

Accommodation Dispensing or Course Design Consulting?: Views and Experiences of Accessibility Consultants Contributing to Inclusive Course Redesigns in Postsecondary Education

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Abstract

There are growing demands to proactively support students with disabilities in postsecondary education. This article examines a mixed-methods study with accessibility consultants and other faculty in a community college pilot program focussed on redesigning courses to increase inclusiveness. Findings highlight the successful and well-received role of the accessibility consultants collaborating in redesign triads. Challenges experienced by accessibility consultants are also discussed, for example, around time allocation for this type of work along with their daily support of students. Recommendations for accessibility consultants involvement in expanding inclusive course redesigns are made, such as, including them more in the process of curriculum design and ensuring appropriate time for their participation.

Keywords: accessibility consultants, accommodations, inclusive course designs, postsecondary education

Introduction

For the past several decades postsecondary institutions in the western world have been employing specialized educators whose key role has been to support students with disabilities in accessing college programs and courses (Condra et al., 2015). The development of this specialized disability support services role has progressed in parallel with an increase in college enrollment of students with identified disabilities throughout this period. The National Postsecondary Student Aid Study in the 1995-96 academic year, among a large nationally representative sample of undergraduates reported that 6% identified as having a disability (U.S. Department of Education, 1999) whereas, in a more recent study, the university student population with disabilities was noted to be over 19% of (U.S. Department of Education, 2015).

These key staff members who support the students with disabilities in postsecondary education, are known by any number of employment titles depending on the institution or jurisdiction; examples include, Accessibility Advisor, Accessibility Services Counsellor, Disability Counsellor, Disability Services professional, and Accessibility Consultants (hereafter ACs) (College Committee on Disability Issues, 2016). They usually work within accessible learning units or broad student wellness departments of their institution and carry out a wide range of activities aimed at supporting student's approved accommodation needs and therefore their academic success generally.

Accommodations Process

Once students who self-identify and connect with accessible learning units to have their rights to accommodations approved and specified, the ACs communicate with teaching faculty this status (via formal accommodation letters or other formats). These communications also typically provide a list of approved accommodations that are identified to teaching faculty who are expected to implement these measures in a manner, appropriate and applicable to learning outcomes, in support of student achievement. While significant variability exists across institutions concerning the types and extent of offered accommodations (Lindstrom, 2007; Madaus et al., 2010), three common categories include: classroom-setting related (e.g., note-taking support, infrequent extensions, etc.); program or course specific (e.g., approval to enroll in a reduced course load, allowance for texts that may be required in alternate formats, etc.) and, testing situations (e.g., allotment of extra time on tests, usage of a testing service outside the usual classroom, usage of computers and related adaptive technologies).

This accommodations process has been widely criticized as being not only overly resource-intensive, individualistic, and retroactive but overall, as a continuation of the deficit model of disability (Moriarty, 2007) where adjustments are made which aim to allow a person “to fit into an established environment...” (Burgstahler, 2015, p. 9). This process has also been criticized for promoting marginalization of these students with disabilities via a form of segregated access (Burgstahler & Cory, 2008). Moreover, even where accommodation needs of certain students are suspected there have been several complicating factors in efforts to ensure that those who should have access to academic accommodations receive them. Indeed, such factors include significant delays in receiving assessments and a formal diagnosis, challenges in determining functional impairments that speak specifically to the academic environment, and the episodic nature of many impactful conditions especially those related to mental health symptoms (Condra et al., 2015).

One approach which has been described as a streamlined and proactive manner to greatly reduce the need for the many formalized and individualized accommodations relates to promoting inclusive classrooms by adopting Universal Design for Learning (UDL) principles and practices in course design (Black & Moore, 2019).

The UDL Framework

UDL has been described as a framework that aims to intentionally support the needs of all diverse learners (including those with disabilities or who are culturally and linguistically diverse). A stated key goal is to support the development of expert lifelong learners (Hall et al., 2012). UDL aims to diminish the need for adapting lessons in response to individual student accommodation requests, and to foster student independence by proactively building supports and flexibility into lesson plans, curricular resources, instructional practices, and assessment options (Ok et al., 2016). A widely adopted UDL framework includes three broad principles (i.e., Engagement, Representation, Action & Expression), nine guidelines and 31 checkpoints, intended to provide guidance on operationalizing or researching the incorporation of UDL (Hall et al., 2012). The checkpoints are based on neurological research and insights on how humans learn (CAST, 2019). Indeed, the framework is much more comprehensive than just allowing for goals of access to resources or learning opportunities for diverse learners. Instead, it reflects and encompasses a philosophy on what constitutes the signs of an expert learner. Based on an examination of the relevant research, the developers of the framework posit that expert learners are those who are purposeful and motivated, resourceful and knowledgeable and, strategic and goal-directed (Hall et al., 2012).

