

RECONCEPTUALIZING SELF-ADVOCACY AND ACCESSIBILITY LABOUR IN POST-
SECONDARY EDUCATION FOR BLIND AND PARTIALLY SIGHTED LEARNERS:
A PARTICIPATORY FRAMEWORK

by

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Abstract

The prevailing institutional expectation that blind and partially sighted students in post-secondary education will need to repeatedly self-advocate to obtain equitable and timely access to course learning materials is fatiguing, stressful, and othering. The time and resources that students devote to self-advocacy represents unrecognized labour that is not typically expected of non-disabled peers. This unrecompensed accessibility labour and its consequences are central to the rationale for the participatory framework proposed in this paper, recognizing that equitable access depends, in part, on mitigating the requirement that students engage in accessibility labour to realize their right to an inclusive post-secondary education. Dyads of blind and partially sighted accessibility professionals and course instructors will work through an iterative process to upgrade instructors' workflows for creating and curating accessible learning materials. An anticipated outcome of this facilitation process is that learning materials assigned by participating instructors will meet an increasing proportion of students' access requirements, and as a result, progressively mitigate the accessibility labour required to gain equitable access to course content.

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Territorial Acknowledgement

This framework was developed on the ancestral and unceded territory of the x̱w̱məθḵw̱əy̱əm (Musqueam), Sḵw̱x̱w̱ú7mesh (Squamish), and səliłwətał (Tsleil-Waututh) Nations in so-called Vancouver, British Columbia. These nations have been stewards of these lands since time immemorial. I am profoundly grateful to live, work, play, research, and share knowledge from these ancestral lands. Further, this work was undertaken in partial fulfillment of degree requirements in the Master of Design (MDes) in Inclusive Design program at OCAD University. OCAD University is located on ancestral and traditional territories of the Mississaugas of the Credit, the Haudenosaunee, the Anishinaabeg, and the Huron-Wendat, the original owners and custodians of the land.

Author Positionality

This paper posits a participatory framework within which accessibility labour is operationalized and the prevailing self-advocacy narrative in post-secondary education is problematized through a human rights lens. As the author of this framework, it is first necessary that I position myself to provide context to these ideas through the experiences and identities that bring me to this work. Positionality refers to “an individual’s world view and the position they adopt about a research task and its societal and political context” (Holmes, 2020, p.1). While I feel a personal connection to the aims of this proposed framework, I recognize that I am a typically sighted professional with no lived experience of blindness or partial sight. The information and experiences documented in this paper are drawn from peer-reviewed literature and framed based on my professional and academic experience but are not critically informed by lived experiences.

For the past 17 years I have worked in a variety of roles in the field of blindness education in two Canadian provinces, primarily as a teacher of students with visual impairments (TSVI) and as an administrator of an alternate format resource centre. I began my career entrenched in an approach to education for blind and partially sighted learners that is informed by the medical model of disability. As a TSVI, I was responsible for equipping the students I served with the specialized tools, technology, knowledge, and strategies to learn and hopefully to thrive in inclusive learning communities that are predicated on normative visual access. In this work I first realized the compensatory

burden placed on blind and partially sighted students in their K-12 careers. Years later, I began work as the manager of a provincial-level K-12 alternate format resource centre responsible for producing and procuring learning materials in alternate formats. Working to produce more accessible learning materials when no accessible version could be provided by the school districts or education authorities enrolling these students was further evidence of the labour required to ensure equitable access to learning for blind and partially sighted students.

These experiences, combined with those gleaned from collaboration with formidable blind and partially sighted colleagues and friends, first led me to problematize my teaching philosophy emphasizing “empowerment” (i.e., equipping students to thrive in visuocentric learning environments not designed to their access requirements). In addition, coursework in the Master of Design in Inclusive Design program at OCAD University provided theoretical frames of reference for what ultimately became a fundamental reorienting of my teaching philosophy. My philosophy has now shifted to align more closely with the human rights model of disability, where blind and partially sighted students have inalienable rights to access and participation in education that are enshrined in legal instruments operating internationally, nationally, and provincially. Within this philosophy, equitable and meaningful access to learning is not only a moral and policy imperative, but also a legal requirement.

However, I acknowledge that the trajectory of translating belief into action is, at times, slow and nonlinear. I continue to coordinate the production and procurement of alternate format learning materials - not sharing the responsibility to furnish blind and partially sighted students with accessible learning materials with school districts or education authorities. Further, I am the Vice-Chair of the Canadian Association of Educational Resource Centres for Alternate Format Materials (CAER), a national organization working to coordinate and collectivise alternate format production for the K-12 and post-secondary education sectors in Canada. CAER is profiled in detail later in this paper and is a stakeholder implicated in the participatory framework proposed therein. However, within this work that ostensibly reinforces the status quo, there are numerous collaborative initiatives seeking to shift the locus of responsibility for accessible design to first-order stakeholders including educational institutions and

publishers. My hope is that the framework posited in this paper will one day be formally counted among these initiatives.

Introduction

Equitable access to opportunities for lifelong learning for disabled students, including post-secondary education, is a human right enshrined in international legal conventions (Harpur & Stein, 2018). Despite the codification of this right, blind and partially sighted students face numerous barriers to access in post-secondary coursework, including via the learning materials created, curated, and assigned by instructors (Jacobs, 2023; Reed & Curtis, 2012). For these learning materials to provide the necessary access affordances to blind and partially sighted learners, significant remedial design and formatting updates may be required (Ostrowski, 2016). Currently, the prevailing mechanism through which these students receive accessible learning materials requires the disclosure and substantiation of disability status and subsequent provision of individualized accommodations for qualifying students (Bruce, 2020). Within this compensatory support regime, the locus of responsibility for advocating for more accessible design of learning materials rests with blind and partially sighted students themselves. Thus, students must engage in self-advocacy as uncompensated accessibility labour (Bulk et al., 2023).

This paper problematizes this accessibility labour imperative within post-secondary institutions through a human rights lens and proposes a participatory framework to shift the locus of responsibility for equitable access from students to course instructors. Within the proposed framework, course instructors and blind and partially sighted accessibility professionals engage in an iterative process of materials design and re-design to progressively increase the proportion of students whose access requirements are met by materials curated and created by the instructor. By critically upgrading instructors' materials curation and creation workflows, the participatory framework will work to mitigate the accessibility labour imperative and afford blind and partially sighted students a more equitable learning experience.

Frames of Reference

Equitable access to learning is not philosophically or morally neutral. Frames of reference critically inform how disability is interpreted, attributed, and acted upon in post-secondary education (Ellis et al., 2021). The sections that follow outline the frames of reference that are foundational to the participatory framework proposed in this paper.

Access Requirements and Affordances

A student's equitable access to learning materials is predicated on the degree to which the design features and format of the material align with what the student requires to access that content. For example, course lecture notes in PowerPoint format that do not contain alternative text descriptions of visual media would poorly align with the requirements of a blind student using text-to-speech software to access content through non-visual modalities. In this paper, the access features and functionality of learning materials in post-secondary coursework are interpreted through the lens of Gibson's (1979) affordance theory. Here, tools and materials are understood by the affordances they furnish the individual, with affordances defined as "opportunit[ies] for action offered by the real world" (Gibson, 1979, p.127). Affordance theory was originally developed to account for ecological relations between humans and objects in the physical world (Norman, 2013). This theory has since been applied across disciplines, including in design studies (Davis, 2020). Davis (2020) notes the application of affordance theory to digital access with an example related to web design: Designers building webpages to maximize appeal and engagement by typically sighted users without consideration of accessibility for blind and partially sighted users create content that "*request[s]* engagement from seeing users while *refusing* access to the visually impaired" (Davis, 2020, p.95). Thus, the design features and formatting of instructor-created and instructor-curated learning materials in post-secondary coursework will be understood in this paper in terms of what they afford and do not afford blind and partially students and the degree to which these affordances align with the student's access requirements.

The Human Rights Model of Disability

Scholarship in disability studies generally refers to three models of disability (Lawson & Beckett, 2021). The medical model attributes the experience of disability as inherent to the physical and psychological profile of the individual where impairment results from some identifiable pathology or dysfunction (Smart, 2009). The social model of disability attributes the experience of disability to the interplay of the individual's profile and contextual factors. Impairment results from incongruence between the

affordances of the individual's environment and their requirements for full inclusion in that environment (Shakespeare, 2006).

