Instructional Designers' Perceptions of Accessible and Inclusive Online Course Design

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Abstract
As online learning in higher education expands, institutions are challenged to meet the needs of diverse students. COVID has further emphasized the need for inclusive online course design for all learners, especially those with disabilities. We interviewed instructional designers about their perceptions, knowledge, and responsibilities in accessible and inclusive online course design. Results indicated that instructional designers are critical in advocating and advancing initiatives related to designing accessible and inclusive online learning experiences. Participants described a desire for increased support and resources to help facilitate an institutional culture shift toward proactive course design strategies.

Keywords: Accessibility, inclusive, instructional design, online learning, diversity, equity, access

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Online learning in higher education provides unprecedented educational access for diverse students, including those with disabilities (Rogers & Gronseth, 2021). However, even before COVID-19, institutions struggled to design courses that supported the needs of diverse students (Chen, 2017; Westine et al., 2019). Accessible course design is conceptualized as the technical requirements that ensure content and learning experiences are perceivable, operable, usable, and robust for all learners (Lowenthal et al., 2020; W3C, 2022). These requirements are technical and complex, leading practitioners often to seek additional frameworks and guidance (Seale et al., 2020). Increasingly, instructional designers are turning to inclusive design frameworks such as Universal Design for Learning (UDL) for strategies to reduce barriers for all students (Meyer et al., 2014; Seale et al., 2020). Many of the principles of accessible and inclusive course design overlap with principles of quality course design (Baldwin & Ching, 2021; Evmenova, 2021; Lowenthal et al., 2021) and good teaching (Rogers & Gronseth, 2021; Schelly et al., 2021).

Our experiences, coupled with recent research (Park & Luo, 2017; Rice & Dunn, 2024; Singleton et al., 2019; Xie et al., 2021b), suggest that instructional designers (IDs) are uniquely positioned to assist faculty members and institutions in creating accessible and inclusive online courses. Instructional designers are often critical in leading innovation and change by providing faculty development and support in online course design and teaching (Bond et al., 2023; Ritzhaupt, 2015). However, there is little research regarding instructional designers' perceptions, knowledge, and skills in accessible and inclusive course design (Lowenthal & Lomellini, 2023; Singleton et al., 2019; Xie et al., 2021a). Given this, this qualitative study seeks to fill this gap to help improve instructional design practices and support diverse students' learning in online environments. In the following paper, we present the results of our inquiry.

Background

Increased Barriers to Online Learning Caused by COVID-19

COVID-19 and the shift to emergency remote learning further complicated the delivery of accessible and inclusive online learning (Bartz, 2020; Burgstahler, 2022). Despite increased investments during the pandemic, digital accessibility was often overlooked (Anderson, 2020; Garrett et al., 2021). Courses not designed with accessible and inclusive strategies from the start often pose barriers for students, especially those with disabilities (Fichten et al., 2009; Gladhart, 2010; Kent, 2016). For instance, during the pandemic, many courses leveraged video and web-conferencing without accurate captions, transcripts, or interpreters to enable students with learning or hearing disabilities to participate effectively (Anderson, 2020; Bartz, 2020). Faculty members also relied more heavily on materials such as scanned textbooks and documents that may be inaccessible or present barriers to certain blind students, autistic students, and students with learning disabilities who use screen reading technologies (Anderson, 2020; Bartz, 2020).

Understanding the barriers faced by disabled students in online courses and implementing design strategies to reduce barriers before they impact learning requires collaboration and training for faculty members and instructional designers who assist in course design (Gladhart, 2010; Rogers & Gronseth, 2021; Tobin & Behling, 2018). Research suggests that typically, no one person or department is fully responsible for accessible and inclusive course design; instead, it must be a shared endeavor among disability services, faculty members, instructional designers, and institutional leadership (Behling & Linder, 2017; Fichten et al., 2009; Linder et al., 2015).