While support for UDL in higher education appears to be growing, there are few studies focused on the commitment and policy directives from such institutions (Hitch et al., 2015) or institutional-level approaches to integration (Fovet, 2021). Although UDL remains a formal goal in many western world higher education settings, there remains a need to understand and address the obstacles that constrain successful UDL integration at the course design and delivery level, as well as the institutional level (Ashman, 2010; Hitch et al., 2015; Vukovic, 2016). It has been noted that the literature is lacking in agreed-upon implementation ideas for the application of UDL principles in courses (Eric Moore, personal communication, January 10, 2020; Rao et al., 2014). In recent years, systematic criteria and guidelines have been proposed to provide uniformity to the investigation of UDL implementation (Rao et al., 2018). Furthermore, UDL has been increasingly viewed as a key framework for the inclusion of students.

Across North America, federal laws as well as provincial and state laws have been recently introduced to provide policy support for accessibility standards that identify, remove and prevent barriers for people with disabilities (e.g., Accessibility for Ontarians with Disabilities Act, 2005; Americans with Disabilities Act, 1990). Associations such as the National Educational Association of Disabled Students (NEADS) in Canada and the Association on Higher Education and Disability (AHEAD) in the USA have stressed the necessity of working towards a coordinated, national approach that both embraces disability and promotes barrier-free opportunities such as via universal design in the postsecondary learning environment (AHEAD, 2021; NEADS, 2018). As well, recently the United Nations' Committee on the Rights of Persons with Disabilities (2016) had encouraged the adoption of UDL among states party to the Committee. As noted, UDL is aimed at far more than just proactively addressing accommodation needs. It has been shown to support learners from equity-deserving groups, international students, first-generation students, and many others (Fovet, 2021) and been seen as a move toward sustainability in education (Fovet, 2017). Both, student self-advocacy toward greater inclusive practices and partnerships between teaching faculty and disability service staff such as ACs have been promoted as key to supporting greater implementation of UDL (Black & Moore, 2019; Buchannan & Smith, 2015; Cory et al., 2010; Kartovicky, 2020).

The Current Study

The roots of our pilot project can be traced to a desire shared by educators and administrators for greater support for students by encouraging UDL-informed courses to become widely available at a community college. The institution had recently committed to a comprehensive integration of the UDL framework within its strategic plan, but the question remained about ways to operationalize this commitment (Humber College, 2021). In the pilot project reported here, it was recognized that efforts might best extend beyond just the traditional expectation for teaching faculty to update or redesign their courses, often with the support of a teaching or innovative learning unit. It was decided that a novel approach should be attempted and measured, where the planned involvement of the ACs, with their specialized knowledge and experiences, might contribute. While the relatively new field of studies on inclusive design and UDL implementation, have utilized various approaches to redesigning courses (Dick et al., 2005; Fink, 2003; Morrison et al., 2001; Smith & Ragan, 2004; Wiggins & McTighe, 2005), with few exceptions (i.e., Buchannan & Smith, 2015) the professional literature has a dearth of information about the potential valuable and direct contributions that could conceivably be made by ACs within these redesign efforts.

The goal of the larger study, of which this current discussion is based, was to describe and evaluate the resources needed to adequately redesign courses in a community college using the UDL framework to provide guidance for future implementation of the UDL framework in higher education. Although data were gathered on the experiences of the other members of the interdisciplinary Triad team, this paper focusses solely on the perceptions and experiences of the ACs in the project to investigate and discuss their special roles in supporting students with disabilities. Our research question was: What are the ACs' experiences and perceptions of the benefits and challenges involved in course redesign using this project model? The research question aimed to help us better understand the role the ACs played in the process; and to assess the time commitment of ACs for this type of project.

Materials and Methods

Participants

Participants were three full-time ACs from the College's accessibility services unit who had an interest and/or a degree of knowledge with UDL. Each was invited by their administrator for potential participation, and voluntarily elected to engage with the UDL redesign project. ACs took part in the project as a part of their regular job duties for the semester. None of the ACs identified as a person with a disability (i.e., excluding minor sensory issues such as requiring the use of glasses). They had on average 11 years of experience (ranging from 3.3 to 20.3 years) in the AC role.