Disability is therefore “viewed as a socially produced injustice which it is possible to challenge and eliminate through radical social change” (Lawson & Beckett, 2021, p.349). This model of disability, while providing a powerful tool for analyzing discrimination and oppression in society, does not seek to delineate moral principles or values as foundational to disability policy (Degener, 2016). The human rights model of disability, by contrast, centers the “premise that disability is a social construct, but [also] values impairment as part of human diversity and human dignity,” with the purpose of enshrining these values in policy and law (Degener, 2016, p.8). According to Quinn et al. (2002):

“The human rights model focuses on the inherent dignity of the human being and subsequently, but only if necessary, on the person's medical characteristics. It places the individual centre stage in all decisions affecting him/her and, most importantly, locates the main “problem” outside the person and in society. The “problem” of disability under this model stems from a lack of responsiveness by the State and civil society to the difference that disability represents. It follows that the State has a responsibility to tackle socially created obstacles in order to ensure full respect for the dignity and equal rights of all persons.” (p.14)

The *United Nations Convention on the Rights of Persons with Disabilities* (CRPD) is the first international convention that aligns disability rights and human rights, representing a paradigm shift from the medical model and extending the social model by specifically codifying the legal and policy means to promote disability rights as rights of meaningful inclusion in society (Heyer, 2021). Article 24 of the CRPD sets an immediate obligation for State Parties – where primary, secondary, or tertiary (post-secondary) education systems are in place, these should be accessible to disabled students without discrimination (Broderick & Quinlivan, 2017). Within Article 24, Subsection 5 refers specifically to post-secondary education:

“States Parties shall ensure that persons with disabilities are able to access general tertiary education, vocational training, adult education and lifelong learning without discrimination and on an equal basis with others. To this end, States Parties shall ensure that reasonable accommodation is provided to persons with disabilities” (United Nations Convention on the Rights of Persons with Disabilities, 2006, art. 24, sec. 5).

Thus, there is an institutional requirement to provide equitable access to learning content for disabled students, failing which the institution will have discriminated against the student (Gardiner-Milln, 2021; Gledhill, 2019). The human rights model of disability, as the philosophical foundation of the CRPD, serves as a frame of reference for the current framework as it provides a means of problematizing instructors’ assigning of inaccessible learning content as discrimination in post-secondary settings (Degener, 2016).

Individualized Accommodations as an Institutional Response

Current approaches to ensure equitable access to learning for students who are blind and partially sighted emphasize individualized responses that are tailored to the access requirements of the individual learner (Bruce, 2020). In the post-secondary education sector in Canada, this tailoring process is generally facilitated by departments within the institution devoted to the provision of academic accommodations for students with qualifying disabilities (Madaus, 2011). Within this paper, the formal branch of the post-secondary institution charged with ensuring that disabled students receive an individualized set of accommodations commensurate with their access requirements is referred to as “Disability Services” (Lyman et al., 2016). For students who are blind or partially sighted, the range of potential accommodations obtained from a Disability Services department may include additional time to complete tests and exams, and the timely provision of learning materials in alternate formats (Fichten et al., 2016). These accommodations are elective - students are expected to self-identify to register with this department and to request and utilize the accommodations that are provided (Toutain, 2019). Consistency across this transition is critical, as students who lose established accommodations between secondary and post-secondary education are at significantly

higher risk for academic underperformance in their first year as compared to students who experience relatively consistent accommodations when transitioning into post-secondary education (Parsons et al., 2021).

As mentioned previously, the constellation of accommodations will be individualized to the learner. However, overreliance on predominantly visual media to present course content in lectures and in learning materials may disproportionately impact blind and partially sighted learners (Correa-Torres et al., 2018). This is of particular concern in STEM (Science, Technology, Engineering, and Mathematics) fields where specialized notation and graphical conventions may pose unique access challenges for these students (White, 2021). As a result, blind and partially sighted students may have more complex and diverse access requirements (i.e., translation of visual to tactile media) related to the design and format of learning materials than non-disabled peers (Stone & Brown, 2023). The sections that follow review these design and format accommodations and their provision to blind and partially sighted students.

Access to Course Learning Materials

Significant expansions to the availability of online course offerings, in part motivated by the COVID19 pandemic, have necessitated the creation of digital format learning content or the digitization of print-based content (Faggella-Luby et al., 2023). Course instructors play two pivotal and complimentary roles in the delivery of course learning materials to students – as creators and curators of this content. The following sections address each of these roles in the context of promoting equitable access for blind and partially sighted students enrolled in coursework.

Course Instructors as Creators of Learning Content

Post-secondary instructors generally determine the content of their coursework according to a syllabus or course outline and, in contrast to K-12 educators, do not have a legal requirement to adhere to a government-mandated curriculum (Mesa, 2023). As a result, instructors have significant latitude in terms of the content and scope of coursework at the post-secondary level, although this may vary between undergraduate and post-graduate courses as well as according to program-specific requirements (Hogan & Trotter, 2013). Through the instructional design process, course instructors

determine the content and format(s) of lectures and learning resources, and are thus, active content creators (Ashbourne, 2021; Lomellini et al., 2022).

Learning materials designed by instructors may be provided to students in several formats, depending on factors such as student learning outcomes and the mode of course delivery. These may include, for example, lecture notes provided in PDF, e-Text (Enfield, 2015), or PowerPoint (Fichten et al., 2019) format or a course assignment as a video presentation (Alpert, 2016). The design and format of learning materials created by instructors can be important determinants of the quality of students' learning experiences, particularly those of disabled students (Fleming, Oertle, & Plotner, 2017). For example, the high proportion of visual media inherent to these formats (i.e., PDF, PowerPoint, HTML) may pose significant barriers to blind and partially sighted students when accessing and engaging with instructor-created content (Martiniello et al., 2012).

Universal Design of Post-Secondary Learning Materials. Within the system of individualized accommodations, equitable access to instructor-created content may require the creation of a bespoke accessible version of an inaccessible learning material. This may also require conversion to a different format that would better align with the individual student's access requirements. While course instructors possess subject matter expertise, these more accessible format materials are typically produced by specialists with expertise in accessible design and formatting, often working for or on behalf of Disability Services (Griesmeyer-Krentz, Griffen, & Tevis, 2022). This approach placing the locus of responsibility for accessible design with specialists has been questioned in the context of institutional efforts to foster more inclusive post-secondary learning experiences (Kalivoda & Totty, 2004).

Over the last several decades there has been a movement towards infusing the principles of Universal Design for Learning (UDL) into instructors' content creation workflows to foster a shared approach to accessible design (Tarconish et al., 2023). This movement is undertaken by stakeholders in inclusive post-secondary education to "[disrupt] limited interpretations of inclusion that rely solely on accommodations (Fornauf & Erickson, 2020, p.192) and to achieve "synchrony [...] with other campus diversity, equity, and social justice initiatives" (Tarconish et al, 2023, p.213). Briefly, UDL is a pedagogical framework for instructors of diverse learners of all ages that emphasizes,

through instructional design, the provision of multiple means of engagement, representation, and action and expression (Rose et al., 2006). Therefore, content creation that is UDL-informed is characterized by versatility and flexibility with how learners receive and practice content and subsequently express their learning. This, theoretically, negates the requirement for retrofitting instruction or instructional materials (King-Sears et al., 2023). In this case, retrofitting learning materials, or the creation of individualized accessible formats, is avoided since the output of a UDL-informed content creation workflow would presumably align flexibly with the access requirements of blind and partially sighted students in the course.

The application of UDL principles to content creation workflows can have facilitative and widespread impacts to students' access to learning materials. Fichten et al. (2019) surveyed 284 students enrolled in social science courses at a Canadian post-secondary institution, of whom 75 self-reported a disability. Participants reported that, generally, PowerPoint was the preferred format in which to receive lecture notes. When asked about the accessibility features of PowerPoint files (i.e., contrast between background and text; simple versus complex background template), there was no statistically significant difference between disabled and non-disabled students. Further, the researchers examined preferences for reliance on visual media. When asked if they preferred PowerPoint slides with images and text versus image-only slides, both disabled and non-disabled students preferred the former. Given that 59% of the students in Fichten et al.'s (2019) sample did not report their disability status to Disability Services, these findings underscore the importance of course content creation that is UDL-informed for all students. Through disclosure from students and Disability Services, course instructors may only be directly aware of a fraction of the true proportion of disabled students enrolled in a course.

Locus of Responsibility for Accessible Design. Despite the potential wide-ranging benefits of a UDL-informed approach to instructional design, it has yet to be implemented widely across the post-secondary education sector (Boysen, 2021). Reviews of the literature examining UDL implementation in higher education find little evidence that UDL is being implemented as an intervention to address disabled students' access requirements (Fornauf & Erickson, 2020). Instructors may find it

difficult to consider the diverse access requirements of learners and may, instead, design learning materials based more closely on their own learning experiences (Singleton et al., 2019). Further, Fornauf and Erickson (2020) note that UDL implementation in higher education may be limited by the framework's theoretical alignment with the social model of disability, where the broader post-secondary education sector, with its system of individualized accommodations for qualifying students, may be more closely aligned with the medical model of disability. Thus, while UDL-informed instructional design may be encouraged, it has yet to translate into the content creation workflows of instructors through institutional policy requirements (McGowan, 2018). This disconnect is further evident in the lack of training options for post-secondary instructors in accessible design (Gay, 2023; Lewthwaite & Sloan, 2016).

