Document Landscape: Exploring What Shapes Disabled Students’ Experiences in Practice-Based Education

Paysage documentaire : explorer le façonnement des expériences des étudiants et étudiantes handicapées dans l’enseignement fondé sur la pratique

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Author Note
No potential conflict of interest was reported by the authors. This project was funded by a Social Science Humanity Research Council (SSHRC) Insight Development Grant. We would like to thank the following research assistants for their dedication and support throughout all aspects of our research. Thank you Ishaq, Pei, Sarah, Brenna, Michelle, Virginia, Samadhi, Elvira, Lalezar, and Saba.

Abstract
Disabled students often face challenges in effectively meeting their learning and practicum requirements, even though institutions have policies in place to support access. Practice-based learning helps to ensure students have acquired sufficient practical knowledge of the field. It is
used in many disciplines for effective skill development, and is mandatory for some accreditations, particularly in healthcare professional training. A wide array of documents (information artifacts) has been produced in connection with efforts to mitigate practice-based education access barriers. Organizational challenges, including availability and distribution of effective documents, have led to ongoing inaccessibility. In this work, we put ourselves in the shoes of a student and imagine what documents would appear if a student were to self-search for resources that were available on the internet. We assembled a corpus of such documents \([n=43]\) and conducted a qualitative analysis of document form and content. Three themes emerged from the form of the documents: (1) across all artifacts reviewed, students were absent from production and authorship; (2) limited documents were directly related to practice-based education; and (3) higher education institutions grapple with tensions in the choice of media as this selection can affect how the documents operate within their communities. Looking at the content of the documents we found that (1) barriers to access are often described as the responsibility of the disabled student; and (2) the vast majority of documents require, expect, or presume disclosure of disability status to be a prerequisite to access, revealing a reliance on a medical/individual model of disability. We conclude with a reflection on how the form and content of the documents may shape disabled students ‘experiences in practice-based education.

Résumé
Les étudiants et étudiantes handicapées ont souvent du mal à répondre efficacement à leurs exigences d’apprentissage et de stage, même si les établissements ont mis en place des politiques pour favoriser l’accessibilité. L’apprentissage fondé sur la pratique permet de s’assurer que les étudiants et les étudiantes ont acquis une connaissance pratique suffisante du domaine. Cette approche est également utilisée dans de nombreuses disciplines pour le développement efficace des compétences et elle est obligatoire pour certaines accréditations, en particulier dans la formation des professionnels de la santé. Un large éventail de documents (artefacts d’information) a été produit dans le cadre de travaux visant à atténuer les barrières d’accessibilité lors de l’enseignement fondé sur la pratique. Les défis organisationnels, notamment la disponibilité et la distribution de documents efficaces, ont conduit à un manque d’accessibilité continu. Dans ce travail, nous nous mettons à la place d’une personne étudiante et imaginons quels documents apparaîtraient si elle devait chercher elle-même des ressources disponibles sur Internet. Nous avons constitué un corpus de ces documents \([n=43]\) et procédé à une analyse qualitative de leur forme et de leur contenu. Trois thèmes ressortent de la forme des documents : (1) dans l’ensemble des artefacts examinés, les étudiants et les étudiantes étaient absentes de la production et de la paternité littéraire de ces documents; (2) un nombre limité de documents étaient directement liés à l’enseignement fondé sur la pratique; et (3) les établissements d’enseignement supérieur sont aux prises avec des tensions dans le choix des médias, car cette sélection peut affecter la fonction des documents au sein de leurs communautés. En examinant le contenu du document, nous avons constaté que (1) les barrières d’accessibilité sont souvent décrites comme étant sous la responsabilité de l’étudiant ou étudiante handicapée; et (2) la grande majorité des documents exigent ou présument que la divulgation du handicap est une condition préalable pour recevoir un accomodement, révélant une dépendance à un modèle médical/individuel du handicap. Nous concluons par une réflexion sur la façon dont la forme et le contenu des documents peuvent façonner les expériences des étudiants et étudiantes handicapées dans l’enseignement fondé sur la pratique.
Keywords

Practice-based education; Practicum; Disability; Students with disabilities; Qualitative review

Since the United Nation’s declaration of the Convention on the Rights of Persons with Disabilities (2006), there is evidence of an increase in disabled students in higher education institutions (HEIs). For example, Canada, the UK, Australia, and the USA have reported an increased number of disabled students; these students currently comprise approximately 8.8% of the student body (McCloy & DeClou, 2013). All HEIs are required to provide reasonable accommodations that respect a student’s dignity, allow full participation, and provide equitable learning experiences (Ontario Human Rights Commission, 2018; United Nations, 2006). These requirements emphasize that reasonable accommodations do not lower the bona fide academic standards (such as skills and knowledge) that one must demonstrate to successfully pass a course and, consequently, to work in a given sector.

To receive accommodation, disabled students must be registered with a student accessibility services (SAS) office. However, access to SAS and to university support is challenging (Aubrecht, 2019). Many disabled students describe feeling stigmatized and fear being identified to others if they disclose to their institution (Epstein et al., 2020). These concerns are particularly pertinent in health-professional programs, as some professions carry the requirement for practitioners to self-identify to their regulatory body if they have a disability (College of Nurses of Ontario [CNO], 2019), which has shown to stigmatized and exclude

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1 In this article, we use identity-first language (and the term disabled students) in line with the preferences of team members who identify in this way. The authors acknowledge that other forms of language, such as students with disabilities, may be preferred by some. In this paper, we refer to non-disabled students and disabled students as students.
students and affect their ability to practice (Epstein et al., 2020). Thus, we estimate there are more disabled students in HEIs than reported.