Disability service personnel who are not content developers often employ a reactive model where students must self-identify as disabled to be eligible for individual accommodations (Cory, 2011). Faculty members are content knowledge experts rarely trained in accessible and inclusive course design strategies (Burgstahler, 2022; Izzo et al., 2008; Linder et al., 2015; Xie et al., 2021a). Instructional designers, who either lead or assist in designing online courses, have the potential to encourage and support faculty members to use proactive inclusive design strategies (Lomellini & Lowenthal, 2022; Singleton et al., 2019; Xie et al., 2021a; Xie et al., 2021b); however, instructional designers may lack agency or authority to implement such strategies. Therefore, it is important to better understand instructional designers' perceived barriers and opportunities to help inform ID preparatory programs, improve ID practice, and, ultimately, better support diverse learners.

Instructional Designers and Accessible and Inclusive Course Design

The number of instructional design positions has grown recently (Bureau of Labor Statistics, 2022), and COVID-19 has accelerated this growth. The Bureau of Labor Statistics (2022) projects that the employment of training and development specialists will continue to grow during the next decade due to an increased need for employee training on new media and technology (Bureau of Labor Statistics, 2022).

Instructional designers take on many roles and responsibilities in higher education (Park & Luo, 2017; Ritzhaupt et al., 2021; Xie et al., 2021a; Xie et al., 2021b). They often act as consultants to not only train faculty members on new technologies and pedagogies but also to design or support the design of online courses (Halupa, 2019; Legon & Garrett, 2018). Additionally, instructional designers are frequently viewed as agents of change and innovation (Bond et al., 2023; Chongwony et al., 2020; Ritzhaupt et al., 2021). As change agents, IDs often advocate for accessibility and are pivotal in advancing related initiatives, including faculty development around accessible course design (Xie et al., 2021a). However, the consultative role of instructional designers can pose challenges because they can only recommend best practices to faculty (Halupa, 2019; Lomellini et al., 2022; Xie et al., 2021). Further, research suggests that instructional designers may have variable levels of knowledge of and commitment to advocating for accessible and inclusive online learning (Lowenthal & Lomellini, 2022; Singleton et al., 2019; Williams van Rooij & Zirkle, 2016). This could be partly due to the lack of focus on accessible and inclusive course design in current or past instructional design competencies (Klein & Kelly, 2018; Kumar & Ritzhaupt, 2017; Ritzhaupt et al., 2021).

Theoretical Framework

This study was grounded in the social and diversity models of disability that view disability as a social construction, a normal aspect of life, and a cultural identity in which people may take pride (Andrews & Forber-Pratt, 2022). The social model of disability centers on attitudinal, structural, societal, and environmental barriers in society instead of focusing on trying to "fix" or "cure" a person's body. The diversity model of disability extends the social model of disability by viewing disability as a unique and even valued characteristic. Proponents of the diversity model typically embrace terminology that celebrates disability pride (e.g., "disabled people") instead of choosing person-first language (e.g., "people with a disability"). The researchers acknowledge that disability models, language, and preferences are varied and

constantly evolving among the heterogeneous disabled community (Andrews & Forber-Pratt, 2022).

In this study, the social and diversity models of disability represent a departure from the traditional medical model of disability often used in higher education (Dolmage, 2017). Many universities require students to disclose and prove their disability to receive retroactive and individualized accommodations (Bogart & Dunn, 2019; Ginsberg & Schulte, 2008; Kumar & Wideman, 2014; Nieminen & Pesonen, 2019). This approach goes against data suggesting that disabled students often choose not to disclose their disabilities for several reasons, including fear of being stigmatized or stereotyped by their instructors and peers (Bartz, 2020; Black et al., 2015; Gladhart, 2010; Schelly et al., 2011; Shpigelman et al., 2021). In contrast, the emphasis on social factors and environments shifts attention toward the curriculum and the design of the learning experiences, making accessibility everyone's responsibility (Meyer et al., 2014). In this view, instructional designers, faculty members, and other administrators all play a critical role in designing and developing online courses that meet the needs of diverse learners, including disabled students. Thus, this study was designed to understand instructional designers—that is, the change agents on the "front lines" of course design—perceptions of the barriers and opportunities in creating accessible and inclusive online courses, which can not only improve practice but inform what instructional design and technology programs should be focusing on but are for the most part currently are not.