A significant implication to equitable access for blind and partially sighted students is that the onus for retrofitting or reformatting course materials remains with specialists working with Disability Services and not with course instructors (Hewitt et al., 2019). Butler, Holloway, Marriott, and Goncu (2017) surveyed 71 blind and partially sighted students enrolled at post-secondary institutions in Australia on their experiences accessing visual graphics in course materials. These researchers also conducted interviews with various institutional stakeholders – the sample included Disability Services staff and instructors with experience teaching blind and partially sighted learners. Most partially sighted learners (84%) used image magnification to access print graphics while the most common approach for blind students was to receive a written or verbal description (74%) of the graphic. Many participants noted that they would have benefitted from accessing graphics in a format not provided to them, especially among blind students where 76% had prior experience with tactile graphics but only 26% received graphics in this format at the post-secondary level. Results from stakeholder interviews revealed that instructors were generally “unaware of their responsibility to incorporate universal design principles in their teaching practices, instead seeing it as the role of the Disability Service Unit to provide modifications for individual students who cannot access their teaching materials” (Butler et al., 2017, p.10-11). However, Disability Services staff reported that they relied on the student to request the materials and services they needed, and even when those requests were received, time and resource

limitations meant that only a fraction of requested materials could be delivered to students. Thus, the locus of responsibility for accessible design may be situated with Disability Services who may be limited in the resources or expertise to retrofit on behalf of the learner.

Course Instructors as Curators of Learning Content

In addition to workflows for the creation of learning materials, instructors also curate materials to support course learning objectives across various formats and media. These are learning materials that, while not created and formatted by the instructor, are compulsory reading for students that are published by a third party, either commercially or via open access licensing (Ashbourne, 2021). Examples of instructor-curated learning materials include published works such as course textbooks and peer-reviewed journal articles. This section will review the role of the course instructor as a curator of learning materials and the implications for equitable access for blind and partially sighted students.

The process of selecting a course textbook may be informed by a range of economic, political, and technological considerations beyond course learning outcomes (Landrum & Hormel, 2002; Williamson, 2021). The past decade has seen a significant shift from textbooks in print format to digital format in the post-secondary education sector (Osih & Singh, 2020). Chavali and Gundala (2022) surveyed 346 undergraduate students at a small US university and note that, of participants who had experience with digital textbooks, approximately 65% held a positive view of this format and would use it again in the future. Experience with digital textbooks in post-secondary coursework is a robust predictor of future digital textbook use when experienced users believe that this format will increase reading efficiency over print textbooks (Yoo & Roh, 2019).

D'Ambra, Akter, and Mariani (2022) account for this phenomenon through the lens of Gibson's (1979) affordance theory. These researchers conducted a mixed methods study of undergraduate students attending a large Australian university. An interview and subsequent focus group with undergraduate participants informed the development of an online survey, which was completed by 344 participants at the same university. Participants identified several important affordances of digital format textbooks that would not be as convenient or possible with print format versions:

portability, ease of access, searching, highlighting, copying, browsing, hedonic value (i.e., pleasant experience), and lower cost (D'Ambra et al., 2022). For example, users can search for key terms in a digital format textbook and navigate directly to each appearance of that term in the text, a process that would be entirely manual with a print version. These affordances may translate into benefits beyond positive student experience, with students enrolled in courses that regularly use digital format textbooks seeing higher success rates (i.e., obtaining passing grades) than students enrolled in courses where traditional print materials were assigned (Hurley & Fekrazad, 2020).

Given the unique affordances of digital format textbooks, also referred to as e-textbooks, it is unsurprising that educational publishers have made an unprecedented number of textbooks available in digital formats (Su, 2021). Instructors, as curators of course learning materials, assign textbooks in digital formats and students can take advantage of the affordances described by D'Ambra et al. (2022). However, whether these are true affordances will be determined, in part, by the access requirements of the individual learner. For example, a digital format textbook may afford intuitive navigation through a table of contents to computer mouse users, However, if that same table of contents is not also navigable by those who interact with the textbook using the keyboard, the affordance is not also true for those users. It is important not to conflate the availability of textbooks in digital format with the accessibility of these materials since digital format materials are not inherently more accessible for blind and partially sighted users than materials in hard copy formats (Yamaguchi, Suzuki, & Kanahori, 2014).

Accessibility Affordances of Digital Format Textbooks. Numerous accessibility challenges with digital format textbooks have been reported across a range of common format types (e.g., HTML, PDF, Word, EPUB; Azadbakht, Schultz, & Arellano, 2021; Sun et al., 2018). While some format types are more disposed to provide true affordances for blind and partially sighted users, the quality of design and alignment with accessibility standards and is critical (Sun et al., 2018). For example, a digital format textbook in Portable Document Format (PDF) preserves the formatting and layout of the printed page with high fidelity whereas an Electronic Publication (EPUB) features reflowable text and formatting that is responsive to the screen and font

size selected by the user (Hinderliter, 2023). The affordance for the partially sighted user is the ability to adjust the size and type of font displayed in the EPUB without the loss of resolution. This same affordance is not true of a PDF version, where the same user would need to digitally magnify the fixed layout page to give the appearance of enlarged font.

Textbooks in Alternate Format. When a commercial learning material is not available from the publisher in a format that aligns with the access requirements of a user with a print (or perceptual) disability, provisions within the *Copyright Act of Canada* provide the legal groundwork for the creation of that material in a format that better aligns with the user's access requirements (Epp, 1999). An alternate format version of a published work is produced in a format specially designed to meet the access requirements of an individual with a perceptual disability for whom the alternate format version is produced (Ontario Council of University Libraries, 2023). The alternate format version can be produced by the perceptually disabled individual or by a "non-profit organization acting for the benefit of such an individual" (Copyright Act, 1985, sec. 32(1)).

Across Canada, there is a diverse range of non-profit organizations and publicly funded agencies responsible for producing alternate format materials for students with perceptual disabilities enrolled in post-secondary education. Production mandates vary across provinces, with some agencies producing on behalf of the entire provincial education sector (i.e., K-12 and post-secondary education) and others that are specific to one segment (i.e., post-secondary only). Further, some agencies are specific to groups or consortia of institutions. For example, in British Columbia, the Centre for Accessible Post-secondary Education Resources (CAPER-BC) is mandated and funded by the Ministry of Post-Secondary Education and Future Skills to provide alternate format production services to certain post-secondary institutions (CAPER-BC, n.d.). Institutions not served by CAPER-BC can have alternate format materials produced on a fee for service basis or can opt to independently procure or produce these materials. By contrast, Alternative Education Resources for Ontario (AERO) serves all publicly supported post-secondary institutions in Ontario as well as K-12 school districts and education authorities (AERO, n.d.). While there is variability across provincial units in

the mandates and scope of alternate format production agencies, their services are, in large part, accessed directly perceptually disabled students or via staff working in Disability Services (Epp, 1999).

Self-Advocacy as Precarity in Post-Secondary Education

The previous sections outlined the dual role of instructors as creators and curators of course learning materials. To ensure that blind and partially sighted students gain equitable access to these materials, remedial upgrades or translation into an alternate format may be required. This work is generally completed by specialists with technical expertise in accessible digital design if time and resources allow. One of the most common institutional responses to inaccessible course materials is no response. This may result from an inability or unwillingness on the part of instructors to ensure materials are accessible, forcing students to adapt (Fichten et al., 2009; Hewett et al., 2019). The high cultural value placed on independent study and self-reliance in the post-secondary education sector may valorize the capacity for blind and partially sighted students to be adaptable when faced with barriers to access (Seale, 2013b).

Within the individualized system of disability accommodations, blind and partially sighted learners may have the provision of learning materials in accessible formats formally identified as an accommodation (Ostrowski, 2016). Despite being identified as an accommodation, students must often advocate for the provision of instructor-created materials in accessible formats and instructor-curated materials in alternate format (Quirke, McCarthy, & McGuckin; 2018; Reed & Curtis, 2012). The current system in widespread use in the post-secondary education sector requires blind and partially sighted students to disclose their disability status to Disability Services and to submit medical documentation attesting to that status (Kartovicky, 2020). Once students' qualification status has been confirmed, Disability Services will work with the student to determine the set of institutional accommodations that will best align with the student's access requirements. The underlying assumption of this system is that if the student does not find the required accessibility features and functionality in the learning materials assigned by the instructor, these accommodations will compensate for the lack of fit between the standard affordances of the assigned materials and the student's access requirements (Daly-Cano et al., 2015). For example, if a course instructor

assigns an open-access textbook available in EPUB format, and this EPUB does not contain the design features and formatting for it to be accessible to the learner, an alternate format version of this textbook may be produced according to the provisions of the *Copyright Act*.

As outlined in the previous sections devoted to the dual role of course instructors as creators and curations of learning materials, the affordances of these materials are most often optimized for access by users without vision loss. As a result, compensatory access to learning materials is one of the most common sets of accommodations for blind and partially sighted students in post-secondary education (Butler et al., 2027; Hewett et al., 2019; Ostrowski, 2016). In a post-secondary sector that valorizes self-sufficiency and independent study, it is unsurprising that blind and partially sighted students are regularly responsible for advocating for accessible learning materials (Lourens & Swartz, 2020). Under this set of institutional expectations, self-advocacy is considered a foundational skill for academic success for disabled students in post-secondary education (D'Alessio & Osterholt, 2018). Self-advocacy is complex construct encompassing a range of beliefs, knowledge, strategies, and skills that, when applied by the student, demand that affordances be provided commensurate with the student's requirements and rights (Roberts, Ju, & Zhang, 2016; Yeager, Gandara, & Martinez, 2022).