*Practice-based education* is a broad term encompassing various HEI program requirements including, but not limited to, clinical placement, practicum, and fieldwork. According to a Statistics Canada report on the graduating class of 2015, 50% of students participated in practice-based education during their studies (Galarneau et al., 2020). In Ontario, Canada, each HEI is responsible for developing their own accommodation-policy documents, and usually administrators and SAS staff are appointed to implement their policies and procedures. HEI programs, SAS offices, and other stakeholders produce an array of information artifacts in connection with efforts to mitigate practice-based-education access barriers. Equitable access to practice-based education has yet to be attained, and health programs with practice-based requirements are among the least likely to provide accommodations to disabled students (Howlin et al., 2014). Among the challenges facing disabled students and educators are fears of being stigmatized and inadequate confidentiality, along with lack of clarity and consistency regarding the meaning of clear and reasonable accommodations in practice-based education policies (Howlin et al., 2014). SAS offices may face challenges in understanding and implementing the policies due to gaps and ambiguities in the accommodation policies for students in practice-based education specifically.

The study presented here is part of a larger project that seeks to investigate student experiences in the context of health practice-based education (e.g., social work, nursing) in relation to inclusion, accessibility, and accommodation and to use the knowledge gained to develop effective design interventions. The first study, described here, investigates digital documents that currently exist for disabled students in HEIs. We use the term *documents* broadly
to include information artifacts and other resources because they play a role in shaping the experiences of those navigating the complexities of practice-based education. These digital documents produced by HEIs and practice-based educational sites are designed for a variety of stakeholders, including students, staff, and upper management at practice-based educational sites, and faculty and staff in educational institutions. This study (a) posits that these documents represent a significant dimension of the way stakeholders communicate information about accommodations in practice-based education, (b) investigates the content of those communications, and (c) explores the essential relationship between the form and content of documents. We recognize that publication of a document is an act that can simultaneously serve multiple objectives, such as providing information needed by community members, discharging institutional duty, and signalling institutional stance.

**Literature Review: Disabled Students and Practice-Based Education**

Environments that afford practice-based education provide students with vital real-life experiences which in many instances cannot be replicated in the classroom or lab settings. All entry-to-practice health programs include a requisite number of practice hours, during which students must successfully demonstrate their knowledge and their ability to perform skills in relation to their health profession's standards (CNO, 2012). In some programs, such as those at the post-graduate level, practice-based education is not mandatory for successful graduation, but is beneficial for providing successful transition to employment (Brooks & Youngson, 2016). Thus, practice-based education is a crucial component for many career paths, especially in health, and the scarcity of accommodations for disabled students in practice-based health
education has significant implications for accessible and equitable opportunities upon graduation.

Research examining the accessibility of education has established that, across HEIs, there is a narrow set of prescriptive actions students must undertake to acquire accessible educational experiences. In almost all cases, the primary route to accessible education is through individualized accommodations, which serve to adapt the learning environment or the learning experience for a particular student. In most cases, for disabled students to be eligible for and to receive these accommodations, they must follow and satisfy a prescribed series of steps (Horkey, 2019; Toth & Dewa, 2014), including initiating the accommodation process through disclosure at SAS (Barker & Stier, n.d.; Yarbrough & Welch, 2020). Disclosure is predicated on a medicalized/individual model of disability, which requires the student to identify their disability status and to provide documentation (most often medical and/or psycho-educational), as set out in the SAS’s intake process. While all students in practice-based HEIs are entitled to meaningful access and inclusion, the accommodation policy puts most of the burden on the disabled student (Epstein et al., 2020).

Research has shown that undertaking an accommodations process involves additional time and workload for students (Yarbrough & Welch, 2020). Disabled students are often expected to shoulder significant responsibility in the process of receiving reasonable accommodations (Epstein et al., 2019, 2020). This process of ongoing self-advocating can be stressful and inequitable (Patwari et al., 2020) as some programs lack sufficient resources to provide accommodations (Tee et al., 2010). Despite an increase in the number of disabled students in HEIs, accommodation resources may not be available to many of them; others who decide not to
disclose are left to navigate the complexities of HEIs alone (Patwari et al., 2020). There is a lack of acknowledgement of or attention to the experiences of these students (Patwari et al., 2020).

Several authors (Epstein et al., 2019, 2020; Gregg et al., 2016) have suggested that, although disabled students have significant expertise with what they will need to succeed in practice-based education, the onus should be on HEIs to build supportive networks and develop clear policies and tools to increase accessibility. One of the ways institutions have begun to combat structural stigma is by engaging with the concept of Universal Design (UD; Hamraie, 2017). UD focuses on creating a physical space that is accessible to all. UD has been moving into learning spaces and is used to encourage institutions and instructors to create learning environments accessible to all, thus decreasing the need for disclosure and accommodation.

Current literature suggests that policies and tools remain fragmented and inconsistent within and across institutions (Saltes, 2020). Some practice-based education sites have no accommodation policy documents, while others have poorly defined accommodation policies. This situation leads to debate regarding institutional obligations to produce these documents (Mykitiuk & Sheldon, 2020; Patwari et al., 2020). The multi-institution structure of practice-based education complicates these issues. Practice-based education occurs in diverse places outside the classroom (e.g., hospital, community, and homecare sites), yet HEIs 'accommodation policies typically do not explicitly address the needs of practice-based-education settings (Meeks et al., 2019). A solution proposed to address this issue is to produce documents that aim to train students, faculty, and staff how to communicate about accommodation needs (Langørgen & Magnus, 2020; Levey, 2014; Tee et al., 2010).

