Designing Accessibility into Post-Secondary Classrooms

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What is accessibility? And, why is it so important?

Disability is a spectrum. The out-dated paradigm and definition of disability situates disability as a deficiency within an individual. This is in stark contrast to the new definition of disability that recognizes the contextual nature of disability – through acknowledging that barriers-to-access are designed into our environment by lack of awareness or negligence (Centre for an Accessible Society 2008).

Our differences are ultimately what connects us together as human beings. Adopting an **intersectional** perspective that focuses on creating accessible educational environments reduces barriers-to-entry for a wide diversity of students. Education is a human right and researching into designing accessible educational systems is essential to providing this.

Intersectionality: the interconnected nature of social categorizations such as race, class, gender identity, and disability, as they apply to a given individual or group, seen as creating overlapping and interdependent systems of discrimination or disadvantage.

Problem Definition

With an estimated one in five Canadians living with a disability – 13% of youth aged 15 to 24 and 20% of adults aged 25 to 64, according to, Canada Survey on Disability 2017 (Statistics Canada, Disability 2018) - disability is a common experience for students of all ages. The focus area for this report is accessibility in post-secondary classroom settings, with a particular focus on the vast multitude of differing **accessibility needs** that students experience. The main barriers to educational service for students with disabilities, as outlined by a 2002 Ontario Human Right's Commission report, includes: inadequate funding, physical inaccessibility, lengthy accommodation process, lack of **individualization**, ineffective dispute resolution mechanism, and negative attitudes and stereotypes. The education system permeates into the lives of almost every Canadian citizen – with only 11.5% of Canadians reporting they have "no certificate, diploma, or degree" from an educational institution (Statistics Canada, Education Highlights 2019).

Accessibility needs: a new definition of disability that is inclusive of physical, mental, learning, auditory, and developmental disabilities and focuses on the nature of barriers-to-entry being external.

Individualization: tailoring (something) to suit the individual or being.

Post-secondary students discover that the responsibility is theirs alone to acquire academic accommodations – which includes initiating the process of getting on the waiting list for an appointment, undergoing medical examinations, and providing thorough reference letters detailing medical

conditions to school administrators (Ulysses 2018). The administrative reactions to the accessibility needs of students is varied and often severe - especially with mental health crises - with some students finding themselves evicted from their university dorm rooms within hours of hospitalizing themselves for psychiatric emergencies or suicide attempts (Aviv 2017)(Bauer-Wolf 2018). The mediation of accessibility on campus - and supporting students with diverse accessibility needs - is a notoriously grey area that often leaves students feeling confused and frustrated.

There are a wide variety of barriers to accessibility in the classroom space and the complexity of this problem lies in the vast diversity of experiences by individuals with accessibility needs. Post-secondary education – seen as a necessity to accessing most modern careers – brings its own series of problems for students with accessibility needs. The industry of post-secondary education is thriving in Canada with a reported $2.7 billion distributed to 490, 000 full-time students through Canada Student Loans Program, in 2015/16 (Statistics Canada, Graduate's Survey 2019). Additionally, the average Bachelor's degree holder owes debt equal to $26, 300 at the time of graduation – as reported in a 2010 census from Statistics Canada – with Master's degree holders reporting similar amounts of debt ($25, 600) (Statistics Canada, Graduate's Survey 2019).

Research Questions

The most essential task for addressing the issue of accessibility in a post-secondary educational setting is establishing a hierarchy around the issues that are most important to students with accessibility needs. Identifying which issues are most important to students will help with implementing effective, well-designed strategies to respond to these issues.

Proposed research questions include:

- How do students currently receive information about accessibility support services available to them?
- What are common (and unique) barriers-to-entry faced by students with accessibility needs?
- What situations and aspects of school are most stressful for students with accessibility needs?
- How do post-secondary students with accessibility needs feel about the current levels of accessibility in their school?
- How are students with accessibility needs currently adapting to their educational systems and situations?
- What technologies are currently used to support students with accessibility needs?
- What are the social barriers experienced in the classroom by students with accessibility needs?

Research Tactics and Methodologies

Autonomous determination: a group having autonomy and control over the decisions made that affect them

There are a variety of methods that can be employed to provide adequate research and information around the barriers to entry for disabled students. **Autonomous determination** is one of the most important aspects of addressing the needs of marginalized communities because it allows for these group to provide their own solutions to their own problems from a place of intimately understanding the nuances of the issue. The most effective research methods will provide a more empathic and thorough understanding of the experiences, perspectives, and values of students with accessibility needs.