Setting

The setting was Canada's largest community college with over 33,000 full-time students and 25,000 part-time students registered in 2019-2020 (Humber College, 2021). The institution offered more than 200 full-time programs, approximately 200 part-time and, over 60 online programs 2019-20 (i.e., apprentice programs, baccalaureate degrees, certificates, diplomas, post-graduate certificates) from its six academic faculties, primarily operating from two main campuses (Humber College, 2020). The College attracts students from a large and demographically diverse metropolitan area with a population of over 5.5 million people where 46% of the population were born outside of Canada (Statistics Canada, 2011). According to the Associate Director, Accessible Learning and Counselling Services there were 3,269 students registered with the College's Accessibility Services unit in academic year 2019-2020 who were approved to receive a wide range of accommodations (Desta McCalla, personal communication, August 14, 2020). The approved accommodations typically ranged across three main categories: Classroom (e.g., note-taking support, infrequent extensions, etc.); Program / Course (e.g., a reduced course load, texts required in alternate format, etc.) and Testing (e.g., extra time, use of computers, etc.).

Procedure

In late 2019, a project committee comprised of the Director of the Innovative Learning unit, Associate Director, Accessible Learning and Counselling Services, three Associate Deans from different faculties, and the investigators met to discuss the proposed UDL course redesign project. A decision was made to adopt a model, which was a key context for this study, whereby ACs would join teaching faculty and a UDL specialist in working triads. The principal investigator and first author was a professor at the institution who was completing a brief partial secondment to the Innovative Learning unit during the study period. The second author was also a professor from a different Faculty and was not involved in the study design, implementation including interviews. The second author joined the research shortly after the conclusion of the project redesign period and was involved in all related analysis and manuscript writing. Prior to the study the authors had met or knew in a collegial capacity only, a few of the study participants. Later, the institution's Research Ethics Board approved the proposed study (#RP-0373) after a Board and institutional review. Three ACs were invited to engage in the study and were matched with three teaching faculty members (i.e., from different faculties) along with an innovative learning specialist with expertise in UDL. Following identification and recruitment of these participants, preliminary interviews were conducted separately with each AC (and the other project participants), ahead of a planned professional development session on UDL.

The project committee provided a framework for a phased approach to the four-month (January 2020 - May 2020) planned course redesign process. The approach followed previously developed and recommended UDL guidelines and criteria (Black & Moore, 2019; Rao et al., 2018) and some of the procedural topics outlined for integrated course designs and adapted to UDL (Black & Moore, 2019). Specifically, we modified the 'backward design' approach found in the literature (Wiggins & McTighe, 2005) by integrating UDL principles at each step as described by Black and Moore (2019). These steps were: 1) a focus on course outcomes (e.g., establishing clear relevant outcomes for the course and relating these to program learning outcomes); 2) intentional planning for the expected variability in potential learners; 3) designing flexible methods and materials, including assessment choice; and 4) designing the instructional experience to engage and scaffold learning, with ample opportunity for feedback to students and student agency to impact learning.

Following an initial focus on gaining knowledge about UDL via a professional development workshop led by an external UDL expert, four meetings were held approximately once per month, each related to the four steps or phases above. During these meetings, ACs had separate time to meet with their other Triad group members (i.e., a professor, an innovative learning consultant) to discuss progress and plan for next steps. Additionally, a few employees of the College were invited to these project meetings to share resources and supports (e.g., Librarians presented on how to create and find online resources and an accessibility technology trainer presented on creating accessible documents).

ACs and the other participants involved in the course redesigns completed and submitted weekly journals documenting the nature of and all time applied to the redesign activities using categories developed by the investigators. Just past the mid-way point of the project period (i.e., week 8), the public

health response measures to the COVID-19 pandemic required the College to pivot to online learning exclusively. The transition impacted this study, as ACs focussed on supporting their accommodated students during a one-week pause in the semester and a four-week pause in the study. This pause period has been removed from the activity time data, but its impact is reflected in qualitative data.

Interviews. Interviews were held with ACs once in the pre- (i.e., early December 2019) and post- (i.e., late June 2020) project periods, respectively. ACs pre-study interviews lasted on average 39 minutes (range: 31-47 minutes) and questions ranged from those relating to demographics to professional and training areas (e.g., professional credentials, affiliations, related professional development, etc.). In addition, information was gathered about their initial understanding of UDL (i.e., including a self-rating on this understanding), their experiences promoting and supporting students with approved accommodations. Finally, they were asked to identify any anticipated project facilitators and barriers and their hopes and expectations for participation. In the post interviews (i.e., lasting a mean of 37 minutes; range: 32-41) these topics were revisited based on their actual project experiences and they were asked to share ideas on improving any future similar project.