Some research has considered the role that documents have in this environment, but the focus has been only on the content of the documents (Uzunboylu, & Özcan, 2019). Little
attention has been given to the form (e.g., physical form, language style, and other material attributes) of the documents such as the relationship between form and message (Massengale & Vasquez, 2016). In this paper, we reflect on both the content and form of documents and how they shape disabled students’ experiences in practice-based education. The form and location of documents play a role in how documents mediate and reproduce power relations. Van Dijck (2009) has shown that when developing virtual documents, the producer has the power to decide if a user’s role in these documents will be passive (i.e., users will only be recipients of the information) or active (i.e., users will be allowed to critique, modify, collaborate on, or create information). The level of control executed by the producer can reaffirm power relationships between producer and consumer—in this case institutions and disabled students.

A Student Perspective Approach

Our project team's objective is to advocate for accessible education for all and to support disabled students in their learning processes, irrespective of the extent their disabilities are legitimized by medical diagnosis or disclosure of disability status. This approach differs from dominant institutional approaches, which often rely on a medicalized/individual model of disability wherein access to accommodations processes is mediated by a medical diagnosis and students must advocate for themselves and seek supports (Stephens, Ruddick & McKeever, 2015). Engaging a more holistic and critical perspective on disability is one of the techniques we use to understand the limitations of the current dominant institutional approaches (Hamraie, 2017; Kafer, 2013). Thus, the approach we use is a social/environmental model in which we understand disability to arise in the arrangement of material and discursive relations, or the coming together of ideas, material forms, and bodies (Stephens et al, 2015).
With this objective and approach in mind, we undertook a study to identify and analyze the document environment surrounding accessible practice-based education for disabled students in HEIs. The premise was to put ourselves in the shoes of a student and imagine what documents would appear if a student were to self-search for resources that were available on the internet. Document analysis is a procedure used to collect, review, map, analyze, and synthesize documents’ implicit and explicit messages and knowledge-production implications (Bowen, 2009). We understand document to be any symbolic representation that can be viewed and retrieved for understanding processes, issues, and experiences surrounding accessibility in practice-based education (Altheide & Schneider, 2013). We also understand documents to be a site of discursive ideas and material forms that are part of the relations that shape experiences and understandings of disability.

We employed a four-phase iterative process of Qualitative Document Analysis (QDA), as adapted from Altheide and Schneider (2013): (1) document retrieval, protocol development, and data collection; (2) code/attribute development and coding; (3) reflective analysis and data visualization; and (4) reporting of results. The content of these steps sits at the intersection of thematic analysis and content analysis. This is, at the core, a qualitative (interpretive) approach that uses descriptive statistics and limited quantification (e.g., theoretical sampling) to test and explore the data. Phase 1 included document retrieval to engage the documents in a reflective and iterative way to generate hypotheses about the most relevant attributes to track. Phase 2 involved coding development; a set of raters, working independently, applied codes to the documents, achieving some degree of interrater reliability. In Phases 3 and 4, we used limited quantification strategies and data-visualization techniques to help us reflect on what this coding revealed about the documents and to guide the reporting of results (Wood et al., 2020).
**Corpus of Materials and Document Retrieval (Phase 1)**

Document assembly focused on documents pertaining to accessible practice-based education in the HEI context. Our search strategy utilized medical subject headings and key search terms ("accommodation," “clinical placement,” “disability,” “disabled students,” “field placement,” “placement,” “practice-based education,” “practicum,” and "students with disabilities"). Our searches were mediated by the top two search engines (Google and Bing) on the open World Wide Web (WWW); in order to most closely represent the documents available to students, we did not search behind paywalls or within organizations ‘intranets. Search engines commonly use one’s current location (device location and IP address) to tailor search results; we therefore expected our search results to yield documents relating to our geographical location in Ontario, Canada.

We expanded our search criteria beyond those including the specific term *practice-based education* to better include relevant documents. Examples of these relevant documents include the Ontario Human Rights Commission’s *Policies on Ableism and Discrimination Based on Disability* (2016), and *Policy on Accessible Education for Students With Disabilities* (2018). We also consulted a document-retrieval librarian to further guide our search and subsequently expanded our search strategy to include key search terms ("experiential learning” and “experiential learning practicum”) and wildcard keywords (accessib* OR disab* AND “academic” OR “post secondary” OR “postsecondary”).

We used an iterative review process with five team members to develop an inclusion-and-exclusion protocol for documents. We limited our search to digital materials on the WWW to
mitigate issues of accessibility and retrievability. We collected documents between September 2019 and November 1, 2020.

A theoretical sampling strategy was employed to aid in the selection of documents. We included accessibility policies from HEIs and practice-based education sites. The team then located the remaining documents and verified their relevance to the principal inquiry.

Our final corpus of documents contains publicly available, multi-disciplinary, Canadian documents, including HEI and practice-based education site policies, research reports, guidelines, videos, blog posts, web pages, and PDFs. In addition, following criteria outlined by Bowen (2009), we ensured our primary documents were readily accessible, cost-effective to compile, and ideal for multiple reviews.

In total, a sample of documents (n=43) comprised our corpus (see Appendix 1). Each document was assigned a unique document identifier (DID) and digitally archived. The corpus information was managed using the bibliographic database Zotero, which allowed the corpus to be maintained in a central location and reviewed simultaneously by multiple team members. Each Zotero entry was tagged with the document’s DID. We excluded international documents, which have differing legal contexts and purposes (e.g., the duty to accommodate).