Literature Review

Goals: Preliminary overview of problem areas through review of secondary research materials

A **literature review** involves taking stock of all forms of accessibility services available on campus and how information about these services is communicated to the student public. Through understanding the channels by which students, teachers, administrators, and other school support staff receive information on accessibility supports available to students and themselves we would be able to design more accessible communication systems. **Secondary research** around the channels of communication through which information about accessibility supports is distributed can be used to identify common themes in communication strategy, in addition to which ways and forms of communication are most effective in the dissemination and retention of information by students.

Secondary research: collections of data that have previously been published by an outside party, for an alternative function.

Communication Audit

A **communication audit** would help identify the effectiveness of formal (emails, letters, hand-outs, posters, etc.) versus informal (word-of-mouth) information streams on campuses. Additionally, this would help to identify key areas of the school's communication system's strengths and weaknesses. Through researching into the different communication streams on campus it would be possible to focus on and expand on information channels that are the most effective for reaching individuals with accessibility needs. Accessibility resources are often under-utilized due to lack of awareness and applying more effective communication strategies for these services would help improve their usage.

Ethnographic Study

Goals: Understanding student's experiences and perspectives

Ethnography: a field of study used by anthropologists to understand the link between human behavior and culture.

Ethnographic study utilizes a variety of different qualitative methods to better understand the lived experiences of students with differing accessibility needs. Through a better understanding of the user's perspective we can design more effectively for the user's needs. Identifying commonalities in experiences and perspective through different ethnographic methods will be used to establish a hierarchy of needs and wants for students with accessibility needs.

Contextual Inquiry

Contextual inquiry – also known as 'day-in-the-life' exercises - with students with accessibilities needs would help to offer immediate, emotionally-affected feedback around how it feels to navigate their school environment. Getting a clear understanding of student's emotional state before and after certain high-stress and problem areas in the classroom would help provide a clearer overview of the experience. Other forms of observational research could be used to identify common problems and adaptations of student's navigating classroom environments - particularly through observing commonalities in behaviour between different students.

Photo Ethnography

Photo ethnography would help to identify common themes, values, behaviours, and motivations through user-collected imagery. This method allows for a deeper understanding of internal perspectives of students with varying accessibility needs while also providing an overview of the campus community's internal perspectives. Additionally, this would create a data bank of **primary visual research** created by students with accessibility needs about their lives.

Primary research: research conducted specifically for an individual problem or project.

Self ethnography

Self ethnography of students with accessibility needs would additionally help to identify key areas of concern, adaptation, and overlap of experiences between students with diverse accessibility needs. This method could also be used to identify common keywords in different participant's experiences. This data could be used to establish larger policy frameworks and a research direction that accommodates the actual lived experiences of students with accessibility needs.

Unstructured Interviews

Unstructured interviews withstudents with accessibility needs would help to identify key concerns in a primary research context and receive direct feedback on what these students feel are the most important areas of concern. This is an extremely important research methods because it provides primary research and helps enable autonomous representation for the communities of disabled students in the school. The unstructured nature of the interviews helps to create an open-ended environment where the interviewees have more control over the interview process – which can be highly stressful and potentially include disclosures of traumatic experiences of discrimination during their education.

Identifying Extreme Users

Extreme users: individuals who do not fit into the standard set by other users, often drastically.

Universal design: a system of design that aims to create spaces and designs that are universally accessible.

Identifying extreme users would assist researchers in planning for the lived realities of those who experience numerous barriers to entering post-secondary school. These users are very important to consider because the overlap of differing accessibility needs necessitates a thorough application of **universal design** principles to an environment. Thorough design auditing of physical spaces and communication systems would help to design systems that are able to accommodate the most people in more effective ways. It is crucial to understand that disability is a spectrum that affects individuals in a variety of ways that are not always clearly visible. Through identifying extreme users and planning for their presence within the school system, we can address the wide varieties of barriers to access that manifest themselves in this environment.

Journey Maps

Synthesis of ethnographic study would help produce **journey maps**. Journey mapping an individual with accessibility needs operating on a post-secondary education campus would provide a clearer overview of key events in their experiences. This would help to address stressful pain points and student's adaptations in the daily lives of students with disabilities.

Market Research

Goals: Providing targeted design responses & proposed changes

Market research would allow for an increased depth of understanding about the motivations behind the behaviours of students with accessibility need. It would also provide **quantitative** and **qualitative** data sets to inform proposed changes. Through acquiring data on the perspectives and experiences of students with accessibility needs, this data can be used to create greater awareness of experiences of disability within the public as well as for advocacy efforts towards legislative bodies and the school system in favour of students experiencing disability.

Quantitative: objective data – such variables, quantities, and measurements.

Qualitative: subjective data – such as words, images, and opinions.

Demographic Identification

Demographic: collection of statistical data that describe a group of people – such as age, race, gender, and income.