Conceptualizing Self-Advocacy in Post-Secondary Education

According to Test et al. (2005), the construct of self-advocacy is characterized by four component knowledge and skill domains – knowledge of self, knowledge of rights, communication, and leadership. Knowledge of self refers to the student's awareness of their unique profile and the affordances required to effectively learn alongside non-disabled peers. Knowledge of rights refers to the student's knowledge of their personal and educational rights as well as knowledge of relevant policies, services, and accommodations. Communication refers to the student's ability to express themselves with an effective degree of assertiveness. Finally, leadership refers to the student's ability to extend their advocacy efforts to others through individual or collective action. These skills are associated with positive outcomes for disabled post-secondary learners, such as higher academic achievement (Fleming et al., 2017; Rahajeng,

Hendriani, & Paramita, 2023). Rahajeng et al. (2023) conducted a meta-analysis of studies examining academic achievement (as quantified by Grade Point Average) and self-ratings of self-advocacy skills, yielding a positive yet low effect size of 0.29 ($p < 0.001$; 95% CI = 0.20-0.38).

Given the high priority placed on self-advocacy skills by post-secondary institutions, it is not surprising that there are numerous programs and initiatives for promoting self-advocacy skills among disabled students (Good, 2007; Roberts et al., 2016). Within these initiatives, there are several specifically devoted to supporting the development of self-advocacy skills among blind and partially sighted learners (e.g., Lieberman & Childs, 2020; Nannemann, 2021). Mask and DePountis (2018) interviewed blind and partially sighted on their transition experiences from secondary into post-secondary education. Participants noted “struggles in securing basic accommodations [where] experiences necessitated continued self-advocacy and diligence in working with the university’s disability support services to secure accessible course materials” (Mask & DePountis, 2018, p.9). However, participants noted that previous training in self-advocacy skills at the secondary level aided in minimizing transition-related challenges and those associated with managing accommodations.

Self-Advocacy within Compensatory Support Regimes

Training programs promoting self-advocacy skills “commonly emphasize individual student attributes with little recognition of the wider social context in which self-advocacy occurs” (Woolf & de Bie, 2022, Introduction). Thus, the prevailing self-advocacy narrative may work to fix in place the locus of responsibility for obtaining equitable access to learning materials with students themselves. By personalizing accommodations and placing the onus for self-advocacy on blind and partially sighted students, institutions perpetuate a compensatory support regime that requires these students to expend considerable effort to participate in “highly individualized institutional practices that sit outside typical teaching and assessment procedures” (Bruce & Aylward, 2021, p.15).

The additional work associated with self-advocacy processes is also noted by Lourens and Swartz (2020) in interviews with blind and partially sighted students attending post-secondary institutions in South Africa. Participants faced “the rather

unfair task of becoming superheroes in their effort to juggle usual academic work alongside disability-related challenges” (Lourens & Swartz, 2020, p.329). Further, the degree of effort required by compensatory support regimes may be exacerbated by instructor intransigence and what Bruce and Aylward (2021) refer to as the “degrading nature of having to ask for something that should be a right” (p.19; Bartolo et al., 2023).

Scholarship within disability studies has problematized the prevailing self-advocacy narrative within institutional compensatory support regimes (Bulk, Jarus, & Nimmon, 2023). According to Bruce (2020), self-advocacy “produces the necessity to negotiate accommodations and generates uncertainty experienced as precariousness” (p.433). The institutional requirement for self-advocacy processes means that equitable access to learning materials for blind and partially sighted students is dependent on the successful outcome of these individual efforts, introducing a significant element of uncertainty and precariousness to the post-secondary learning experience of these students (Woolf & de Bie, 2022).

In interviews with disabled students and faculty, Bruce (2020) noted that students were optimistic about the possibility of transgressing the self-advocacy narrative through positive interactions with instructors that center disabled ways of knowing and doing. Students noted that when they were able to speak openly with instructors about how “disability and course requirements intersect to create inequitable learning conditions [students] were able to push back against university norms [...] especially when their professors responded by examining and changing course elements for all students, not just for disabled learners” (Bruce, 2020, p.433). Reclaiming the self-advocacy narrative is facilitated by instructors who commit to broader contextual change, rather than bespoke modifications to ensure specific affordances in certain learning materials. This reclamation is facilitated by uncoupling the process of seeking equitable access to learning materials from the deficit orientation of the medical model (Broido et al., 2023). In their analysis of interviews with disabled post-secondary learners engaged in disability leadership and activism work, Broido et al. (2023) note that “exposing the campus community, including disabled students, to the concept that disability is a consequence of environmental barriers can radically change perceptions of disability (p.288). These efforts, in turn, may encourage greater contextual and systemic

awareness of accessibility among course instructors in opposition to the view that accessible design is necessitated by specific accommodations for individual learners.

Self-Advocacy as Accessibility Labour

Whether blind or partially sighted students are engaged in self-advocacy tasks to ensure equitable access to learning opportunities or are engaged in transformative work to problematize and disrupt this prevailing narrative, they are nonetheless engaged in labour that is outside of the normative workload for post-secondary students. Some students may find themselves in the additionally taxing position of having to not only advocate for equitable access but provide technical guidance to those responsible for accessible design. In their interviews with blind and partially sighted post-secondary learners in the US, Correa-Torres et al. (2018) note that all participants reported adverse self-advocacy experiences, some of which included the requirement that they provide technical support to Disability Services to receive learning materials that align with their access requirements. One participant shared that “[g]etting textbooks has its own issue... I actually had to train the [Disability Services] office [on] how to make math accessible. (Correa-Torres et al., 2018, Self-Advocacy section).

One of the reinforcing assumptions of the institutional compensatory support regime is that disabled students’ labour in advocating for equitable access is uncompensated (Bulk et al., 2023). Students take on this labour as a matter of survival in post-secondary education - labour that is unaccounted for in the general ethos of institutional expectations (Shinohara, McQuaid, & Jacobo, 2021). How, then, might we define and quantify disabled students’ labour devoted to advocating and consulting with stakeholders in the pursuit of equitable access to learning? To this point, three general categories of student labour in the pursuit of equitable access to learning materials have been implicated in the reviewed research literature:

- 1) **Self-advocacy.** Blind and partially sighted students advocating for the timely receipt of learning materials that align with their access requirements. These efforts are undertaken so that the student can complete course requirements and examinations. These efforts may be directed to various gatekeeping stakeholders, including course instructors and Disability Services staff. Students articulate these requirements based on their knowledge of their required

affordances from learning materials, consistent with their preferences and the technical requirements of the Information and Communications Technology (ICT) used to access and interact with materials. When access requirements remain unmet despite clear and timely self-advocacy, students may expend time and resources in filing grievances and seeking recourse with the institution, which may include bringing a case before a human rights commission or tribunal (Jacobs, 2023).

- 2) **Community advocacy.** Broader advocacy efforts aimed at challenging deficit-oriented policies and practices at the institution and building community and solidarity among disabled peers. These efforts, both individual or communal, are intended to problematize and disrupt the prevailing compensatory regime at the broader institutional level. In the current conceptualization of accessibility labour, these transformative efforts involve systems change and, in contrast to self-advocacy labour, are not contingent on specific requirements of a course or program of study.
- 3) **Technical guidance and consultation.** In the process of advocating for more accessible learning materials, blind and partially sighted students may find themselves in a position where they must provide technical guidance to instructors or Disability Services staff on how to design and format learning materials so align with their access requirements. For example, a student may need to familiarize a course instructor with the process of adding a navigable heading structure to a handout in e-Text format. Students may also be required to consult with instructors on how content can be accessibly and meaningfully represented. For example, a student may need to consult with a chemistry instructor on the most effective modality for modelling atoms (Graybill et al., 2008).

Thus, “accessibility labour” in this paper refers to blind and partially sighted students’ effort expended in the pursuit of more equitable access to learning through activities related to self and community advocacy as well as providing technical guidance and accessibility consultation. It is beyond the scope of this paper to provide a comprehensive account of the myriad forms of accessibility labour in which blind and

partially sighted students may engage across their post-secondary education careers. However, the account provided in this section will suffice as a means of accounting for students' accessibility labour within the proposed participatory framework. Regardless of the precise set of activities that characterise accessibility labour, any definition must be grounded in the principle that it is "unjust to expect disabled people to give away their specialised knowledge and skills" without appropriate compensation (Shaheen, 2021, p.87).