Time Use-Logs / Journals. A time-use log / journal, in both digital and paper versions, was constructed by the first author with input from the project committee members. It included twelve common activity types for which participants might spend their time working on the project and allowed for specification for any activity not anticipated. Participants were instructed to include time estimates in 15-minute units for any activity related to the project and submit them weekly. The instrument provided descriptions for all the identified activities to best achieve uniformity of completion. Some of these activities included: *Assessment Design*, *Document Search*, *Learning Outcome Design*, *Meeting Attendance (specify type)*, *Preparatory Self-study / Reading*, *Training Received (specify type)*, and *Travel Time*. Finally, a few qualitative questions were included at the end of the instrument (e.g., How did the week go?; Were there any perceived facilitators or barriers to your success this week?; What resources did you use?) to allow for the submission of further detail by participants. All participants were to be instructed on the proper completion of the logs at the first and second large group project meetings and thereafter by the first author on a one-to-one basis if challenges were identified.

Data Analysis. A mixed qualitative and quantitative approach was employed to analyse the project data. Interview transcripts were inductively analyzed using common content analysis procedures (Harry et al., 2005; Hsieh & Shannon, 2005). At the outset, the authors separately reviewed line by line, in-depth analysis for the purposes of identifying a preliminary set of codes from the two interview transcripts. The authors then met to discuss code categories, refine, and reconcile discrepancies until consensus on codes was reached. This process was revisited as coding progressed, at the conclusion. Descriptive analyses (e.g., frequency distributions, percentages) were performed for the weekly time use variables. Information on weekly time-use logs / journals about time spent and resources used by participants was aggregated.

Results

General Role Experiences

At the beginning of the project, ACs were asked to describe general work role experiences related to their student accessibility work that could inform the research. With many years of experience in their roles, the ACs reported that they often encountered faculty readily willing to adjust their teaching for students who were approved for receiving accommodations, for instance, through note-taking assistance, or extra time in test taking. As well, they noted that in recent years most teaching faculty made requisite efforts when approached by ACs to find and assign accessible readings and content. Not all teaching faculty were equally receptive however, even when the approved accommodations sought appeared to ACs as relatively uncomplicated to accommodate, such as allowing students to record in-class lectures or approve extra time on tests. Consequently, a common underlying theme expressed was the significantly high student caseloads ACs were assigned coupled with much of their time being spent inefficiently, in their views, attempting to achieve what they interpreted as basic accommodations, and yet, they sometimes still encountered barriers.

Common areas in which ACs reported significant challenges achieving accommodations occurred

when students were required to make presentations in front of classmates or when programs required work-integrated learning placements. In the case of placements, sometimes the teaching faculty members or College field placement staff were unable to identify appropriately-accommodated placements. Even when placements had begun, if a student required infrequent accommodations for an episodic condition or need, adequate accommodations within the partner agencies when such needs presented were not always forthcoming or deemed possible.

Benefits / Hopes for the Project

At the start of the project, ACs hoped that the project would lead to fostering some rethinking of pedagogy generally among teaching faculty and increase the inclusion of students with disabilities or advance the UDL institutional commitment generally. They valued the opportunity to both increase their own knowledge of UDL and its practical application and to contribute their expert knowledge about the increasing complexity and diverse needs of the student body. ACs looked forward to the opportunity to expand their knowledge of some of the considerations teaching faculty encounter in their jobs in general and particularly in their efforts to accommodate students.

In the long term, ACs hoped that the project would lead to addressing some of the challenges to their role sustainability. As noted, their role was described as very busy with supporting the provision of what they deemed basic accommodations to the many students on their caseloads. They voiced a preference that inclusive practices in the classroom become more widespread. ACs hoped that the project would assist the College and professors specifically to promote the inclusion of students with disability, minimizing the ongoing need for detailed approvals and resultant accommodation plans for relatively easy to accommodate aspects of courses. If this outcome were met, ACs could instead focus their attention on those students with novel needs that required more individualized planning and promote inclusive redesigns. This was expressed concisely by one participant: "I would be grateful if this work can move more into design consulting rather than, you know, accommodation dispenser."

At the end of the project ACs reported that their expertise was indeed utilized and for two participants their own knowledge of UDL theory and practice increased versus remained the same (i.e., from 2 to 6 out of 10; from 8 to 9 out of 10). It was also noted that the partnership between administrators and staff from the Accessible Learning Services and the Innovative Learning unit was not only a facilitator for the creation and execution of this project but an overall benefit of the project that could lead to ongoing and better planning, and potentially outcomes, for students.