Psychographic: collection of quantitative research that measures the subjective beliefs of the group being studied – such as personality traits, religious beliefs, and personal preferences.

Demographic identification would provide a macro ethnographic perspective of the differing and similar cultural, economic, and social characteristics of the communities of disability on campus. Additionally, the collection of **psychographic data** would provide a micro ethnographic perspective that quantitatively measures beliefs, opinions, and interests of students with accessibility needs. In conjunction with the office of student accessibility supports of campus, the collection of a variety of perspectives and information could be collected.

Focus Groups

Focus group: a social science tool in which organized discussions, led by a moderator, are held to collect market research.

Focus groups featuring a trained moderator leading a discussion with a small group of students with varying accessibility needs is essential to understanding student perspectives while receiving primary research around student's experiences with their campus' accessibility. In conjunction with unstructured interviews, focus groups would provide an opportunity to expand on issues raised during interviews and brainstorm student's potential solutions to these issues.

Surveys and Questionnaires

Surveys and questionnaires: a tactic for collecting quantitative information from participants from a specific set of questions.

Surveys and questionnaires can be used after establishing key areas of stress and strengths to help produce a more thorough, concentrated data set around the issues that effect students with accessibility needs. Additionally, this method can be used to help identify and prioritize specific problem areas. Asking specific questions about student's experiences of accessibility on campus would provide a data set of primary research content to use in future advocacy efforts.

User Experience Design

Goals: Receiving feedback from users

Using **user experience design** methodologies would help to measure the effectiveness of proposed changes in satisfying student's diverse accessibility needs. Identifying critical issues in the foundational design processes in the school environment and finding solutions to these issues would help to reduce pain points and design out barriers-to-access in education.

Personas

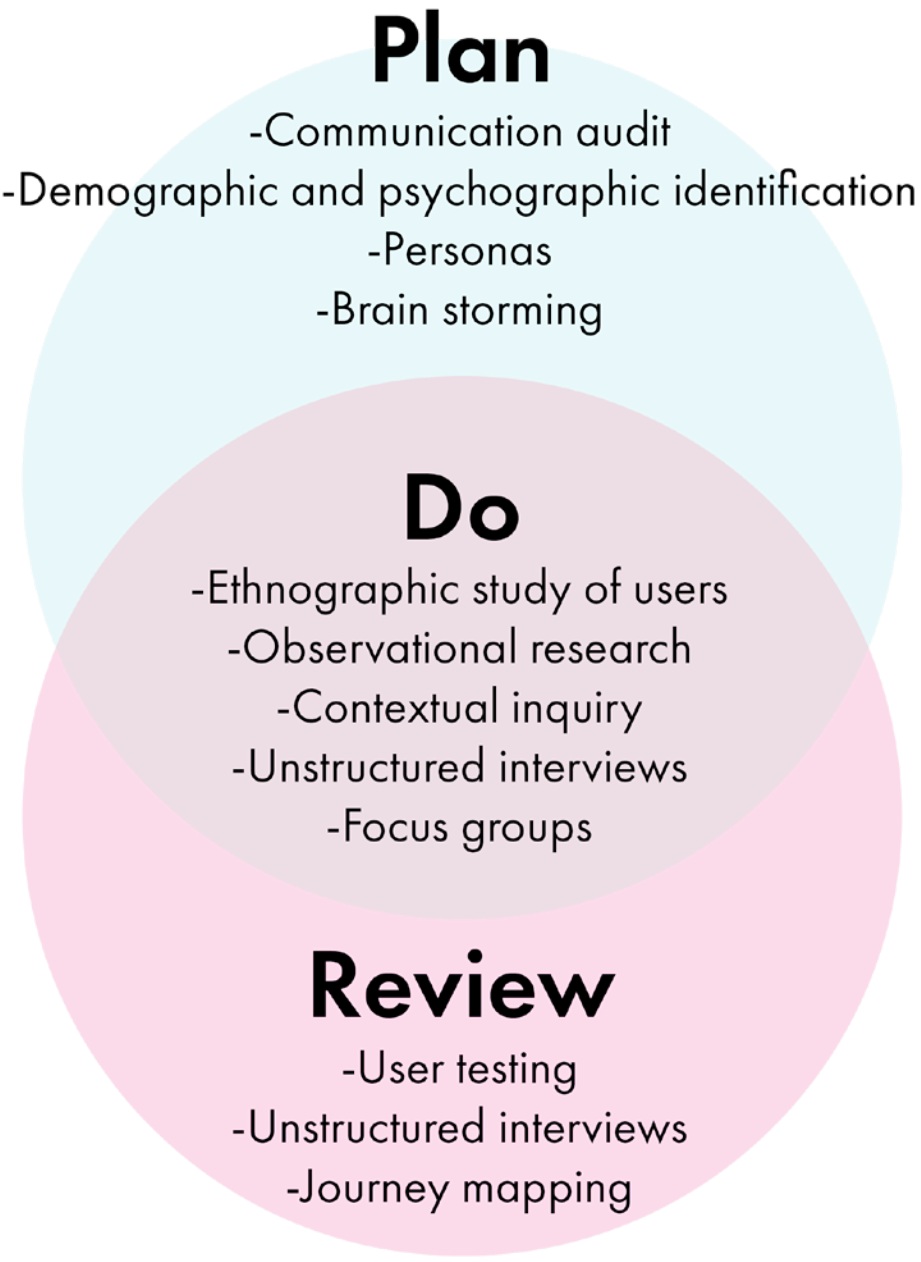
Personas: archetypal models of hypothetical user that are created to help identify their motivations, expectations, and goals.