Methodology

We contend that instructional designers' consultatory role in higher education, combined with technical skills and the ability to influence change, puts IDs in a position to assist in designing accessible and inclusive online courses that meet the needs of diverse learners, including disabled students. There is a gap in the literature about instructional designers' experiences, the impact of COVID-19, and their knowledge and responsibilities related to inclusive online course design (Rogers & Gronseth, 2021). Thus, the purpose of this basic qualitative study was to understand IDs' perceptions of providing an increasingly diverse student body with accessible and inclusive online learning experiences. This study sought to answer the following research questions:

> RQ1: What are instructional designers' perceptions of designing accessible and inclusive online courses?
>
> RQ2: What are instructional designers' perceptions of how institutions are providing accessible and inclusive online learning experiences?

Research Design

Qualitative research design is best suited to understanding people's experiences and perceptions (Creswell & Poth, 2018; Merriam & Tisdell, 2016). Merriam and Tisdell (2016) describe a basic qualitative research design as based on constructivism and the belief that people continuously construct reality as they engage and interact with various experiences and phenomena in their environment. The focus of this study was to understand the experiences and perceptions of instructional designers (IDs) who design or support the design of online courses in higher education.

Positionality

It is important to acknowledge personal and professional experiences that may influence the research process (Creswell & Poth, 2018). The first author brings lived experiences as a disabled person as well as professional experience as an instructional designer in higher education. She has encountered opportunities and barriers to academic success related to her disabilities. Professionally, she has also spearheaded faculty development initiatives to improve awareness and implementation of accessible and inclusive course design. This passion for reducing barriers and reaching all students led her to research accessible and inclusive course design.

The first author's experience as an instructional designer provided an insider position that afforded her critical awareness, trust, and nuanced insight into the experiences of the research participants (Gair, 2012; Mohler & Rudman, 2022). However, she also differed from participants in important ways and intersectionalities. She negotiated this insider/outsider space through reflexivity and discourse with the other researchers (Mohler & Rudman, 2022). It was essential to reflect on her positionality as a disabled researcher and instructional designer while understanding that her personal and professional intersectionalities may differ from others (Mohler & Rudman, 2022).

Sample/Context

This study aimed to better understand instructional designers' perceived barriers and opportunities for designing accessible and inclusive online courses. Due to the nascent state of literature in this area and the exploratory nature of this study, we employed maximum variation sampling to highlight different perspectives (Creswell & Poth, 2018). We used LinkedIn and institutional websites to identify instructional designers from different-sized institutions of higher education across the United States of America. Ultimately, nine instructional designers from four large institutions (FTE enrollment of at least 10,000 students), three medium institutions (3,000 - 9,999 FTE), and two small institutions (1,000 - 2,999 FTE) (American Council on Education, 2022) responded to recruitment emails and were all interviewed by the first author. Participants' years of experience as instructional designers in higher education varied from two to eight years, with an average of 5.2 years of experience. All participants held master's degrees or certificates in education, educational technology, instructional design, or similar disciplines.

Data Collection and Analysis

After obtaining Institutional Review Board approval, semi-structured interviews were conducted by the first author via Zoom. Participants were asked questions like "How would you describe your knowledge and skills in designing accessible online courses?" "At your institution, who is responsible for designing accessible online courses?" and "What barriers do instructional designers face with designing and/or supporting faculty to design accessible online courses at your institution?" Participants were also asked for their job descriptions to help researchers understand their job responsibilities and perceptions. Of the nine participants, five provided their job descriptions for further analysis.