**Code Development and Application (Phase 2)**

When developing the coding scheme, we incorporated both an inductive qualitative process of immersion and document familiarization, and a deductive approach similar to that of Fereday and Muir-Cochrane (2006). This approach made provisions for nuanced concepts of *producer* and *consumer* of digital documents. Overall, our coding scheme was guided by questions regarding what the purposes of the documents are, how they function, what they mean, and what
they may be silencing. As a group of multi-disciplinary scholars, our analysis was also broadly informed by understanding of ablism from a critical disability lens. Ablism is defined by Goodley (2013) as the characterization of people who are identified with disabilities as inferior. We used this understanding to help us identify inequity in the document landscape.

The documents 'forms, attributes, content themes, and corresponding code values were refined in an iterative process; three research assistants coded the data independently. Using majority consensus, the five research team members finalized the coding of the corpus of documents. We employed a flat file to organize attributes and code values in a database table, with one record per document (each column corresponding to a distinct attribute). Each record’s primary key was the DID, and the table was cross validated with the Zotero library.

**Reflective Analysis and Data Visualization (Phase 3)**

Once documents were coded, the research team engaged with the results to uncover emergent themes and findings. Using visualization (see Figures 1, 2; Tables 1, 2) the analysis attempted to answer the central research question, what can we learn about the accessibility of practice-based HEIs and their approach to facilitate access for disabled students by examining the form, character, and content of the documents related to this process?

The team used limited descriptive statistics and data-visualization techniques to see trends and derive results. We investigated the content of common documents to understand better what the trends might mean and reflected on what they revealed about the document landscape in practice-based education and the accessibility of practice-based education. The analysis was an iterative process of retrieving resources and naming attributes and was shaped by previous understandings of issues found in the accessibility of practice-based education (Goodley, 2013).
Results of Review of the Documents 'Form and Content (Phase 4)

Form Attributes

In coding the forty-three documents, we focused on several different form attributes, which are each described below.

Media Format Description. The dominant media formats of the documents were PDF (n=18) and html (n=23), along with a small number (n=2) of videos, hosted on YouTube or Vimeo (e.g., D049 UNB | Supporting Clinical Learning for Nursing Students). The document form and content also identified the media’s producer and audience, as well as their relationship.

Producer. The documents’ producers were mainly HEIs, including universities and colleges (n=27). See Table 2 more details. The remaining documents were produced by practice-based educational providers (n=4), partnership projects (n=3), government (n=3), associations (n=2), an independent (n=1), professor (n=1), not-for profit company (n=1), and organization (n=1).

Intended Audience. An explicit audience was identified in 27 of the 43 documents; of these, 14 explicitly targeted multiple audiences and 13 explicitly targeted a single audience. Across all explicitly identified audiences, students were most frequently targeted (n=17), followed by educators/instructors (n=15), staff (such as accessibility services office employees; n=9), institutions (such as universities, colleges, and practice-based education providers; n=7), and parents/guardians (n=1). None of the documents explicitly identified the general population as an audience type.

The remaining 16 of the 43 documents did not explicitly identify their intended audience; rather, they implied for whom their content was designed. Half of the documents (8/16) implied
a multiple-stakeholder audience, and the other half (8/16) implied a sole audience type. Across all the implicitly indicated audiences, the general population was most frequently implied (n=11), followed by educators/instructors (n=4), students (n=4), institutions (n=4), and staff (n=4).

**Inter-Dimensional Relationships**

To support this analysis, we prepared several information visualizations to illustrate the relationship among the seven dimensions of the form analysis: type of content, media format, producer, intended audience, degree of practice focus, education context, and country of origin.

**Producer, Content Type, and Audience**

First, we considered the specific question of who is producing what type of content for student audiences. To simplify this question, we aggregated the producers into the categories of HEIs and non-HEIs and the intended audience into categories of students included in the audience and non-student audiences; when aggregating, we included documents with both explicitly and implicitly indicated audiences.

**Producer, Content Type, and Content Format**

Table 1 summarizes the types of content provided in the documents and refines these results by producer and media format. The overview shows that *information* is the most common (12 of 43 documents) type of knowledge disseminated by all producers, followed by *guides* (n=9). Of all the guides created by producers, six are published in PDF form. Three government documents included in this review fall within the category of policy.
Producers and Practice-Based Education

Of the 43 documents in our corpus, eight (18.6%) focused on practice-based education. We found that none of the documents that discuss practice-based education were produced by hospital/practice-based education providers (see Table 2). Rather, the preponderance of documents with any degree of practice-based educational content was produced mainly by HEIs (n=13) and by third-party stakeholders such as partnership projects (n-2).

Student Audiences and Media Format

We examined the media formats employed when producing documents for student audiences and compared these with the media formats used for non-student audiences (see Figure 2). For documents prepared for non-student audiences, all producers employed the PDF format more often than other media formats. While non-HEIs also favoured PDF over html when producing content for student audiences, HEIs used html more than PDF to deliver content to student audiences. Additionally, we found that HEIs used enhanced forms of html to produce documents much more than non-HEIs did. When non-HEIs produced html documents, they nearly always used standard html tags. Finally, HEIs employed enhanced forms of html primarily when producing documents for student audiences.

Content Description

The primary type of content found within the documents was informational (n=12; e.g., D040, Accessibility Communication Services) (see Appendix 1). The other types of content included policies (n=6); guides (n=9); tools (n=5; e.g., sample scripts, such as D004 Disclosure Process); FAQs (n=3); reports (n=3); plans (n=2); working papers (n=1); procedures (n=1); and manuals (n=1).
Results of Thematic Analysis of Content

In addition to the attributes described above, we explored three thematic areas of document content. These codes were developed in response to three questions that facilitated an understanding of how accessibility processes and documents are underpinned by institutional approaches to understanding disability. (1) What do the documents describe as barriers to accessibility? (2) What model(s) of disability is/are most prevalent in the document? (3) Do any of the documents refer to UD and discuss how to implement it?