Identifying varying archetypal **personas** of students with different accessibility needs – such as those with hearing or visual impairments, learning disabilities, mobility impairments and pain disorders, psychiatric or psychological impairment, brain injuries, and other short-term injuries - helps establish a user-centered research approach that aims to directly address different sets of student needs.

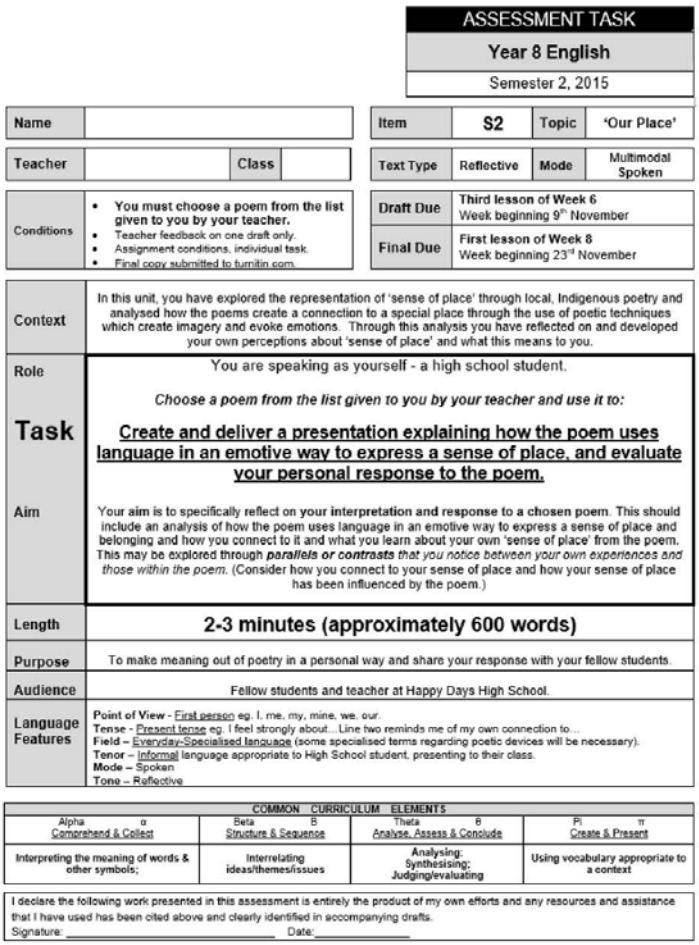
‘I like, I wish, what if’

‘I like, I wish, what if’ brainstorming would help with broadening the scope of what is possible. Through identifying the “perfect world” solutions for users it would provide further inspiration for proposed changes. This line of questioning allows for an open-ended exploration of possible solutions that aren’t necessarily limited by available resources.