Consequences of Unrecognized Accessibility Labour

The categories of accessibility labour by blind and partially sighted students outlined in the previous section go largely unaccounted for and thus, uncompensated within the post-secondary education sector. Further, there are direct impacts to students and the quality of the learning experiences associated with this labour, especially when one considers that it is undertaken in addition to the normative coursework expectations of all post-secondary learners. Shinohara, McQuaid, and Jacobo (2021) conducted interviews with blind, partially sighted, Deaf, and hard-of-hearing graduate students and, based on their analysis of participants' recounted experiences, indicate that the accessibility labour expended by participants gave rise to a "burden of survival." The researchers note that "participants endured lower grades, subpar access to printed and visual material and presentations (among other things), and longer timelines to complete work, amounting to surviving (perhaps not thriving in) the inaccessible environment they operated within" (Shinohara et al., 2021, Hardship and Survival section). The sections that follow will outline various implications for blind and partially sighted students associated with accessibility labour to develop a rationale for mitigating and refocusing this work.

Demoralization and Access Fatigue. A consequence of regular accessibility labour is that students may become demoralized and fatigued from the process of ensuring equitable access, especially when it involves relitigating the same issues and information with course instructors on an individual basis. Dolmage (2017) notes that "[w]hen disability is "suffered" by a very few [...] higher education will continue to wear students out, to hold disability itself in abeyance, and to create access fatigue" (p.93). What Dolmage refers to as "access fatigue" has been noted in studies of disabled

students' post-secondary experiences. Mack et al. (2023) interviewed instructors and disabled students on how students' access requirements are met through formal and informal channels in post-secondary education. There were different understandings of stakeholder responsibilities between these two groups. Instructors typically waited for students to initiate conversations about their access requirements, which students identified as fatiguing. Students noted that they were often having the same conversation across instructors each term, resulting in feelings of disengagement with the process of ensuring appropriate accommodations are in place in their courses (Mack et al., 2023).

This finding is corroborated by Correa-Torres et al. (2018), who note that blind and partially sighted post secondary learners in their sample expressed frustration at having to repeatedly advocate for the same affordances, with one participant stating that “[e]very term started from scratch, even sometimes when I had the same professors. It's like, I had to start over. I had to go and I had to say, ‘These are the things I know I need’” (Correa-Torres et al., 2018, Self-Advocacy section).

Extended Academic Timelines. Another consequence of the accessibility labour imperative for blind and partially sighted students are unintended extensions to course and program timelines, potentially delaying graduation and other important milestones (Hewett, Douglas, & McLinden, 2023). In a study of the learning experiences of blind and partially sighted students in Canada, Reed and Curtis (2012) found that these students required approximately 2.5 extra terms, or 1.5 calendar years, to complete a four-year undergraduate program. This was attributed, in part, to delays associated with obtaining accessible learning materials. The majority (59%) of students indicated that they experienced significant delays in the provision of alternate formats, instructor-created course materials were inaccessible and required remediation, or accommodations were denied outright by teaching staff.

More recently, Hewett et al. (2017) conducted a longitudinal study of the post-secondary learning experiences of 32 blind and partially sighted students in the United Kingdom. Participants noted that it was common for instructors, when presented with concerns about accessibility, to “rely on students’ use of deadline extensions to compensate for the barriers they experienced, thereby adding pressure onto other

deadlines and often extending the student's academic year" (Hewett et al., 2017, p.104). Therefore, when barriers to equitable access necessitate accessibility labour, resulting delays may disrupt timelines and require blind and partially sighted students to reevaluate their expectations for when they might complete their program of study.

Disconnection from Student Community. Finally, this section will consider impacts of uncompensated accessibility labour on blind and partially sighted students' social participation and connections to student life. Article 30 of the CRPD affirms the right of disabled persons to "take part with others in cultural life (United Nations Convention on the Rights of Persons with Disabilities, 2006, art. 30). For post-secondary students, this includes full participation in campus life, including recreation and leisure activities and student organizations (Harpur & Szucs, 2023). However, the burdens imposed by the necessity of accessibility labour may limit students' opportunities for social connections. In their survey of blind and partially sighted post-secondary students, Reed and Curtis (2012) asked participants to identify barriers to social engagement. Thirty percent of participants noted that they could not participate in some campus activities due to high degree of effort and planning required. Bulk et al. (2023) note that the "extra work of being blind/ partially blind has a negative impact on the sense of shared understanding because sighted people do not realize the impact of this disability-related labour, nor the impact on would-be shared experiences of post-secondary" (p.74). Thus, accessibility labour may be experienced as othering by blind and partially sighted students since such they must take on high stakes work that is not shared by their non-disabled peers.

Perspectives on Institutional Responses to Accessibility Labour

Accessibility labour by blind and partially sighted students in post-secondary education must be first accounted for and then mitigated if institutions are to realize their obligations under the CRPD to provide "general tertiary education, vocational training, adult education, and lifelong learning without discrimination and on an equal basis with others" (United Nations Convention on the Rights of Persons with Disabilities; 2006, art. 24, sec. 5; Jacobs, 2023). To this end, scholars have suggested ways to rechart the course of institutional policy on accessibility and inclusive education, minimizing or eliminating the systemic requirement for accessibility labour. These proposals have

critically informed the development of the current participatory framework and are outlined in the sections that follow.

Prioritizing Equitable Access in Procurement

Martiniello et al. (2012) propose centering accessibility in the procurement process for learning materials in digital format. First, they recommend that institutions should require that producers of e-learning content have conducted accessibility evaluations prior to publishing and that these evaluations engage users with lived experience. Second, to corroborate producers' reporting on the accessibility of their e-learning content, institutions should conduct accessibility evaluations of all e-learning content as a standard component of the procurement process. Lazar, Goldstein, and Taylor (2015) suggest that to create market demand for accessibility e-learning products, post-secondary institutions should seek "contracts that require representations and warranties of accessibility and indemnities for suits against the institutions for the inaccessibility of the product" (p.213). Thus, institutions can promote "born accessible" content (see Lazar, 2023) from publishers by requiring transparency in the steps taken to ensure the accessibility of the product and by requiring that the publisher assume responsibility for any litigation resulting from non-compliance with relevant statutes. In prioritizing accessibility in the procurement process, institutions can extend this requirement to instructors' content curation workflows. For example, when selecting a textbook for a course, instructors would be required to prioritize digital products that clearly demonstrate conformance to international standards (e.g., WCAG, EPUB Accessibility 1.1).

Promoting Employment at Post-Secondary Institutions

Article 27 of the UN CRPD "prohibit[s] discrimination on the basis of disability with regard to all matters concerning all forms of employment" with a specific provision related to non-discrimination in employment in the public sector (United Nations Convention on the Rights of Persons with Disabilities, 2006, art. 27). Post-secondary institutions have a responsibility under the CRPD to address systemic barriers to employment for blind and partially sighted faculty and staff. When taking responsibilities under Articles 24 and 27 of the CRPD into context, a facilitative intersection is evident – critical knowledge and expertise in accessible design emerging from lived experience

resides with blind and partially sighted candidates for faculty and staff positions. By addressing systemic barriers to employment for these candidates by institutionalizing the “value [of] disability as a fundamental part of human variance” (Mellifont et al., 2019, p.1191), the institution may add powerful expertise in accessible design and inclusive education for blind and partially sighted students to its workforce.

Employing a higher proportion of blind and partially sighted staff members may also address discrimination in the wider post-secondary workforce. As noted by Harpur and Stein (2018), “[c]ontact theory explains that a person is less prejudiced against a person with a particular attribute once they have had positive conduct with a person who has that particular attribute” (p.568). Thus, positive interactions with blind and partially sighted colleagues may have an ameliorative effect on non-disabled faculty and staff attitudes toward others who are blind and partially sighted in future interactions.

Committing to Progressive Achievement in Equitable Access

In a paper advancing a new interdisciplinary framework for access in technology-mediated education – *Access4Equity* – Shaheen (2021) recognizes that the project of making learning environments more accessible is a shared one. For educators within this shared project, the “concrete action of making technology and pedagogy more accessible become part of educators’ daily work [...] the reflection and action inform each other and facilitate the construction of technology mediated learning environments that are increasingly equitable for disabled youth” (Shaheen, 2021, p.84-85). Thus, this iterative work evolves through the dialectical relationship between educators’ critical reflections on beliefs about disability and accessibility, and human rights-supportive actions to promote equitable access to learning for disabled students.

A progressive approach across time is necessary to promote accessible design since “access work is always in a state of becoming; it is never perfect or complete” (Shaheen, 2021, p.85). The validity of this approach has been confirmed with research at the post-secondary level. Burge and Mazzuca (2022) followed an iterative design where accessibility consultants and course instructors collaboratively redesigned courses to promote access by diverse learners within a UDL framework. Stakeholder interviews and journals revealed that participants highly endorsed the value of sustained collaboration between consultants and instructors as a mechanism for course redesign

that advances UDL implementation and inclusion more generally. Thus, collaborative action to promote equitable access is most effectively an iterative process that unfolds over time and across stakeholders.