What Do the Documents Describe as Barriers to Accessibility?

We categorized the way the documents described barriers to accessibility into five groups. Of these responses 25.6% (n=11) did not discuss specific barriers. Of the remaining 32 documents, nine described systemic barriers (e.g., accommodation policy and guidelines; D048), five described physical barriers (e.g., the width of door entrances; D044), and five described social barriers (e.g., people’s attitude or stigma; D046). The most common (n=13) barrier was attributed to functional limitation through a medical/individual model perspective (e.g., the student’s responsibility to self-advocate; D043).

What Model(s) of Disability Is/Are Most Prevalent in the Document?

None of the documents explicitly identified the model(s) of disability that underpin how disability is understood or viewed. This is expected given that model of disability are not commonly part of explicit conversation except when using critical disability perspectives. Therefore, we considered the way a document framed the role of disability disclosure to be suggestive of the producer’s understanding of disability. We identified five emergent categories. Some documents were coded twice as they existed within more than one category. A total of
23% of the documents were unclear about their requirement for disclosure by students to obtain accommodation. The student has to disclose a medical diagnosis—that is the premise to be qualified for accommodation. The majority of documents encouraged self-disclosure to obtain accommodation (n=27; e.g., D044). Only two documents substantively discussed and applied UD as an alternative to disclosure (e.g., D033, D037).

Do Any of the Documents Refer to UD and Discuss How to Implement It?

As mentioned earlier, some institutions are attempting to address accessibility and accommodations for all students through UD. Within the documents, 42% (n=18) mentioned UD, showing the prevalence of the awareness of these principals within Canadian institutions. However, there were three separate ways UD was discussed within the documents: as an approach to support all students (n=7); as an approach to recognize individual students ’needs to accommodation (n=2); and as a tool in faculty training (n=9)

Discussion

In considering the above, several points stand out as noteworthy. First, there is little evidence of students being authors in the production of practice-based education documents. Second, the choice of the media format has implications for how the documents operate within the HEI and stakeholders that offer practice-based placements. Third, there is an absence of documents that solely or substantively address practice-based education. Finally, the content of these documents highlights the presence of the medical/individual model of disability and UD. We begin our exploration of these points by considering who the producers are.

Tension Based on Lack of Disabled-Student Authorship
The QDA revealed a lack of student involvement in the production and authorship of documents as none of the 43 documents produced for students were produced by students. The lack of student involvement highlights a need to consider whose voice is represented and whose knowledge is considered valuable when designing for accessibility in practice-based education. HEIs dominate the document production (n=27). It is concerning that disability is often written about rather than by people with disabilities; thus, the experience of disability appears as an object about which producers can have or gain knowledge, even as non-disabled persons (Titchkosky, 2007). This raises the question of who has expertise within the producer-consumer relationship. Given the importance of including representative voices in practice-based-education documents, all producers should create processes that include disabled students and practitioners during document creation and promote recognized authorship for all people (Van Dijck, 2009).

A lack of participatory authorship, combined with a tendency towards static guides and policies, can reinforce existing power relations and a top-down approach to maintaining the status quo. For example, HEI-created guides promote a single voice and create exhaustive and opaqueley worded documents which may help HEI's maintain power and avoid liability (Mykitiuk & Sheldon, 2020). This is a different goal than meeting the needs of students who may benefit more from targeted, easy-to-understand documents.

The QDA revealed that HEIs produced most documents within our corpus (n=27). This is unsurprising, given that students 'practice-based education is predicated on enrolment in an academic program offered by an HEI. Irrespective of who produces them, the documents should undergo pilot testing with their target audience(s) to identify and remove barriers, such as use of unknown jargon. It is important to acknowledge the diversity of experiences among students by providing documents that do not cater to a single mode of interactive experience.
Acknowledging the subjective experience of students is one step in establishing an accessible environment (Saltes, 2020). Producers, however, may not be inclined to create customizable user experiences, given the resources required to build in more depth, such as complex sets of tools and ancillary documents to support different experiences.

**Issues Due to Media Format**

We found three concerns regarding media format: the format itself, the document’s accessibility related to format, and the version of documents. The media formats chosen by producers often require their readers to deal with a large volume of text-based content; we found the default approach employed by HEIs was often to simply compose a large, comprehensive document and disseminate it in a PDF file (often large sized), leaving the users to navigate to the relevant sections themselves. The PDF file format affords dynamic presentation, even though the content is static. For instance, PDFs and standard html enable users to navigate documents via several operations, including scrolling and linking (i.e., navigating from an anchor text segment to a destination). Multi-linear exploration of the document is fostered through the collection of these affordances. Thus, document reading is an active mode of interaction (and not a passive mode of receiving content), as users perform actions—including browsing and searching for specific terms—designed to meet their individual goals. While the underlying content remains the same for all users, the user’s experiences will vary due to the presentation and navigational possibilities.

Some documents (e.g., D032) made use of extended presentation functionalities, such as side-navigation panels and accordion menus. These functionalities can require additional input actions from the reader to access the full document content, be incompatible with screen readers,
and require additional WCAG conformance testing. The study revealed only a small number of
documents that are dynamic in the content itself. These content-dynamic documents, despite
their initially appealing characteristics, present issues that have not been fully addressed. The
evaluation of the correctness and accuracy of the content tailoring needs to be transparent:
Document designers need to make assumptions about the document users. The techniques they
use to do this require extrapolation and heuristics which have been known to reproduce
normative assumptions. Relying on narrow ideas of normal or normative behavior is one of the
ways ableism is reproduced (Hamraie, 2017). In sum, the study demonstrated that content-
dynamic documents are used infrequently.