Plan-Do-Review Diagram



Visual Research



ASSESSMENT TASK

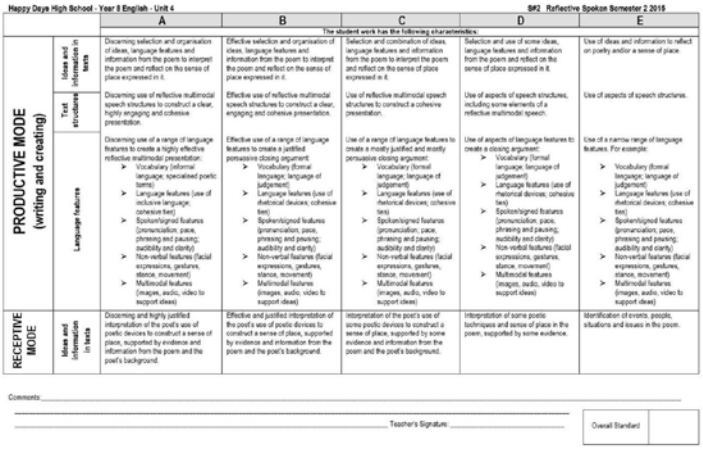
Year 8 English

Semester 2, 2015

Name		Item	S2	Topic	'Our Place'
Teacher		Class		Text Type	Reflective	Mode	Multimodal Spoken
Conditions	• You must choose a poem from the list given to you by your teacher. • Teacher feedback on one draft only. • Assignment conditions, individual task. • Final copy submitted to turnitin.com	Draft Due	Third lesson of Week 6 Week beginning 9th November
		Final Due	First lesson of Week 8 Week beginning 23rd November
Context	In this unit, you have explored the representation of 'sense of place' through local, Indigenous poetry and analysed how the poems create a connection to a special place through the use of poetic techniques which create imagery and evoke emotions. Through this analysis you have reflected on and developed your own perceptions about 'sense of place' and what this means to you.
Role	You are speaking as yourself - a high school student.
Task	*Choose a poem from the list given to you by your teacher and use it to:* **Create and deliver a presentation explaining how the poem uses language in an emotive way to express a sense of place, and evaluate your personal response to the poem.**
Aim	Your aim is to specifically reflect on your interpretation and response to a chosen poem. This should include an analysis of how the poem uses language in an emotive way to express a sense of place and belonging and how you connect to it and what you learn about your own 'sense of place' from the poem. This may be explored through ***parallels or contrasts*** *that you notice between your own experiences and those within the poem.* (Consider how you connect to your sense of place and how your own sense of place has been influenced by the poem.)
Length	2-3 minutes (approximately 600 words)
Purpose	To make meaning out of poetry in a personal way and share your response with your fellow students.
Audience	Fellow students and teacher at Happy Days High School.
Language Features	**Point of View** - First person eg. I, me, my, mine, we, our. **Tense** - Present tense eg. I feel strongly about...Line two reminds me of my own connection to... **Field** – Everyday-Specialised language (some specialised terms regarding poetic devices will be necessary). **Tenor** – Informal language appropriate to High School student, presenting to their class. **Mode** – Spoken **Tone** – Reflective

COMMON CURRICULUM ELEMENTS			
Alpha α Comprehend & Collect	Beta β Structure & Sequence	Theta θ Analyse, Assess & Conclude	Pi π Create & Present
Interpreting the meaning of words & other symbols;	Interrelating ideas/themes/issues	Analysing; Synthesising; Judging/evaluating	Using vocabulary appropriate to a context

I declare the following work presented in this assessment is entirely the product of my own efforts and any resources and assistance that I have used has been cited above and clearly identified in accompanying drafts.
Signature: _____ Date: _____



Happy Days High School - Year 8 English - Unit 4 — SM2 Reflective Spoken Semester 2 2015

		A	B	C	D	E
		The student work has the following characteristics:				
PRODUCTIVE MODE (writing and creating)	Ideas and information in texts	Discerning selection and organisation of ideas, language features and information from the poem to interpret the poem and reflect on this sense of place expressed in it.	Effective selection and organisation of ideas, language features and information from the poem to interpret the poem and reflect on the sense of place expressed in it.	Selection and combination of ideas, language features and information from the poem to interpret the poem and reflect on the sense of place expressed in it.	Selection and use of some ideas, language features and information from the poem and reflect on the sense of place expressed in it.	Use of ideas and information to reflect on poetry and/or a sense of place.
	Text structures	Discerning use of reflective multimodal speech structures to construct a clear, highly engaging and cohesive presentation.	Effective use of reflective multimodal speech structures to construct a clear, engaging and cohesive presentation.	Use of reflective multimodal speech structures to construct a cohesive presentation.	Use of aspects of speech structures, including some elements of a reflective multimodal speech.	Use of aspects of speech structures.
	Language features	Discerning use of a range of language features to create a highly effective reflective multimodal presentation: ➢ Vocabulary (informal language, specialised poetic terms); ➢ Language features (use of archaic language, cohesive ties) ➢ Spoken/signed features (pronunciation, pace, phrasing and pausing; audibility and clarity) ➢ Non-verbal features (facial expressions, gestures, stance, movement) ➢ Multimodal features (images, audio, video to support ideas)	Effective use of a range of language features to create a justified persuasive closing argument: ➢ Vocabulary (formal language, language of judgement) ➢ Language features (use of rhetorical devices; cohesive ties) ➢ Spoken/signed features (pronunciation, pace, phrasing and pausing; audibility and clarity) ➢ Non-verbal features (facial expressions, gestures, stance, movement) ➢ Multimodal features (images, audio, video to support ideas)	Use of a range of language features to create a mostly justified and mostly persuasive closing argument: ➢ Vocabulary (formal language, language of judgement) ➢ Language features (use of rhetorical devices; cohesive ties) ➢ Spoken/signed features (pronunciation, pace, phrasing and pausing; audibility and clarity) ➢ Non-verbal features (facial expressions, gestures, stance, movement) ➢ Multimodal features (images, audio, video to support ideas)	Use of aspects of language features to create a closing argument: ➢ Vocabulary (formal language, language of judgement) ➢ Language features (use of rhetorical devices; cohesive ties) ➢ Spoken/signed features (pronunciation, pace, phrasing and pausing; audibility and clarity) ➢ Non-verbal features (facial expressions, gestures, stance, movement) ➢ Multimodal features (images, audio, video to support ideas)	Use of a narrow range of language features. For example: ➢ Vocabulary (formal language; language of judgement) ➢ Language features (use of rhetorical devices; cohesive ties) ➢ Spoken/signed features (pronunciation; pace, phrasing and pausing; audibility and clarity) ➢ Non-verbal features (facial expressions, gestures, stance, movement) ➢ Multimodal features (images, audio, video to support ideas)
RECEPTIVE MODE	Ideas and information in texts	Discerning and highly justified interpretation of the poet's use of poetic devices to construct a sense of place, supported by evidence and information from the poem and the poet's background.	Effective and justified interpretation of the poet's use of poetic devices to construct a sense of place, supported by evidence and information from the poem and the poet's background.	Interpretation of the poet's use of some poetic devices to construct a sense of place, supported by some evidence and information from the poem and the poet's background.	Interpretation of some poetic techniques and sense of place in the poem, supported by some evidence.	Identification of events, people, situations and issues in the poem.