Project Facilitators and Barriers

ACs expected that a number of factors would be possible facilitators of the project, and these included some systemic supports, specific participant factors, or resources. Systemic supports were the dedicated time allocated to the ACs and other participants and the administrators' support for the project generally, and the proposed design phases of the redesign project. As well, it was viewed that the alignment of the participants' goal to succeed and the sharing of a base knowledge and jargon related to UDL should prove beneficial. Finally, they believed that the willingness for the teaching faculty, to be open to suggestions and new knowledge, would act as likely facilitators.

Barriers predicted by ACs were the expected challenges in finding times for the project meetings due to the restrictive ACs' heavy and generally inflexible workload which includes student appointments throughout most of the day. As well, there were minor concerns that teaching faculty may not be receptive to AC input or indeed, the lack of some AC's knowledge of the specific courses to be redesigned or, their inexperience with teaching.

At the project's conclusion ACs identified many of the same facilitators that they had expected to contribute to the benefits at the outset, such as the dedicated time and collaborative involvement of all participants. They appreciated that the project had the support of administrators, that the project leaders included the creation of the triads (e.g., to encourage collaboration and multiple expert perspectives) and the provision of UDL resources and presentations on learning technology. As well, ACs appreciated that they were given, for the first time, access to the course development site through the learning management system (i.e., with which many had little to no previous experience). Perhaps the principal facilitator of their involvement and success was their own considerable expertise, such as professional skills and

knowledge related to working successfully with students with confirmed accommodation needs.

A barrier that the ACs anticipated and indeed experienced was the lack of time they had available to contribute, due in part, to demands of their other job duties and to the design of the project that did not arrange for longer meetings at the outset. Concentrated time especially at the beginning of the project was missing and was viewed as essential to helping the ACs understand the overall course (e.g., its aims / learning outcomes, the delivery approach and recently used assessment formats) as conceived and delivered in recent offerings. A further barrier to ACs' ability to engage was identified by ACs who had limited, to no previous familiarity with teaching and the related opportunities and challenges that may be experienced by professors. Finally, one AC identified a rigidity at the institutional level related to 'template' language on course outlines (i.e., "harsh" sounding language concerning punctuality and lateness) that they viewed as contrary to both the UDL framework and the College's policy commitment to UDL.

Course Redesign: Perceptions of Areas of Ease and Difficulty

Generally, ACs viewed the addressing of minor changes to Assessments (e.g., such as allowing for flexible due dates) and the creation of / or assignment of accessible documents such as readings, to likely be straightforward. Assessments that required groupwork or presentations - if they were tightly tied to an important learning outcome - were seen as likely to be very challenging to effectively alter since many of the students supported by ACs had significant though episodic needs making sustained group involvement or delivering presentations often difficult. Furthermore, changing or addressing institutional constraints were perceived as an area of major challenge. Such constraints could include the required due dates for posting final marks, and beyond the immediate scope of this study, limited financial resources available for allocating to professional training for faculty in practical skills or knowledge related to UDL aspects, or assisting teaching with resources supports to readily making documents accessible.

At the project conclusion, ACs noted that indeed the finding of adequate accessible documents such as assigned readings was a difficult area for the course redesign. As well, in some instances it proved challenging to redesign the formal Learning Outcomes in an adequate manner.

Activity and Time Contributions of ACs

ACs recorded for each of 14 weeks, their weekly-time contributions on a range of project activities (see Table 1). As one AC was connected to a Triad with a teaching faculty member who withdrew from the project just after the midpoint due to pandemic complications, the Table reflects contributions of that AC over only the first eight weeks of the project. Outside of scheduled large-group and Triad-specific meetings, the activity receiving most time was the provision of consultations to the teaching faculty team member. Other Activities most referred to the time taken to engage in the post-project interviews and secondarily, the time taken to set up Triad meetings. Of note, a number of activity options (e.g., Activity for Teaching Design; Assessment Design; Learning Outcome Design) received no specified time entries from ACs though some of the focus of the aforementioned consultations were on these topics.

Table 1

ACs' Combined Course Redesign Activities by Time Estimates (N=3)

Activity	Number of Entries	Hours	Percentage of overall time spent
Meetings Participation - Triad	8	12.25	27.1
Meeting Participation – All Participants	6	12	25.5
Consultations Provided	12	7.75	16.5
Other Activities	10	6.25	13.3

Activity	Number of Entries	Hours	Percentage of overall time spent
Preparatory Self-study / Reading ¹	7	3.75	8
Training Received ²	2	1.75	3.7
Travel ³	4	1.75	3.7
Training Provided	1	1.5	3.2
Total	50	47	100

Note. ¹Entailed learning about UDL theory and practical application. ²Included the formal time taken to learn a new skill or attitude, or to develop knowledge for the project, including by attending workshops. ³Transportation time to meetings or workshops.