Interviews were recorded via Zoom, transcribed, and edited for accuracy. The first author also maintained a research journal by taking notes during and after each interview. NVivo was used to analyze data using an iterative and cyclical coding process to collect, condense, display, and draw conclusions (Miles et al., 2020). The first cycle included open-ended coding of

concepts that emerged from the data. Then, a constant comparison method was used to identify themes (Fram, 2013; Leech & Onwuegbuzie, 2007).

Reliability / Validity / Trustworthiness

Reliability, validity, and trustworthiness are essential in qualitative research (Krippendorf, 2004; Schrier, 2012). We used an interview protocol to increase reliability (Fowler & Cosenza, 2009). After the transcripts were edited for accuracy, they were sent to participants to verify their accuracy. To ensure validity, we allowed the codes to emerge from the data and be refined through cyclical coding (Miles et al., 2020).

Trustworthiness was established through honest, transparent, and thorough reporting of the research procedures and emergent themes. The first author remained nonjudgmental and empathic during the interviews to foster open communication (Miles et al., 2020). Further, this report discloses all sides presented, including confirming and discrepant data, to respect the diversity of perspectives (Creswell & Creswell, 2018).

Results

The results of this study are organized into the five themes that emerged from the data and are reported below.

- **Theme 1.** Instructional designers seek on-the-job training and professional development on accessible and inclusive course design due to the lack of focus on these topics in their graduate studies.
- **Theme 2.** Institutions expect instructional designers to not only be knowledgeable but also responsible for accessible and inclusive course design, and instructional designers are divided on whether they want or do not want to take on this responsibility.
- **Theme 3.** Instructional designers feel a growing emphasis on accessible and inclusive course design, especially since COVID-19, which has led some to improve their knowledge and skills.
- **Theme 4.** Instructional designers are critical in raising faculty awareness of the importance of accessible and inclusive course design.
- **Theme 5.** Instructional designers described how quality assurance frameworks, like Quality Matters, can help demonstrate the importance of accessible course design but can at the same time present barriers due to peer reviewers' lack of knowledge.

RQ1: What are instructional designers' perceptions of designing accessible and inclusive online courses in higher education?

- **Theme 1.** Instructional designers seek on-the-job training and professional development on accessible and inclusive course design due to the lack of focus on these topics in their

graduate studies.

Participants described being confident in their knowledge and skills in designing accessible and inclusive online learning even though their master's programs did not sufficiently cover this topic. They became aware of accessible and inclusive course design while working as instructional designers and typically sought additional professional development to improve their knowledge and skills in this area.

Instructional Designers Seek Professional Development

Given the gap in their skills, participants described seeking additional professional development (e.g., massive open online courses (MOOCs)). Participants also shared a desire for training on more advanced topics, whether that be more technical (e.g., accessibility of authoring tools, testing with screen readers, and programming/coding skills) or focused more on diversity, equity, and inclusion (DEI) as captured in the following: "I would like to know more about making sure that the content that I create with authoring tools, like for example Articulate Storyline … make sure that those custom creations are accessible," and "My interest lies in looking at diversity, equity, and inclusion on the level of the language that we use and courses…. topics that are very current and very hot topics right now."

- **Theme 2.** Institutions expect instructional designers to not only be knowledgeable but also responsible for accessible and inclusive course design, but instructional designers are divided on whether they want to take on this responsibility.

Every participant described how they are "doing the on-the-groundwork" to establish the importance of accessible and inclusive course design; however, questions about who is actually responsible for this work—as well as who wants the responsibility—remain.

Higher Education Institutions Seek to Hire Instructional Designers Who Are Knowledgeable About Accessible and Inclusive Online Course Design

Five participants provided their job descriptions for analysis. Four of those job descriptions mentioned accessibility and inclusivity. Two job descriptions described the required knowledge in this area. For instance, one job description required IDs to have "demonstrated knowledge of pedagogical methods for learners with diverse abilities and backgrounds, specifically Universal Design for Learning (UDL)." Another job description alluded to the consultative nature of instructional designers by stating that IDs "provide consultations and serve as a resource to faculty on…Universal Design for Learning (UDL) and accessibility issues…." Lastly, another job description implied that instructional designers have more responsibility in terms of accessibility and inclusivity. The job description stated that IDs "ensure course design, course materials and activities promote inclusivity and accessibility."