Another issue is the accessibility of media formats themselves. PDF and standard-html
documents are viewed and read via computing platforms (e.g., mobile devices) and via popular
software applications with established user bases (e.g., PDF readers and web-browsers). For such
popular platforms and applications, accessibility standards and auditing processes are well
established. This, however, is not always the case with the interactive widgets seen in connection
with some presentation-and context-dynamic formats. Formats that make use of extended
presentation functionality—such as fliphtml5, widgets with dynamic effects (including accordion
menus), and web-based forms—present accessibility concerns and must be carefully tested.
Evidence demonstrates that HEIs often do not conform to even the lowest level of web
accessibility (Hamraie, 2017).

A final issue is document version management. The choice of media format has
implications in terms of perceived and actual transience. The PDF format allows a document’s
meta properties— including date of publication, author, and version identifier—to be recorded
and displayed (Harding, 2010). In contrast, the html format is volatile, as any portion of the
content can be altered at any point without an explicit indication that a change has been made. It seems appropriate that the content will change over time; however, best practices have not yet been established for managing change for content-dynamic documents. The issue of versioning and document change/evolution is important, because these documents, as part of the basis for the student accommodation process, potentially may become part of consequential processes such as academic petitions or academic appeals, or even legal proceedings.

These issues all concern risk to the stakeholders, which must be considered and managed. In sum, the design choice to use interactivity in documents is a nuanced one and connects to several design tensions and trade-offs. The choice of media format has implications for the type of user experience that is provided, but producers must also consider the design tensions that exist among the attributes of tailored-vs-non-tailored content, accessibility, and document transience. The prevalence of large-sized PDF documents is a coarsely grained indicator of the way in which these design tensions have been resolved to date (i.e., to not provide content-tailoring). This study reveals some of the design tensions inherent in the choice of media format.

**Lack of Content on Practice-based Education**

We found that very few resources focused on practice-based education (18.6%) or focused on routes to accessible education that did not require students to disclose their status (4.6%). Given the importance of practice-based education and the strength of evidence regarding the need for more support in this area, this number is, surprisingly, disappointingly low. In endeavouring to explain this, we first considered the possibility of a “false negative” (namely, that while such documents exist, our corpus-construction process somehow missed them). Another possible explanation is that of entrenched normative assumption—that is, that most students who
participate in practice-based education do not require accommodations. Due to the design of this study, we do not have data on the underlying assumptions that informed the production of the documents in our corpus. Thus, we cannot eliminate this as an explanation. Another potential reason is connected to “relative need”: in other words, those who require accommodations are perceived to be engaged predominantly in non-practice-based educational programs, and those in practice-based programs are outliers who have not (yet?) received the institutional attention to which they are entitled. In sum, we find there is a paucity of resources focused on practice-based education and on routes to accessible education that do not require student disclosure.

**Tension Due to Disability Model and Universal Design Content**

The content of the documents highlights a tension between the use of medical/individual models of disability and the presence of UD. This suggests producers struggle to address accessibility needs in general, but specifically for educational placement. We utilized a relational perspective on ability/disability; we understand that the arrangement of form/material with discourse/ideas produces or inhibits action and ability (Stephens et al. 2015). The 43 documents reveal a heavy reliance on diagnosis and disclosure (part of a medical/individual model) and a strong sense that barriers to access reside with the (possible inaction) of disabled students themselves.

These medicalized/individual models likely represent a lower risk means for institutions to demonstrate the impact of accommodations processes and compliance with rights-based approaches to inclusion. But this approach is premised on problematic assumptions, such as that only students with documentation from a medical practitioner about their disabilities require or should have access to accommodations. Ultimately medicalized/individual models produce fewer options for flexibility, tailoring, or alternative pathways to access for students. The lack of
flexibility in pathways to access also means the system may be less prepared to address the needs of people with unique intersecting identities (e.g., racialization or class with disability), who are then more likely to be failed by institutional processes.

Given that over half of the documents demonstrate at least a passing awareness of UD, there may be an opportunity to shift the dominant approach to access found in these documents. For example, D037 and D033 suggest that UD can support the full participation of all students, regardless of disability diagnosis; in practice-based education, it can help to create a welcoming environment, better define expectations and roles, and support student learning. Document D037 suggests that “measures that accommodate students with disabilities tend to become, over time, measures that accommodate everyone” (p. 2). Another common way UD was engaged was as a tool in faculty training. In these cases, UD was either not mentioned often or only as a recommendation. Faculty training related to UD was connected specifically to the classroom. For example, Document D012 suggests that faculty follow UD principles of multiple means of representation, engagement, and expression while teaching, while document D019 includes UD in their “teaching strategy” statement.

We found two documents that engage deeply with the potential strengths and weaknesses of UD in the educational space—an approach that can add meaning to the content available (Mack, Stephens, & Epstein, 2021). For example, resource D033 cites UD 82 times. These more comprehensive approaches also tend to see UD in a more nuanced way, as a pathway to adapt learning to individual needs. D037 cites UD five times and suggests, “Recognition of the student's individual lived experiences . . . and inclusion legislation, policies, practices and guidelines must recognize the evolving nature of disability and accessibility for individuals over time”(p. 2). Document D048, which cites UD twice, reminds us that while UD can be beneficial,
if used as a template that fits all, it can exclude individual needs, as “even if an instructor follows all protocols for making a document accessible, a blind student may still require a textbook to be translated to braille (D048, p. 6).