The total time contributed per AC was approximately 19 hours; or an estimated 1.36 hours per week for the 14-week project. When asked about their perceptions on their activities, ACs reported applying most of their initial project time to learning more about UDL and later, to delving into the assessment approaches of faculty and then offering practical suggestions for offering flexibility to engage diverse learners. They also contributed significantly to the revisions of Learning Outcomes and helping teaching faculty expand their understanding of, and planning for, learner variability expected in the classroom. During the project, they noted having attended less focus and time on assisting with the selection of course readings.

Finally, though the intention was to hold large group meetings related to each of the four identified areas of course redesign (i.e., described above in the Procedures section) the pandemic impacted the holding of the final meeting regarding designing the instructional experience.

Suggestions for Future Redesign Projects

ACs were asked about what changes they would propose if a new collaborative project were to be designed to promote UDL-informed course redesigns. Their responses ranged from elements about the design of such a project, to views about the best manner to involve ACs. Specifically, all ACs identified a need for more concentrated time, at least at the outset, for project participants to familiarize themselves with the course to be improved, and to develop their collaborative working relationships.

The working triads created in our project were viewed as a major strength especially as they decreased a sense of isolation. ACs proposed keeping the triads model along with the flexibility in how each participant contributes. As well, it was suggested that flexibility in the sizing of these groupings (i.e., beyond 3 members) might be warranted especially in instances where a participating teaching faculty member was redesigning a course that a large group of other faculty would also be teaching simultaneously, and therefore, the project participant needed to consult widely before moving forward with planning.

It was suggested that ACs would be best involved in the consultative role that they had performed in this project, with the teaching faculty retaining the bulk of the responsibility as the lead in making the decisions on change efforts. One participant further specified that involving ACs who have teaching experience themselves or who have a particular interest in learning strategies would best inform their participation.

Final comments of ACs underlined earlier sentiments about the project providing a great opportunity for colleagues from Accessible Learning Services to collaborate with colleagues from the Innovative Learning unit. The project experience also reinforced views that redesigning courses with key components of the UDL framework was less daunting than many may believe. Finally, the ACs identified that a future course redesign project should extend its timeframe and focus to allow for the teaching of the course and be further informed in response to input from involved students.

Discussion

Promoting greater inclusion for students with disabilities has long been a goal of most western postsecondary institutions. Yet research has noted that even professors who express an interest in the development of UDL curriculum may not always evenly apply the relevant principles to their own teaching (Ashman, 2010; Lombardi & Murray, 2011; Lombardi et al., 2011; Lombardi et al., 2015; Vukovic, 2016). Therefore, identifying and engaging existing champions of inclusion in the setting, such as the ACs in this study, appears to be good practice; especially as efforts broaden to promote inclusion and UDL (Black & Moore, 2019; Buchannan & Smith, 2015; Smith & Buchannan, 2012).

In the relative infancy of UDL implementation studies in higher education, this is one of the few studies of its kind that methodically investigated the experiences and perceptions of ACs in a systematic manner during a one-semester redesign pilot project. A range of important findings were noted and may be relevant for consideration in advancing accessibility in higher education. Firstly, the time commitment of ACs was relatively brief at 19 hours per semester (1.36 hours per week). Given that one of the aims of UDL is to decrease the numbers of students needing full AC support because their accommodations would be readily embedded in course designs, this investment of time seems worthwhile and highly reasonable. Also, since much of the time reported was spent on learning about UDL it is expected that future application or expansions of the triads for these same ACs would require less professional learning time and therefore be even more richly focussed on the many redesign considerations. As well, the use of the small group collaborative approach via triads was not found in the literature.

There was strong endorsement of the process employed with the triads noted, and the proactive sharing of ACs expertise made available to the teaching faculty during this course planning. This endorsement of the Triad approach confirmed the views of the study's planning committee on a suspected positive way to proceed. More broadly, our findings clearly support those of many others in contending that progress toward more inclusive settings, including through the wide-inclusion of the UDL principles in courses, will be highly dependent on the support of administrators and backed by policies (Black & Moore, 2019; Buchannan & Smith, 2015; Burgstahler, 2015). As well, partnerships between our participating disability experts and teaching faculty have been shown here and elsewhere to represent a beneficial approach to advancing UDL and inclusion generally (Buchannan & Smith, 2015; Burgstahler, 2015). Indeed, partnerships such as that undertaken at Western Illinois University's Faculty and Staff Partnerships for Accessible Solutions, described by Buchannan and Smith (2015), entailed a series of co-facilitated workshops on UDL practices and applications that progressively allowed for a broadening focus beyond the classroom.