Comments: _____

Teacher's Signature: _____ Overall Standard

Images source: Graham, Linda J., et al. "Designing out Barriers to Student Access and Participation in Secondary School Assessment."

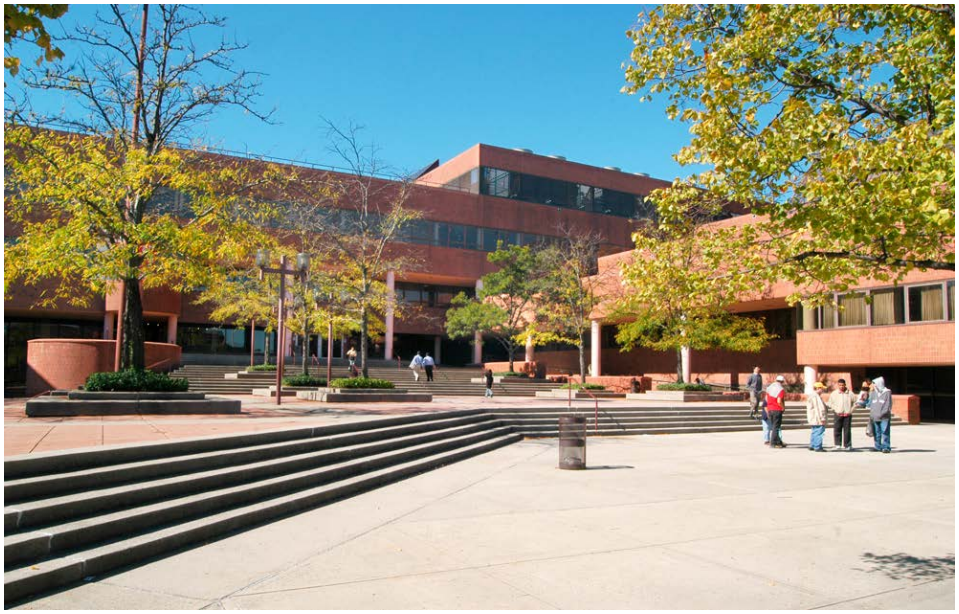
These images show a sample task outline and assessment rubric for a Grade 8 English project. The layout of the page is overwhelming, cluttered, and confusing to read. Inconsistent language is also used between the task outline and the rubric. There is no clear visual hierarchy to help indicate which information is the most important. The grid of the page - including the lines and grey boxes - are highly distracting from the content and add unnecessary visual clutter.

Images source: York University, Victor Philip Dahdelah Building, April 2019. Photography by Robyn Chmelyk.

Doors on school campuses are typically large, heavy, and made of metal. In addition, the accessibility buttons that are used to open the doors are frequently out of order. Many doors on campus do not have a button to open them yet are just as heavy - which forces someone with a physical mobility accessibility need to ask for help to open the door.

Left image source: Purdue University, Indiana. Image from https://www.purdueexponent.org/opinion/article_6982ef44-1aed-5349-a9d6-81d739a59691.html.

