- Do collaboration on groups first day so know each other a little from start (1st years)
- provide lecture notes on blackboard
- provide detailed syllabus
- offer different methods of evaluation
- I post all material on the Blackboard.
- I repeat all questions asked whether or not there is a hearing disabled student in the class.
- In group activities I try to make sure that all students are comfortable in their groups.
- Note Takers
- Access Center
- Slides on BB
- Always repeat a student's question and often their response to my questions if it is apparent that the student may not have been heard.
- Website for all courses including weekly lecture material, relevant links, readings and a study guide for tests and exams.
- Use of videos including subtitles if available.
- Offer all class handouts in print copy to students and on Blackboard course shell; offer students to record the classes; offer students any accommodation that they request that I may carry out within the policies of Ryerson; offer my home phone for students to call me during weekends and my work phone during weekdays; arrange the classroom physically for the student as per their guidance; hold office hours after every class so that every student has the time with me they wish and need to be successful; leverage the services of the Access centre and work with the centre for the benefit of the student.
- Using online course shells for all courses (although improvements needed in Blackboard re: control of fonts for Discussion Boards, Announcements etc.
- Ask the students to complete a confidential profile on the first evening which includes "Is there anything I should know about you?"
- speak loudly & clearly & always repeat student questions
- let students know that they can email me anytime with concerns or questions
- I have no office as a CE instructor, but am available before & after class
- ensure that field trips are fully accessible
- have allowed students with learning challenges to have as much time as needed for tests and assignments
- have welcomed note-takers for learning disabled students
- None. I have no students with apparent physical disabilities. I also don't understand the question.

- Accommodate students to write the final exam in the accessibility centre. Provide more time for students to write the midterms.
- Access to tests via the Access Centre, peer assistance in taking notes, individualized accommodation based on student's needs.
- Making present audio visual internet resources used as effective for disabled students
- I am very responsive to the accommodations that individual students list in the forms that come to me from the Access Centre.
- PowerPoint presentations with images, text and dynamic media  
in-class lectures to support PowerPoint lessons  
varying teaching styles to accommodate different learning preferences
- So far the only issues have been with students who have given me an ACCESS centre consideration sheet.
- Even with these, I have yet to have any problems with my students, other than family crisis wherein I have made accommodations to allow them to deal with that crisis or resolve it with their already heavy scholastic load.
- Handouts
- Blackboard
- Web sites
- Textbook
- working pages
- Course Outline provided and adhered to.
- All lectures on Blackboard as PowerPoint before class.
- On this point I am not using any specific strategies, my teaching is in a very attentive fashion. Try to accommodate various ways of learning such as small workshops, worksheets etc.

Q2. What barriers exist for you in creating courses that allow you to meet all of your students learning needs? How might these barriers be overcome?

- I'm a librarian, and we typically have an hour of time in a class to explain library resources, etc. We don't build an ongoing relationship with students as faculty do, and it's difficult for us to adjust our sessions when we don't know what adjustments might be helpful.
- none for my courses - all classrooms are accessible
- I am not aware if Blackboard has functions to help students with visual disabilities.
- Hand drawn diagrams and 3D sketches that are used to explain a physical process. I'm not sure how to convey this information, efficiently, in a non visual manner
- Fewer classes per semester with larger student numbers means I can't be sure of everyone's name so can't do participation grade based on discussion
- Online components not handled well by course organizer so confuses students who disengage
- Can't limit computer use because some students take notes but many are being social
- Teaching parallel to GA fragments course
- Students do not inform instructor of needs
- Peer pressure keeps students quiet in small classes because they are not used to speaking up since most classes are large
- Overcome by committing to small classes allowed to be run as small classes should
- Identifying the specific needs of the students in a given class  
knowledge of how to address these needs  
time