In our pilot study, ACs valued that each Triad member contributed something different to the process and collaborated in a constructive fashion; an important component realized by the Triad design. This approach also allowed for differing starting levels of familiarity with UDL as Triad members could support each other. ACs were able to meet the desired outcome of becoming more familiar with UDL and contribute their expertise around students' learning needs to the process. Furthermore, ACs were able to share with teaching faculty, ideas to redesign courses with diverse learners in mind and to consider how revising Learning Outcomes could contribute to meeting the needs of those students. However, in the end the faculty still drove the process and had to complete most of the actual redesign work. This was not reflective of any diminished commitment of the other team members but a result of the institutional conditions of the work of course redesign. Faculty members had access and familiarity with the learning management system (some ACs reported never having had access to it prior to this study), and direct responsibility for curriculum, meeting Learning Outcomes, completing course outlines and course delivery.

As anticipated at the outset by ACs, they often found their heavy workload with direct and indirect support to students on their caseload a challenge to their availability for attending meetings for the project, notwithstanding the support of their administrator. As well, the design of the project did not allow for concentrated time to be apportioned at the outset to quicken their learning about the courses (and the learning management software) to be redesigned and deepen the collaboration with groupmates early on. These two factors directly related to their recommendations for changes and are features that should be contemplated and likely altered in future iterations or launches of similar projects.

In addition, consideration also needs to be given to the limitations of course redesign placed by in-

stitutional realities and requirements. The course outline serves as a contract between the College and students of what learning outcomes will be met in the course; any deviation from this requires a formal process which cannot be undertaken by one faculty member on their own or completed quickly. Faculty members need to consult with other faculty that teach the course as well as having any changes approved at the department level. ACs contribution in this Triad model then is funneled through first the faculty member they are directly working with and given the usual employment responsibilities of teaching faculty versus ACs will likely need to remain.

The time use data seems to indicate that the project was not overly demanding in applied hours from ACs. However, administrators will need to place a value on this potential new role application for ACs while considering how their involvement may indeed reap considerable benefits toward success for their diverse learners. There is a need to look beyond the ACs direct unit for support to expand their role; upper administrators must weigh suggested benefits reported here alongside the institutional degree of policy commitment to overall student accessibility goals.

Several recommendations were identified by the ACs for possible future collaborative redesign projects and deserve summarization here:

- Concentrated time allocated at the outset of the project to set up the process
- Ensure that there is institutional support for the project. Time formally allocated for each Triad member for the project as part of their workload (i.e., For ACs not having student meetings booked during these times)
- Meet as a larger group with other triads to share experiences, insights, tips; creates a feeling of being part of a broader initiative
- Build in time for ACs to have more interface with the learning management system to ensure they are familiar with the tool used by faculty and students
- Provide formal learning opportunities about UDL for all participants, as well as, resources that can be accessed independently

Limitations

A few limitations are evident from our study and bear noting. The redesign efforts occurred over a relatively brief time-period (a single semester), and the limited number of participating ACs, though drawn from among interested members of the accessibility unit, may not be representative of the full complement of ACs. In addition, as noted earlier, the pandemic interruption at the mid-way point, led to unanticipated challenges wherein one AC was not able to continue as the teaching faculty member in their Triad decided to withdraw from the study to concentrate on the rapid shift to online teaching. Finally, the study was focused on the redesign period only. Formal evaluation of the redesigned courses themselves, including an examination of the course artifacts and feedback from students, was beyond the scope of this paper. And while the feedback of student perspectives on specific inclusive course features or more broadly on pressing administrators and faculty members toward greater and faster uptake of inclusive practices has been reported elsewhere (Cory, White & Stuckey, 2010; Kartovicky, 2020), neither was within the scope of this study. Furthermore, the perceptions and experiences of the teaching faculty participants are not explored here as they are the focus of a forthcoming manuscript. Finally, the negative impact on the study from the pause due to the Covid-19 pandemic is not likely to be repeated and, in any case, may not be easily planned for.

Future Research

The experiences of learners with confirmed disabilities as they engage with redesigned courses remains an area of high interest in need of more research. Since there appears to be a growing incorporation of UDL principles in course redesigns in Canada, the USA and elsewhere it will be important to study the outcomes not only for the learner but also for educators. Will this incorporation lead to increased levels of accessibility for a greater proportion of students with disabilities without the need for dedicated interventions by ACs? Future research is needed to determine if this is borne out and secondarily, to measure the degree to which any such transition occurs. Indeed, will ACs be newly able to channel more attention to an expected minority of students that may continue to encounter accessibility challenges in aspects of the course? Researchers should attend to the possible impacts that such a change brings to the role of the

ACs within higher education settings.