**Connecting Form and Content: Implications and Recommendation**

Our work highlights how form and content of the document landscape can shape disabled students’ experiences in practice-based education. We found that more inclusion of disabled students, responsive document production, and critical and relational understandings of disability will allow for a wider range of ways of producing useful documents, which may be more empowering, equitable, and effective than current approaches. Although current practices produce *some* degree of access for *some* students, they lack intersectional and relational perspectives or disabled student input in document creation, resulting in many disabled students being unable to access accommodations. We invite institutions to encourage greater contextual, flexible, and responsive approaches to producing accessible education documents and embed this work within both the form and the content of the accessibility processes.

We recommend (1) developing a process for consultation with and authorship by disabled students and practitioners that is remunerated; (2) performing requisite document testing prior to full dissemination; (3) making several smaller documents when there is a large amount of information to help the audience self-tailor to their needs; and (4) integrating UD more fully into the design and content of documents.

Future research should consider assumptions as well as the experiences of the users and producers of these documents across multiple computing platforms and software infrastructures (e.g., screen readers). This work provides us with an understanding of what documents exist and
enables us to continue with the next steps of our project—an interview study, gaps analysis, and multi-stakeholder participatory-design process that we hope will generate meaningful techno-social interventions into the status quo.

**Limitations and Future Work**

QDA typically focuses on documents that are open access (Altheide & Schneider, 2013). In line with this, we chose not to include documents that would only be accessible behind publisher paywalls or through gatekeepers, such as HEIs, SAS offices, and human-resource departments of practice-based-education providers. Ensuring that documents can be accessed without a gatekeeper helps a broad range of stakeholders understand what is available to disabled students. Future studies can explore documents that are available only within institutions (HEI and clinical placements) or behind paywalls and compare, for example, how the accommodation policies of these institutions work together and who has to navigate and figure out to which institution’s policies disabled student should adhere.

There were further limitations in the search strategy used to assemble documents: we were restricted by time; our search was conducted via only two search engines; and our search terms did not include euphemisms for disabled students such as “special needs” or “differently-abled,” which occur frequently in non-scholarly and scholarly literature (Gernsbacher et al., 2016). We know from previous research that creating accessible practicum-learning environments does not always consider the accommodation processes or how it may contribute to the barriers that students experience (Epstein et al., 2020).
Conclusion

Our findings demonstrate that documents created to support disabled students’ access to practice-based education are limited both in form and content. Goodley et al. (2020) ascertain that “in spite of the potential for technological mediation to broaden access to education, there remains deep-rooted problems with exclusion” (p.515). Four themes were highlighted in this study: student involvement in document production and authorship is lacking and would benefit from student consultation during document production; documents directly related to practice-based education are limited; HEIs should give careful consideration to the media format they use as this selection can affect how the documents operate within their communities; and the presences of medicalized/individual models of disability and UD indicate a struggle regarding how to create pathways to access. Document production is not value-neutral (Harding, 2010). Producers would be advised to consider their choices in relation to growing knowledge about the effects of document formats on users, the goal of increasing accessibility in practicum-based education, and the conversations happening regarding UD that might affect both form and content. We are taking these findings into the later stages of our research project, where we will be guided by disabled students and professionals, for the creation of an intervention to make accessible placements easier for all involved.
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https://doi.org/10.15353/cjds.v8i4.535


https://doi.org/10.1080/03075079.2014.988702


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Appendix

Figure 1

*Who Produces What Type of Content for Student Audiences?*

[Bar chart showing document count by producer (HEI vs. non-HEI) and audience (Non-Student Audience vs. Student Audience) for different types of content: FAQ, Guide, Information, Plan, Policy, Report, Tool, Working Paper, Manual, Procedure, Tool.]
Figure 2

Who Produces What Form of Content for Student Audiences?

Table 1

<table>
<thead>
<tr>
<th>Type of Content</th>
<th>HEI</th>
<th>Producer / Media Format</th>
<th>non-HEI</th>
<th>Grand Total</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>html</td>
<td>PDF</td>
<td>Video</td>
<td>html</td>
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<tr>
<td>FAQ</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Guide</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Information</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Manual</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Plan</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Policy</td>
<td></td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Procedure</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Report</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Tool</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Working Paper</td>
<td>14</td>
<td>12</td>
<td>1</td>
<td>6</td>
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Grand Total
Table 2

Who produces practice-based education material?