Bottom image source: York College, New York. Image from https://www2.cuny.edu/about/trustees/borough-hearings/queens/york/.



School campuses often make it difficult for students with physical mobility accessibility needs to navigate due to lack of ramps, steep ramps, and often inconveniently and/or sporadically placed ramps.

Proposed Changes

Interdependence: the dependence of two or more things on each other.

Addressing the barriers to access in educational systems is a multi-tiered issue that requires participation from a variety of institutions and individuals. As a means of creating healthier **interdependence** between disabled and able-bodied individuals, joint efforts between legislative bodies, school boards, educators, post-secondary schools, and the student with accessibility needs is essential to creating a barrier-free educational environment (OHRC, Roles and Responsibilities 2002). Overall policy changes within the structures of government and school institutions, in addition to consistent and wide-spread social movements to change to the public perception of disability is fundamental to creating change in the realities of students with accessibility needs.

Inadequate funding is a common barrier to access experienced by student's with accessibility needs. As school environments are frequently designed without integrating necessary accessibility requirements, the student is required to use their own resources to fill in the wide gaps in what is funded by federal and provincial bursaries and grants for students with permanent disabilities. Homelessness and poverty are common for individuals experiencing disability – with the average individual experiencing disability being

5% to 15% more likely to be living in poverty than those without a disability (CCD 2013) - often due to discrimination from jobs, housing, and the public (World Health Organization 2017). Through diverting funds to help bridge the gaps in funding for students that experience disability, we can create inclusive school environments and help make post-secondary education more accessible to student's with disabilities – while reducing the approximately $13.1 billion burden on public social services caused by poverty in Ontario alone (Laurie 9).

Physical inaccessibility is a common problem in classrooms, throughout university campuses, and in navigating to and from a school for students with physical accessibility needs. Creating more accessible architecture – that incorporates accessibility and universal design principles from its foundation - is fundamental to making educational institutions more physically accessible. Physical disabilities are not always outwardly visible. Additionally, popular narratives of disability usually refer to an individual in a wheelchair or using another type of mobility device. While a great deal of important attention is focused on accommodating those with wheelchairs and mobility devices, reducing physical barriers-to-access in schools requires designing spaces that accommodate the full spectrum of physical disabilities.

Inaccessible accommodation processes make it difficult for students to access the formalized accessibility resources – such as exam accommodations, specific classroom accessibility aids, and funding for accessibility needs - available

to them at their school. School boards can help through creating more awareness in school administrators about different accessibility processes and how to create accessible accommodation processes. There are frequently long wait times to get appointments with accessibility services in post-secondary schools. This makes it significantly more difficult for students to access accessibility supports and the accommodation process.

Lack of individualization in addressing the accessibility needs of students creates proposed accommodations that are ineffective in addressing their needs. Through applying a wider diversity of means to address varying barriers-to-entry for students with accessibility needs it is possible to make targeted solutions to important problems - instead of making changes to the educational system intended to address 'disability' as a monolith. Reducing the barriers-to-access to education – through addressing issues that affect individuals with accessibility needs – is a universally important issue that addresses the wide spectrum of experiences of disability.

Pedagogy: the method and practice of teaching, especially as a academic subject or theoretical concept.

Adaptive pedagogy: adapting pedagogical methods to make them suitable to evolving cultural needs – often through using feedback from teachers and students.

Ineffective dispute resolution mechanisms create situations where discriminatory individuals and inaccessible school practices are not held to a standard of accountability. **Adaptive pedagogical systems** are essential to creating accessible learning environments because they encourage teachers to frequently reflect on how their **pedagogy** is designed and adapting it to the accessibility needs of their intended audience.

Negative attitudes and stereotypes affect students with accessibility needs through being subject to discrimination, exclusion, and potentially violence while being in the school system. Through deconstructing negative assumptions around disability held by the public the school environment is made more inclusive to students with accessibility needs.

It is in the best interest of students as well as the industry of post-secondary education to make itself accessible to continuously more diverse communities. Secondary research put forward by the University of Texas on accessible classrooms suggests that employing **universal design** (UD) methodologies and practices in a classroom setting is highly effective (University of Texas 2019). This is mirrored by the ACCESS Project at Colorado State University – which further suggests that accessibility should be designed into the foundations of our educational systems (ACCESS 2011).

Universal design: a system of design that aims to create spaces and designs that are universally accessible.

Using UD principles helps to address the physical, instructional, and attitudinal barriers experienced by students with accessibility needs in a school environment (ACCESS 2011). Course curriculum, delivery methods, and evaluation methodologies should be designed inclusively from their foundations (OCRH 62-63). Introducing universal design principles to classrooms reduce barriers to access for students with accessibility needs benefits all students by creating a more inclusive environment towards diverse learn-

ing styles (OCRH 62-63).