- I use videos that are often not closed captioned so hearing impaired students may be at a disadvantage.
- ?
- Using videos may be a disadvantage to sight impaired students, but they are always accompanied by note takers, who summarize for them.
- Some of the classrooms might be a tad dangerous in terms of the arrangement of desks and chairs and other misc. furniture that could make it difficult for wheelchair-dependent and vision-impaired students to maneuver. Also, for anyone with hearing issues, some of the sound systems in some classrooms are more muted than others when showing films.
- Chalk boards are not cleaned with water after every day of classes so very hard for students to read the board because of the buildup of chalk. This is the case throughout Ryerson. The only time the chalk boards seem to be washed down is at the end of every term between terms. 2. No chalk available in the classrooms. Need to bring one's own chalk to teach. Chalk should be re-supplied every night after classes end throughout Ryerson's classrooms. These two barriers may be overcome very easily by rigorous oversight of cleaning staff to add to their duties and check that these are being done by have a checklist sign off in every classroom, like there is in the Ryerson washrooms or in hotel washrooms. This sounds simple and not a question of accessibility for all, but it is. It's critical. Thank you very much for asking for our input.
- Blackboard as a content management system prevents creativity in delivering online learning . . . e.g. use of visuals to match alternative learning styles, and of audio for sight impaired students.
- Need to improve AV equipment in Kerr Hall E.
- Need ability to dim lighting in Kerr Hall and Ted Rogers Business Building.
- Need to reduce traffic noise from Church St. in Kerr Hall and excessive temperature of rooms during transitional weather.
- Need better matching of classrooms for courses that have group work by not assigning rooms with fixed seating.
- Reduce overcrowding of CE classes i.e. 50 students in a room with 55 seat max is crowded!
- I am a CE instructor in the Business Dept. and receive many complaints from my students as to the classroom facilities as above.
- my course is very visual (I show thousands of images) and is not suited to students who have no vision
- I don't understand this question either.
- As this is an on-line course, no special barrier is encountered except for special arrangement for midterms and final exam.
- Audio delivery in the online environment. Course development resources in the DE department could accommodate this.
- Not aware in that I use Access, refer students to psych help
- None.
- I believe that barriers are discovered on a case by case basis. I have had hearing-impaired students in my class and changed evaluations and teaching style to accommodate. I have had visually-impaired students and provided PowerPoint lessons ahead of time so student could upload them to personal computer.
- The most difficult issue for me is when the students need the extra time. This in fact creates an additional stress given the projects have a limited time and by delaying the hand in the amount of work builds up and each project is mainly dependant on the one before.
- So far I haven't recognized any essential one.

- Time is a scarce resource.  
Chang school instructors need better office facilities to meet with students and to have better "office capability" e.g. a Xerox card.
- not applicable in my scenario

### Responses from Survey on Accessible Teaching and Learning at Ryerson – Students

(6 Responses)

Q1. Please list things related to your classes that have helped you to learn effectively, include things your professors have done that assist you to learn more effectively, things about the way the courses are set up that assist with learning, and things that help you to overcome barriers to learning.

- online tests/open book tests
- extensions for assignments
- posting lecture notes/PowerPoint
- giving me the opportunity to educate others about my disabilities
- While I do not have diagnosed learning disabilities (I am 50), I know that I need options for learning. When there are options given for types of testing, for example, or when a course has a diversity of ways to express myself (facilitating a discussion, quizzes, essays and multi-media presentations) I feel that I can find the way that best showcases my learning's.
- The most important thing was to work in groups. We have helped each other and we make friends along the way.
- In another course of mine, the professor has utilized various audiovisual methods to engage us in the learning process.
- access centre accommodations; compassionate and informed professors - they take the time to listen and understand; understanding classmates - not always rude on purpose - but need education still
- Using name tags
- class participation
- YouTube/video clips
- microphone
- group discussion
- field/project trips
- internet Q&A
- Variety in teaching style (class participation; break out groups during class; journal about our experiences on the subject matter; oral presentations); digital book; having computers available on 3rd. Floor of library (but we need more);
- Different ways to evaluate student participation, so it is not ALL through written skills or oral skills.

Q2. What barriers to learning (non-physical) exist for you in learning and how might they be overcome?

- others' perceptions of me
- the way other students react to me
- too much emphasis on group work in some courses

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- There is increased emphasis on cyber-learning and on-line discussions and group work. This doesn't really suit me and I wonder if I'll have options in future classes.
  - The way the teachers speak, sometimes they speak so fast than it is quite difficult to understand them, may be because there is too much material to cover and not enough time
  - attitudes and ignorance; environment; not enough seating for people with disabilities; people need education on how language hurts; generally feeling like I have a contagious sickness with people not including me in things
  - no class discussion
  - lecture type of dictation
  - no variety in the way that the material is being delivered
  - memory type of assignments/exams
  - Computers on the SHE building are only for Ryerson Social Work students: they could also set a couple with access for students registered with the Access Centre.
- Not knowing what I don't know. It would help to have some form of Mentor to make you aware of what is available and services you could access.