Centering Disabled Perspectives Through Participatory Action

Consistent with the human rights model of disability, participatory action is done with, rather than for, disabled persons, combining reflection and action in an iterative cycle (Tanabe, Pearce, & Krause, 2018). Within post-secondary education contexts, Doyle et al. (2023) recommend that institutions “create time and space within decision-making processes and governance structures to meaningfully co-design programs and services by and for persons with lived experience of disability” (p.287). Thus, institutions have a unique opportunity to engage those with lived experience as a means of promoting equitable access and inclusion. Lived experience is critical to the concept of accessibility labour, since students will not only advocate from their experience but may also be required to provide technical assistance and guidance based on that experience (Correa-Torres et al., 2018). Participatory action, by meaningfully centering and engaging disabled users, seeks to transform institutional power structures that position blind and partially sighted students solely as recipients of the fruits of accessible design via individualized accommodations (Woolf & de Bie, 2022). Within participatory approaches, however, care must be taken not to perpetuate accessibility labour expectations regardless of how well intentioned or transformative the intentions of the process. Any participatory action aimed at promoting equitable access for blind and partially sighted students should consider the time and resource demands inherent to post-secondary study, as well as those associated with accessibility labour, before engaging students.

Moving from Forced Intimacy to Access Intimacy

Taken together, these proposed responses represent the potential for an institutional shift toward what Mingus (2011) describes as “access intimacy.” Access intimacy is “that elusive, hard to describe feeling when someone else “gets” your access needs” (Mingus, 2011). The prevailing compensatory support regime, with its individualized approach to disclosure as a precept to accommodation, necessitates what Mingus refers to as “forced intimacy” (Abes & Wallace, 2020; Mingus, 2017).

Forced intimacy requires disabled students to “disclose personal parts of themselves” to be afforded accommodations in the face of access barriers impinging on students’ rights to inclusive education (Mingus, 2017). Forced intimacy imperatives and their consequences raise an important question: How might we design an institutional response to mitigate compulsory accessibility labour by blind and partially sighted students that valorizes access intimacy and shifts the locus of responsibility for accessible design to instructors as creators and curators of instructional content?

The Participatory Framework for Equitable Access to Learning Materials for Blind and Partially Sighted Students

This paper proposes a participatory framework for accessibility facilitation in post-secondary education with the goal of promoting more access-forward design of digital format learning materials created or curated by course instructors. Informed by Shaheen’s (2021) A4E framework, this participatory framework seeks to engage disabled Accessibility Facilitators (AFs) and course instructors in an iterative cycle of evaluation and feedback to build more effective instructor workflows for content creation and curation. AFs evaluate instructors’ course materials using access technology with which they have expertise and provide feedback to instructors. The framework is probabilistic in that it does not purport to enhance instructor workflows that will categorically address all access requirements of blind or partially sighted students. Rather, it proposes that progressive improvements in the accessibility affordances of course materials will meet an increasing proportion of the access requirements of blind and partially sighted students enrolled in courses taught by participating instructors.

Roles Within the Participatory Framework

The framework is centered on the iterative work of a dyad composed of a blind or partially sighted AF and a course instructor. This section outlines the parameters of these roles.

The Access Facilitator. The concept of the “accessibility facilitator” is described by Siu and Wall Emerson (2017) in a thought piece accounting for recent shifts in the role and responsibilities of specialist teachers of students with visual impairments (TSVIs) in the K-12 education system in North America. With the increasing proportion of digital format learning content in K-12 classrooms, TSVIs are now devoting more time

to consulting on digital accessibility with classroom teachers responsible for creating and curating this content, as opposed to procuring bespoke hard copy alternate format versions (Siu & Wall-Emerson, 2017). According to these authors, the role of the TSVI has shifted from a primarily direct service orientation to include a significant component devoted to accessibility consultation and collaboration with other educators on the student's educational team. Siu and Wall-Emerson's (2017) concept of the "accessibility facilitator" is informative within the current participatory framework since it intends to shift the locus of responsibility for accessible design from the exclusive purview of specialists to meaningfully include instructors as creators and curators of course learning materials.

Engaging with blind and partially sighted users to understand their accessibility and usability experiences of digital content has long been recommended by researchers as a promising practice (Ferreira et al., 2012; Fichten et al., 2009; Lazar, 2023). Blind and partially sighted users, as a product of regular problem solving and creativity when faced with digital accessibility barriers, have been shown to be more effective in responding to frustrating user experience issues than those with typical visual profiles (Lazar et al., 2007). A significant degree of expertise in accessibility evaluation may come from lived experience. However, formal expertise in evaluating digital accessibility has been shown to significantly enhance the efficiency and accuracy of the evaluation process (Brajnik, Yesilada, & Harper, 2011). As a result, AFs will be required to have at least one to three years of previous experience in providing accessibility evaluation services on a paid basis.

The Course Instructor. This participatory framework aims to increase course instructors' capacity for accessible design as well as enhance their ability to critically evaluate the accessibility affordances of a learning material. Within the framework, course instructors are expected to identify representative learning materials for each phase of the facilitation process. Further, instructors are expected to engage with the AFs, work to understand their feedback and demonstrations, and to incorporate feedback into their own course material creation and curation workflows.

Features of the Participatory Framework

There are several noteworthy features of the participatory framework that are intended to promote its sustainability and to motivate and enrich instructors' learning. These features are described in the sections that follow.

Focus on Workflow Development. Initially, the subject of the AF process will be instructor created and instructor curated learning materials. Facilitators will evaluate and provide feedback on the accessibility affordances and barriers encountered in each and, in the early phases of the facilitation process, provide worked examples through live demonstration. However, the ultimate scope of this framework extends beyond a limited number of learning materials. By providing guidance through their lived experience coupled with sharing resources on accessible design, AFs work with the goal of changing instructors' creation and curation workflows. This goal mirrors that of the Global Certified Accessible (GCA) Program, a digital accessibility certification program from Benetech that [works to] adjust publisher workflows to ensure that content they produce is accessible from the start" (Benetech, 2022). Thus, iterative facilitation work between AFs and course instructors is undertaken with the intent of upgrading the latter's workflow so that instructor created and curated learning materials will be more accessible by design. Like the GCA Program, the participatory framework provides iterative cycles of feedback and remediation, resulting in broader workflow upgrades that will eliminate the need for the remediation of subsequent workflow products.

Authentic Iterative Cycles of Evaluation and Feedback. Direct engagement with disabled users and learning from their lived experience has been shown to promote designers' engagement in the accessible design process (Zitkus et al., 2016). Further, engaging users to evaluate and provide feedback on the accessibility of digital content can increase the likelihood of detecting barriers that truly impact disabled users' experiences. Mateus et al. (2021) refer to user evaluation, as compared with automated evaluation, as the "gold standard in accessibility evaluations [since] they can encounter the most relevant problems that impact users" (p.159). Instructor and AF dyads engage in an iterative process recognizing that the process of upgrading instructor's content creation and curation workflows may not be linear – instructors may need to revisit certain features and functionality before they can be sustainably incorporated into their

workflow. In short, an iterative process across intervention phases ensures that instructors do not need to “get it right” the first time.

Flexible Access Facilitation. Requiring instructors to complete formal training in accessible design leading to certification (i.e., Certified Professional in Accessibility Core Competencies; IAAP, 2023) is not a practical solution as post-secondary instructors are not likely to have the time available for this training while they also carry an active teaching load (Miller, 2023). Thus, a more flexible iterative approach may be more suitable for faculty who are regularly teaching. The pilot timeline for facilitation is three consecutive academic terms, with a follow-up after two terms of the facilitation process. This timeline for baseline, intervention, and maintenance phases will allow AFs and course instructors to gather sufficient experience within the facilitation process to be able to evaluate the efficacy of the participatory framework.

Beyond the pilot implementation of the participatory framework, however, there will need to be more flexibility built into the process. A more flexible approach to accessibility education would also better align with the increasing casualization of the post-secondary education workforce (Schwartz, 2017). With a greater number of contingent faculty teaching on contract, any accessibility education initiative must flexibly account for any discontinuities in contract instructors’ connection to the institution. Therefore, instructors must be able to flexibly reconnect with AFs according to their teaching requirements.

Shifting the Locus of Responsibility through Role Release. Role release in interprofessional settings can take on many forms, but refers, fundamentally, to the process by which professionals on a team learn specialized strategies and techniques from another member of the team with the intention of being able to effectively apply this strategy or technique without on-hand support (Rausch, Bold, & Strain, 2020). The extent of role release can range from sharing information to training other professionals in specialized competencies and requires clear communication between interprofessional team members as well as clear expectations for the scope of the “released” competency (Ludwig & Kerins, 2019). The goal of role release is to create the conditions and expectations such that team members “take and use aspects of the

primary functions of team members with other professional backgrounds” (Gregerson & Solvang, 2020, p.2).