Additionally, the Ontario Human Rights Commission's report Opportunity to Succeed: Achieving Barrier-Free Education, outlines necessary changes to guidelines on disability policy (OCRH 2002).

These proposed changes include:

- A definition of disability that recognizes the impact of social handicapping;
- An emphasis on the right of persons with disabilities to integration and full participation;
- Recognition of the central importance of design by inclusion, and barrier removal for persons with disabilities;
- Recognition that persons with disabilities are individuals first, and should be considered, assessed, and accommodated on an individual basis; and
- The principle that accommodation is a responsibility shared by all parties to the process.

Guidelines for Designing Accessible Educational Content

1. Design more visually accessible learning materials

The visual layout of assignment briefs, course documents, and informational materials are important elements in student's ability to access the information (Graham, Linda J., et al. 111-12). Using professionally designed systems and templates for educational material reduces the burden on teachers and students while improving the material's accessibility.

Visual accessibility design recommendations include:

- Make the most important information the easiest to find
- White space is used to separate sections
- Text size must aid readability
- Margins are left justified and consistent throughout documents
- Visual cues direct student attention to important information

2. Design more accessible learning procedures

The consistency and clarity of educational instructions disseminated to students is highly important to student's being able to access this information (Graham, Linda J., et al. 113-15). The **content** of a course should be designed in a realistic, student-focused manner that integrates universal design principles.

Content: an inclusive word referring to a wide variety of media – including images, typography, design, websites, videos, and more.

Procedural accessibility recommendations include:

• Providing context is highly relevant

• Common barriers to access must be addressed in the foundational design of the content

• The task, objectives, and criteria of the tasks align

• Enough space and resources are provided for student engagement

• The assessment processes are designed to give students the best opportunities for succeeding

• Evaluation processes are clear and consistent

• Peer teacher and student feedback is incorporated into the design of educational materials

3. Design more accessible linguistic content

The clarity and accessible nature of the language used is highly important to student's being able to interpret communicated information effectively (Graham, Linda J., et al. 115-17). Using more inclusive, high-frequency language – such as through describing ideas using more common words and phrases while avoiding specialist lingo - aids the readability of texts. The comprehension of educational materials is essential to it being accessible to a wide diversity of students.

Linguistic accessibility recommendations include:

- Information is communicated in a clear and direct manner
- Sentences are short and structured simply
- High-frequency language should be prioritized, and specialist language is defined using terms that are accessible to a public audience
- Information is stated only once and, if referenced more than once, consistent language and terminology is used

Resource Literature Review

The main resources for this project include data sets and data tables produced by Statistics Canada using census data from 2016, the 2017 Canadian Survey on Disability, and from their 2016 survey of students and graduates aged 25 to 64. Additionally, I have included surveys and summaries on accessible classroom design that were produced by Colorado State University's ACCESS Project and University of Texas's DisABILITY Advocate Program. Research produced by postsecondary institutions is peer-reviewed, extensively audited, and likely involved multidisciplinary consultation in its production which leads to a significantly higher quality of research. Additionally, research produced by a university on accessible design for classrooms was produced in an environment that is rich with primary research subjects.

I have also utilized a variety of online resources created by the Ontario Human Right's Commission that outlined different guidelines and recommendations for accommodating students with disabilities. OHRC created a list of the most pertinent barriers to accessibility for post-secondary students. This resource was used to base my proposed solutions around. I have also put forward a series of accessible design recommendations that are outlined in, De-

signing Out Barriers to Student Access and Participation in Secondary School Assessment, that was written in 2017 by a team of four educators and child psychologist. This report outlines effective methods for designing accessible educational content – with a focus on accessibility for students with ADHD and developmental learning disabilities.

As well, I have referenced a series of news articles written by student writers who describe their personal experiences of inaccessibility and discrimination on university and college campuses. These self-ethnographic perspectives are essential in informing the future of accessible school design because they are direct accounts from students with accessibility needs.

Glossary

Definitions are primarily from the online Oxford *English Living Dictionary* and Jennifer & Kenneth Visocky O'Grady's book, *A Designers Research Manual*.

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Primary research: research conducted specifically for an individual problem or project.

Psychographic: collections of quantitative research that measures the subjective beliefs of the group being studied – such as personality traits, religious beliefs, and personal preferences.

Qualitative: subjective data – such as words, images, and opinions.

Quantitative: objective data – such variables, quantities, and measurements.

Secondary research: collections of data that have previously been published by an outside party, for an alternative function.

Surveys and questionnaires: a tactic for collecting quantitative information from participants from a specific set of questions.

Universal design: a system of design that aims to create spaces and designs that are universally accessible.

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