<table>
<thead>
<tr>
<th>Producer (11 types)</th>
<th>Producer</th>
<th>Degree of Practice Focus</th>
<th>Grand Total</th>
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<tr>
<td></td>
<td></td>
<td>All or most</td>
<td>Some or almost none</td>
</tr>
<tr>
<td>Association</td>
<td>non-HEI</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Government</td>
<td>non-HEI</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Hospital/Placement Provider</td>
<td>non-HEI</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Not-for Profit Company</td>
<td>non-HEI</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Professor(s)</td>
<td>non-HEI</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Organization</td>
<td>non-HEI</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Partnership Project</td>
<td>non-HEI</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Student/Independent</td>
<td>non-HEI</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>University/College/Educational Insti</td>
<td>HEI</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>8</td>
<td>19</td>
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<table>
<thead>
<tr>
<th>DID</th>
<th>Document Citation</th>
<th>Discuss Universal Design Principle</th>
</tr>
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<tr>
<td>D001</td>
<td>Access Tracks l (n.d.) AccessTracks Supporting Students with Field Practicum Adaptations</td>
<td>Yes- Once</td>
</tr>
<tr>
<td>D002</td>
<td>Accessible Campus. (2017). Consideration of Student Accessibility When Teaching Outside of the Classroom.</td>
<td>Yes – twice</td>
</tr>
<tr>
<td>D004</td>
<td>Brock University (n.d.). Disclosure Process.</td>
<td>No</td>
</tr>
<tr>
<td>D005</td>
<td>Brock University (n.d). Disclosure Options for Students with Disabilities.</td>
<td>No</td>
</tr>
<tr>
<td>D007</td>
<td>Brock University. (n.d.). Student disclosure.</td>
<td>No</td>
</tr>
<tr>
<td>Document ID</td>
<td>Title</td>
<td>Availability</td>
</tr>
<tr>
<td>-------------</td>
<td>------------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>D008</td>
<td>Centre for Innovation in Campus Mental Health (2015). A Guide to Academic Accommodations and Managing your Mental Health while on Campus</td>
<td>No</td>
</tr>
<tr>
<td>D015</td>
<td>Durham College (n.d). Accessible Instruction for Educators UDL in Teaching and Learning</td>
<td>Yes- Once</td>
</tr>
<tr>
<td>D016</td>
<td>Faculty of Rehabilitation Medicine University of Alberta (2010) Student Accommodation/Illness/Students at Risk Procedures</td>
<td>No</td>
</tr>
<tr>
<td>D017</td>
<td>Fleming College (2018) Guide for Students with Disabilities on Placement</td>
<td>No</td>
</tr>
<tr>
<td>D018</td>
<td>George Brown (2018). Accessible Learning Policy</td>
<td>No</td>
</tr>
<tr>
<td>D019</td>
<td>George Brown (n.d.). Faculty FAQ.</td>
<td>Yes - once</td>
</tr>
<tr>
<td>D020</td>
<td>George Brown College (n.d.) Student accommodation plan.</td>
<td>No</td>
</tr>
<tr>
<td>D021</td>
<td>George Brown College (n.d.). Roles and Responsibilities.</td>
<td>No</td>
</tr>
<tr>
<td>D022</td>
<td>George Brown College. (n.d.) Student FAQ.</td>
<td>No</td>
</tr>
<tr>
<td>D026</td>
<td>Kayti &amp; Parker (2014) Disable the Label: Improving Post-Secondary Policy, Practice and Academic Culture for Students with Disabilities</td>
<td>Yes- Once</td>
</tr>
<tr>
<td>D027</td>
<td>Levey, P. (n.d.). From Classroom to Clinic: Negotiating Reasonable Accommodations in Clinical Settings</td>
<td>No</td>
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<tr>
<td>D028</td>
<td>McGill University (2017) Guidelines for learners in the Faculty of Medicine requiring academic accommodations or other guidance from the Office of Students with Disabilities (OSD)</td>
<td>No</td>
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<tr>
<td>D029</td>
<td>McGill University (n.d.) Process – McGill's Office for Students with Disabilities</td>
<td>No</td>
</tr>
<tr>
<td>D033</td>
<td>NEADS (2018). Landscape of Accessibility and Accommodation in Post-Secondary Education for Students with Disabilities</td>
<td>Yes- 82 times</td>
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<tr>
<td>D037</td>
<td>Rose (2010) Accommodating Graduate Students With Disabilities</td>
<td>Yes – 5 times</td>
</tr>
<tr>
<td>D039</td>
<td>Sunnybrook Hospital (n.d). Accessibility Policy.</td>
<td>No</td>
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<td>D040</td>
<td>Sunnybrook Hospital, (n.d.). Accessibility Communication Services.</td>
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<td>D042*</td>
<td>The Hospital for Sick Children (2017). The Hospital for Sick Children 2012-2016 Accessibility Plan.</td>
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<td>D044</td>
<td>The Michener Institute of Education at UHN (n.d.). Accessibility and Accommodation Services.</td>
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<td>D047</td>
<td>University of Alberta. (2020). Clinical Accommodations</td>
<td>University of Alberta.</td>
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<tr>
<td>D049</td>
<td>University of New Brunswick. (2019). UNB</td>
<td>Supporting Clinical Learning for Nursing Students.</td>
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<td>D050</td>
<td>University of Ottawa (2013). Diversity at the School of Nursing University of Ottawa.</td>
<td>No</td>
</tr>
<tr>
<td>D051</td>
<td>University of Ottawa (n.d.) Minimizing the impact of learning obstacles - A guide for professors.</td>
<td>Yes- Once</td>
</tr>
<tr>
<td>D052</td>
<td>University of Toronto Scarborough (2019). Student Manual - AccessAbility Services</td>
<td>No</td>
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<tr>
<td>D055</td>
<td>York University (2015). Faculty Resource Guide: Teaching Students with Disabilities</td>
<td>Yes once</td>
</tr>
<tr>
<td>D056</td>
<td>York University (2018). Accommodation Information For Clinical and Intensive Programs (Osgoode Hall Law School).</td>
<td>Yes once</td>
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<tr>
<td>D057</td>
<td>York University. (2019). Academic Accommodation for Students with Disabilities (Policy)</td>
<td>Yes once</td>
</tr>
<tr>
<td>D058</td>
<td>York University. (n.d.). Accommodating Disability: A Guide for Students, Faculty, and Staff</td>
<td>Yes once</td>
</tr>
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</table>

Note. At the time of publishing, some of these links D042, D043, D052, and D055 are no longer active hyperlinks. However, copies of the documents are currently stored within our database management software. There are updated versions of these documents available online, but those hyperlinks were not included as they would change the results of our data analysis.