AFs will, through iterative cycles of evaluation and feedback, release responsibility for accessible design to course instructors. The goal of this participatory framework is to minimize students’ required accessibility labour by shifting to locus of responsibility for accessibility advocacy and education from blind and partially sighted post-secondary students to AF-Instructor dyads. In doing so there may be collateral benefits for other learners. Optimizing the accessibility of digital content for blind and partially sighted users has been shown to also result in more positive user experiences for those without sight loss (Schmutz, Sondregger, & Sauer, 2017).

Procedure of the Participatory Framework

The facilitation procedure follows an ABA design to examine the potential effect of the facilitation on instructors’ content creation and curation workflows (Zhan & Ottenbacher, 2001). In this design, the baseline (A - or non-intervention) phase is the initial evaluation of the learning materials by the AF, prior to any provision of feedback. This is followed by two intervention phases (B), concluding with another non-intervention phase where the AF evaluates the learning material without providing any feedback or worked examples. Detailed feedback that supports the instructor’s ability to adjust their content creation and curation processes is provided in the previous two intervention phases. The following sections illustrate these phases in greater detail, including an outline of the ways in which the nature of the feedback provided to instructors evolves across the phases. All virtual meetings across phases will be recorded so that AFs and instructors can review the facilitation process as required. For a fictionalized case study of a pilot implementation of the participatory framework, please see Appendix A – Fictionalized Case Study.

Pre-Baseline. In the Pre-Baseline Phase, the instructor is asked to select representative samples of learning materials they have created and curated for one course that they will be teaching in the upcoming term. Each sample material should be a different file format. This is encouraged so that instructors can receive feedback on a representative range of file types from assigned learning materials in the course. These materials are submitted to the AF via email three weeks before the start of the term.

Phase One – Baseline. In Phase One, the instructor and AF meet virtually to review, in detail, the facilitation report generated by the AF. The Phase One report will identify the software and hardware tools used by the AF as well as outline the settings under which the materials were tested (e.g., with screen reading software at 110 words per minute). The report will further document the accessibility affordances and barriers that the AF encountered in their evaluation of the material. For instructor-created materials, the facilitation report will provide technical recommendations for how to update content creation workflows so as not to replicate barriers or omit important affordances in subsequent design iterations. For instructor-curated materials, the report will provide guidance on how to evaluate materials for the presence of important features and functionality to ensure the instructor can make more informed decisions that are accessibility-referenced.

A focal point of Phase One feedback is worked examples of these processes. The AF will demonstrate each of the findings of the report and conduct real-time remediation of instructor-created materials and accessibility evaluation of curator materials. In effect, the AF will conduct real-time remediation and then provide the instructor with the product as a worked example.

Phase Two – Intervention [Materials Evaluation]. Three weeks prior to the start of the next term, the instructor will send another set of materials to the AF. These can be updated versions of the same materials from Phase One or they can be other materials, provided they are the same file formats (e.g., Word, PowerPoint, PDF, EPUB) as Phase One materials. The assumption is that content can be different between Phases One and Two since the design and formatting workflow considerations for instructor-created materials and the accessibility evaluation workflow considerations for instructor-curated materials will be consistent for identical formats across phases.

One week prior to the start of the term, the dyad will reconvene to review the AF's facilitation report for Phase Two materials. The proportion of report elements shift in Phase Two – the AF will prioritize the sharing of online resources that the instructor can consult to learn more about the accessibility affordances and barriers identified in the report. Worked examples will only be provided for more complex or unique barriers that present in the AF's evaluation.

Phase Three – Intervention [Evaluation in Context]. Three weeks prior to the start of the subsequent term, the instructor will share access to another set of materials with the AF through the course Learning Management System (LMS). The accessibility affordances and barriers of the LMS is an important consideration in the overall process of ensuring equitable access to learning materials for blind and partially students since in many post-secondary courses, the LMS is the virtual environment in which students locate, access, and engage with learning content (Burge & Mazzuca, 2022; Denmans Epp et al., 2020). The AF generates a report that documents their evaluation of the accessibility of the LMS environment as well as the nominated documents located therein.

In Phase Three, the dyad meets to review the AF's facilitation report. This report is similar in scope to the Phase Two report, providing a listing of the accessibility affordances and barriers encountered along with suggested online resources for further reading. The AF will provide some live demonstration through worked examples, but only for more complex barriers that are not easily addressed through references to online accessibility education resources.

Phase Four – Maintenance Phase. Two subsequent academic terms will pass before the dyad reconvenes again to evaluate another set of materials in situ. However, in Phase Four there is no advance access for the AF. The purpose of this phase is to examine the degree to which the instructor has applied the AF's recommendations to their creation and curation workflows for learning materials. The AF will conduct the accessibility facilitation in real time using the think aloud method, enabling the evaluation of their thought processes or decision making while performing this specific set of tasks (Cotton & Gresty, 2006). The instructor will gain insight into the affordances and barriers encountered by the AF as their thoughts and strategies are articulated in real time.

The pilot facilitation cycle will conclude after Phase Four. At this point both dyad members will individually complete feedback surveys. Further, the AF will complete a summative report on the facilitation process that reports on its outcomes in terms of changes in the accessibility affordances and barriers in learning materials detected over the course of facilitation.

Evaluating the Efficacy of the Participatory Framework

Following their participation in the facilitation process, the instructor will be asked to complete a summative assessment of their experiences. This survey will ask instructors to reflect on the process and to elaborate on any features and experiences that facilitated/detracted from the process of supporting their capacity for accessible design. The AF will also complete a summative survey where they reflect on their experiences and will solicit any feedback for improving the process. The ultimate stakeholders in this process are blind and partially sighted students who face discrimination when course learning materials are not accessible. Between Phases Three and Four, all students enrolled in the instructor's courses will be asked to complete a survey on the accessibility and useability of learning materials in the course. This survey will provide insight into whether the knowledge and strategies gained in the facilitation process have been applied; 1) in the target course; 2) more broadly to other courses taught by the instructor. From a Universal Design perspective, accessibility features and functionality incorporated into instructor-designed materials and prioritized in instructor-curated materials may make the difference between access and no access for blind and partially sighted students and may also be facilitative to the user experience of other students in the course (Cumming & Rose, 2022).

Prospective Outcomes of the Participatory Framework

The participatory framework is intended to shift the locus of responsibility for accessibility labour from blind and partially sighted to be shared among institutional actors (e.g., course instructors, Disability Services). This shift will be motivated and informed by the process of accessibility facilitation within dyads of AFs and course instructors. Greater awareness of the impacts of accessibility labour under the prevailing compensatory support regime, coupled with new technical knowledge on the practice of digital accessible design, will well equip instructors as they design course materials for inclusion. Further, implementation of the participatory framework will create paid positions for disabled staff at the post-secondary level, creating new opportunities for employment at the institutional level. This would assist post-secondary institutions in meeting the standards set out in the CRPD related to inclusive employment practices (Harpur & Stein, 2018).

There is the question of how these accessibility upgrades to instructors' content creation and curation workflows will be communicated to blind and partially sighted students. Students should expect transparency in the process of course selection, especially when they need to estimate the potential accessibility labour required in the course. With greater anti-discriminatory awareness and accessibility knowledge among course instructors, disabled students should not be made to guess about the affordances or barriers that await them in the learning materials of a given course. Thus, one outcome of implementation of the participatory framework is an institutional requirement for course syllabi to contain a compulsory accessibility metadata section.

Accessibility Metadata in Course Outlines. As course instructors gain expertise in the creation and curation of more accessible digital learning materials, a mechanism is required to communicate instructors' growing capacity for accessible design to prospective students. While there are a diverse range of factors that are considered during course selection, accessibility metadata included in course outlines would give students the opportunity to consider what accessibility features and functionality they could anticipate in the required learning materials for the course. As mentioned previously, accessibility metadata in a digital work communicates the accessibility features and functionality that users can expect to encounter in that work, documents conformance with design standards, and makes the work more discoverable for those searching for more accessible options (House, Orme, & Bide, 2018; Kasdorf, 2018). A similar metadata listing in the course outline/syllabus would communicate information to students about access considerations that have informed the creation and curation of learning materials in the course. This section would be made mandatory in course outlines at the institution, like other institutionally mandated sections such as statements against plagiarism or discrimination.

An accessibility metadata section in a course outline would include full bibliographic data on required course texts that are commercially available from publishers and their formats (e.g., EPUB, PDF). If available, information on the conformance to international standards for digital accessibility (e.g., WCAG 2.2) should also be included. In addition to required published works, there should be a listing of the formats of learning materials curated or created by the instructor(s). This may include

instructor-created materials such as PowerPoint presentations or course assignment rubrics in DOCX. This may also include instructor-curated materials, such as peer-reviewed journal articles in PDF or EPUB format. For materials that are created by the instructor, information can be provided on the accessibility features and functionality that students can anticipate. For example, if the instructor is adding image descriptions to visual media and navigable headings to their content, this could be reflected in the accessibility metadata. Finally, with a growing proportion of online post-secondary courses and recognizing that LMS environments have traditionally posed significant barriers to access to course content for disabled learners, students should be provided with specific information on the accessibility features of the course LMS (Burgstahler, 2021). A link could be provided in the metadata to accessibility statements and/or access help and troubleshooting content on the LMS's corporate website.