Conclusion

As efforts continue to promote accessibility to higher education there is an ongoing need to enhance our knowledge on myriad manners in which this goal can be achieved. This study aimed to involve and explore ACs' perceptions and experiences in a novel course redesign study that employed multidisciplinary triads. It is hoped that the lessons learned here can nudge us toward ever more important advances toward a barrier-free postsecondary sector.

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Appendix A

Appendix A1. Pre-Project Interview Questions

Topic	Questions and Probes
Experience / Training	How many years have you been teaching at the college level and in what capacities (full-time/ part-time)?
	What are all your relevant professional and teaching credentials, including professional affiliations / registrations / certifications?
	What UDL-related training have you completed and when?
	Views about Expectations, UDL Knowledge, Facilitators / Barriers
	How do you see the relevance of UDL in your role as an AC?
	What are your hopes and expectations for participation in this project?
	Please describe in your own words your views and understanding of UDL, such as the key features?
	How would you rate your current UDL knowledge out of 10 (where 0 = no prior knowledge; 5 = mid-range; 10 = expert knowledge).
	Imagine a course redesigned in the UDL framework. What do you think it would look like, what are some of the key features?
	When you think of the upcoming project over the next four months, please describe any issues, processes and or resources that could facilitate project successes?
	What things might prove to be barriers to the success of the project? (Probe: How might these be avoided, or addressed if they arise?)

Course Perceptions and Views	What do you think will be the easiest course related aspects, and the most difficult aspects, for the teaching faculty members to redesign / address?
Your AC Role	In your role, what are the kinds of student issues or concerns that you are typically encountering?
	In terms of accommodations that you've helped learners with, describe those that you think are some of the easiest and some of the most difficult to address and why?

Appendix A2. Post-Project Interview Questions

Topic	Questions and Probes
Experience / Training	Since our last interview, what, if any, new professional and teaching credentials, including professional affiliations / registrations / certifications have you attained?
	Since starting the project, what, if any, new UDL-related training have you completed?
	Views about Expectations, UDL Knowledge, Facilitators / Barriers
	How were your hopes and expectations for participation in this project met or unmet.
	Your initial self-rating of UDL knowledge was ____ out of 10 (where 0 = no prior knowledge; 5 = mid-range; 10 = expert knowledge). How would you rate your knowledge now?
	(Probe: What is your reasoning for this rating versus your original rating?)
	How has your involvement in the project affected your views of UDL?
	Please fill in the blanks in this sentence: "I used to think ____ about UDL. Now I think ____".
	Please describe in detail any issues, processes and or resources you encountered that facilitated successes of the project. (Probes: How available were the resources described? What helped the most? Was there enough access to sufficient supports?)

	<p>Please describe in detail any barriers you encountered that limited the success of the project.</p> <p>(Probes: Which ones had you anticipated and which ones hadn't you? What surprised you most about this? How did you address them? Were you successful - if yes how/ if not, why?; Describe any ideas you have for addressing these if there were to arise again?)</p>
Course Perceptions and Views	<p>Please identify strengths and weaknesses of the course as it was re-designed.</p> <p>(Probes: Which areas of the course are you confident are now strong in UDL framework? Which areas do you suspect might be weaker than ideal?)</p>
	<p>From your understanding, what were the easiest and most difficult things to adjust as you helped re-design this course in the UDL framework?</p> <p>(Probe: On what are you basing your views?)</p>
	<p>Is there anything left you wish you could have helped to improve further?</p> <p>(Probes: If so why were they left undone? What could have helped you address them? Which students are likely to encounter these weaknesses?)</p>
	<p>Please identify strengths and weakness of the course as it was re-designed.</p> <p>(Probe: Which areas of the course are you confident are now strong in the UDL framework and which areas do you believe are weaker than ideal?)</p>
	<p>Of all the project activities that you spent time on and logged in your time use journal, which categories occupied the greatest amount of your time?</p>
Your AC Role	<p>In what ways were you most and least able to contribute in your triad in terms of course redesign. So what ways, are you most able to contribute?</p>
	<p>How open to receiving feedback and advice was the teaching faculty member in your triad?</p>
	<p>In what ways were you most and least able to contribute in your triad's course re-design?</p> <p>(Probe: To what degree would you say your assets were requested, or employed in the triad?)</p>
Future Project	<p>Would you participate in a similar project in the future?</p> <p>(Probes: If yes, how would you suggest it should run differently? If no, why not?)</p>