Limitations of the Participatory Framework

As has been outlined in previous sections, barriers to equitable access to learning materials for blind and partially sighted post-secondary students are well documented in the extant literature. With the aim of shifting the locus of responsibility for accessibility labour away from students themselves and toward institutional actors, the participatory framework is designed to address a clear shortcoming in the predominant compensatory support regime. However, the participatory framework is a conceptual framework at the time of writing that has yet to be piloted. As a result, there are several potential limitations that could impede a future pilot of the framework. Two apparent limitations are outlined below along with prospective solutions.

Fiscal Limitations and Efficiencies in Alternate Format Procurement. First, there are the inevitable fiscal considerations of expanding the institutional workforce through contract or salaried positions. Rather than relying on existing capacity at Disability Services, which may already be overtaxed (Burge & Mazzuca, 2022), the framework proposes to appropriately remunerate accessibility labour through the creation of new employment opportunities for blind and partially sighted AFs. To offset these costs, there may be some greater efficiencies to be found in the process of procuring alternate format learning materials through inter-institution loans as opposed to producing these materials (Saumure & Given, 2004). The Canadian Association of

Educational Resource Centres for Alternate Format Materials (CAER) produces digital alternate format learning materials for the K-12 and post-secondary education sector across member agencies across Canada (Epp, 2006). Currently there is only one post-secondary institutional member – this could be potentially expanded to include other Canadian post-secondary institutions so that further efficiencies can be found in the creation and sharing of alternate format materials on behalf of post-secondary learners with perceptual disabilities (including blindness and partial sight). The cost savings would then be invested in the implementation of a pilot of the participatory framework.

In addition to this national organization, institutions should look to major international instruments such as the Marrakesh Treaty for sharing alternate format versions of copyright-protected learning materials across international borders. Studies of post-secondary staff find that awareness of national and international conventions for obtaining alternate format versions of learning materials is inconsistent (Were, Otiike, & Bosire, 2021). Thus, there may be greater opportunities for interlibrary loans and other means of file sharing that would reduce the institutional requirement to produce or purchase an alternate format version.

Time Constraints on Accessibility Education. Second, the limited time available from post-secondary instructors to engage at the depth required by the participatory framework is a potentially limiting factor. The proposed pilot framework follows dyads over the course of one to two academic years. Researchers working in accessibility education frequently note one of the most significant limiting factors to capacity growth is limited instructor time (Guilbaud, Martin, & Newton, 2021). To address this common limiting factor, researchers propose that the institution communicate a clear priority for anti-discrimination work through accessibility education (Burge & Mazzuca, 2022; Lomellini et al., 2022). For example, engagement with the participatory framework could be made compulsory in the same way that other DEI (Diversity, Equity, and Inclusion) initiatives are required for instructors (Kim, Kong, & Rose, 2023). Engagement in the participatory framework process would be formally included in the workload of course instructors, communicating accessible design as institutionally mandated and not a voluntary benefit for learners.

Conclusion

Course instructors, as creators and curators of learning materials, critically impact blind and partially sighted students' equitable access to these materials through design and format decisions. Inaccessible learning materials necessitate reliance on accommodations with compensatory or remedial orientations. Even when these accommodations are in place, significant accessibility labour may still be required of the student to ensure timely delivery of learning materials with more accessible design and in a more accessible format. The Participatory Framework for Equitable Access, as proposed in this paper, will motivate a shift in the locus of responsibility for accessible design from students to course instructors. This shift will problematize the deficit orientation of the prevailing compensatory support regime and inspire institutional practices and policies that cultivate access intimacy in course design from first principles, thus affirming equitable access to learning content in post-secondary education as a human right.

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Appendix A – Fictionalized Case Study

This appendix outlines a fictionalized case study to provide context to the facilitation process outlined in this paper.

Actors and Premise

Reggie is a partially sighted Accessibility Facilitator with six years of experience working as a freelance design consultant specializing in digital accessibility. Reggie has an undergraduate degree in graphic design and uses a combination of screen enlargement and enhancement software and a screen reading program to interact with digital content. Throughout his undergraduate career, Reggie's interest and skills in graphic design meant that he was motivated to maintain a robust accessibility toolkit. As a result, friends and colleagues would frequently ask Reggie to consult on the accessibility of their digital content, knowing that he possessed significant technical knowledge gathered through his coursework and lived experience. Following completion of his undergraduate program, Reggie formalized these services through his consultancy work.

Teagan is an Assistant Professor in the Department of Psychology at their post-secondary institution. Teagan has been teaching large undergraduate survey courses psychology for four years. They have minimal experience teaching blind and partially sighted students and have only a basic awareness of some features and functionality of digital format learning materials that these students find helpful. However, limited time and large class sizes have meant that Teagan has not felt able to progress beyond an awareness level to where they feel they can incorporate these features into their instructor-created materials nor to substantively evaluate the robustness of their instructor-curated materials.

The Participatory Framework for Equitable Access pilot study was advertised at a faculty meeting and Reagan expressed her interest in participating. Teagan identified one of her courses as a potential challenge – Introduction to Animal Behaviour (PSY210). The learning materials of PSY210 contain a variety of visual media, including graphs, tables, and images and Teagan would like to ensure that these materials will be responsive to the access requirements of blind and partially sighted students. The course format is face-to-face with an online LMS for students to access lecture notes in

PowerPoint format, as well as links to journal articles through the university library. There is also a virtual discussion board where students engage with one another on weekly topics for participation credit.

Procedure

Reggie and Teagan meet over the course of three academic terms via videoconference across four phases. This is followed by a two-term maintenance phase culminating in a final facilitation session.

Pre-Baseline. Teagan is asked to select representative learning materials for PSY210 and submit one of each format. Teagan selects a lecture presentation in PowerPoint format, a chapter from the course textbook in EPUB format, and a peer-reviewed journal article that is assigned reading in PDF. They submit these materials to Reggie via email.

Between Pre-Baseline and Phase One, Reggie evaluates the three learning materials from PSY210 and prepares a comprehensive report highlighting the accessibility affordances and barriers to access that he encountered in each material. Reggie notes the software and hardware he used as well as any settings that may be relevant to understanding the conditions under which the materials were evaluated (e.g., 10X magnification with screen reading software set to read at 100 words per minute).

The Phase One report also includes technical guidance and recommendations on how Teagan can mitigate the barriers that Reggie detected. For instructor-created materials, in this case the PowerPoint file, Reggie provides guidance on how Teagan can adjust the design features and formatting of the material so that it is more accessible for blind and partially sighted users. For instructor the textbook chapter and journal article, Reggie highlights accessibility challenges and areas for concern and provides recommendations on how to evaluate materials for the presence and quality of essential accessibility affordances (e.g., text-based descriptions for non-decorative images).

Phase One – Baseline. Reggie and Teagan meet virtually to review the contents of the Phase One facilitation report. Reggie also takes Teagan through worked redesign examples for the PowerPoint file. Through these worked examples, Reggie has, in

effect, remediated the instructor-created material. Reggie also draws Teagan's attention to some of the access features and functionality that he recommends they consider when selecting which learning materials to assign.

Phase Two – Intervention [Materials Evaluation]. Three weeks before the start of the next term, Teagan submits another set of learning materials to Reggie. There is a new PowerPoint file that Teagan has recently created, along with journal articles in EPUB format and PDF. Reggie evaluates the accessibility of these materials and generates a report.

One week before the start of the term, Reggie and Teagan meet virtually to review the contents of the report. In Phase Two, Reggie identifies access affordances and barriers and refers Teagan to online resources where they can find strategies to mitigate barriers. Reggie provides a very limited set of worked examples, prioritizing only the most complex access barriers detected in the learning materials.

Phase Three – Intervention [Evaluation in Context]. Three weeks before the start of the subsequent term, Reggie evaluates another set of learning materials. Instead of submitting the learning materials directly to Reggie via email, Teagan grants Reggie access to the course LMS. Reggie accesses the identified materials in situ. Wherever possible, Teagan now opts for journal articles that are available in EPUB format and so opted not to identify a PDF. Reggie generates a facilitation report, this time largely emphasizing hyperlinks to online resources where Teagan can independently investigate solutions to barriers. Reggie also comments on affordances and barriers encountered within the LMS environment.

One week before the start of the term, the dyad meets again via a virtual platform to debrief the contents of Reggie's report. This report contains no worked examples of solutions, only sets of affordances and barriers to access. Reggie and Teagan discuss these findings, with Reggie recommending resources as needed.

Phase Four – Maintenance. Two consecutive academic terms pass where the dyad does not meet. Three weeks prior to the third term since Phase Three, Reggie and Teagan meet. No materials are submitted in advance or access granted to the LMS ahead of this meeting. Teagan identifies three learning materials within the LMS

environment and Reggie searches for and interacts with these materials using the think aloud method. Following the think aloud phase, the dyad debriefs the experience.