Responsibility for Accessible and Inclusive Online Courses Varied Depending on the Institution's Instructional Design Model

Participants noted confusion over who is ultimately responsible for accessible and inclusive online courses at their institutions. Instructional design models varied in terms of who designed and built courses. On one end, instructional designers designed and built courses with assistance from subject matter experts. On the other end, faculty designed and built courses but could seek instructional design support if they wanted. Official responsibility for creating

accessible and inclusive online courses was directly related to an institution's approach to course design. For instance, in institutions where IDs build courses with subject matter experts and faculty only facilitate them, participants described IDs as *"exclusively responsible for accessibility and inclusivity."* In other institutions where faculty are course designers, participants described faculty members as the responsible party while instructional designers served as support.

Given instructional designers' consultative and supportive role at most institutions, other participants thought creating accessible and inclusive online courses was a shared responsibility. One participant described how different people across the university play a role and should be responsible, but the challenges remain in collaborating across departments.

> So [responsibility] is super fragmented. I think we're all responsible, me as an instructional designer, the faculty, and then the university at large. Each stakeholder within here has a piece of that responsibility, So, yeah I think we're all responsible. We just all have to get on the same page.

Participants were aware that their superiors expected them to help their institutions create accessible and inclusive online courses; however, participants often cited a lack of time and resources to accomplish this effectively. In those instances, they acknowledged that they could only alert their superiors about accessibility barriers. They expressed frustration that their attempts to raise awareness did not always make a difference.

Instructional Designers Are Split on Whether They Want Responsibility

Participants also differed as to whether they wanted that responsibility. Some felt that since instructional designers are the most knowledgeable in this area, it makes sense for them to take on this responsibility. Due to a lack of resources, other participants though feared the repercussions of being the responsible party or were simply hesitant about taking on this responsibility.

Overall, participants described designing accessible and inclusive online learning despite the confusion and mixed feelings about who is officially responsible. Interestingly, most of the provided job descriptions mentioned accessibility and inclusivity as required knowledge and skills for instructional designers.

- **Theme 3.** Instructional designers feel a growing emphasis on accessible and inclusive course design, especially since COVID-19, which has led some to improve their knowledge and skills.

We asked participants whether they felt institutions emphasized this area enough. Overall, participants felt that there had been a growing emphasis on accessibility and inclusivity within their institutions, and specifically within their departments.

Motivated by Departmental Emphasis

Whether participants wanted responsibility or not, many mentioned greater commitment and motivation when working in departments that prioritized it versus when working in

departments that did not. For several participants, this area was not a priority in their work until they joined a team that emphasized its importance, as illustrated below:

> I think I feel pretty good about accessibility myself, and I think a big part of that was joining a team that had an emphasis on accessibility and accessible course design from the beginning…. I never thought about accessibility at all before I came into this job. So having that group focus really pushed me to want to be good at it and understand what was going on.

Recent Institutional Culture Shift Toward Prioritizing Accessibility and Inclusivity

Participants noted that there has been a growing institutional culture shift to prioritize accessibility and inclusivity in recent years. One participant mentioned that "there's a lot of care and effort, and yeah I feel that all the way to the top…. I kind of feel like that's the culture in general within the university system." However, some participants questioned whether the increased rhetoric around accessibility and inclusivity led to tangible actions. As one participant noted, "I think there's a lot of talk about it. I don't think there's…the practice of it. It's just too time-consuming, too expensive, and you know, it's a lot of moving parts and I think other things might take precedence."

Need for Top-Down Support of Accessible and Inclusive Course Design

Participants expressed a desire for more top-down support from senior leadership. Participants felt that leadership and the institution as a whole need to communicate to faculty that accessibility is important and required. They felt that required training, strong policies, contractual obligations for faculty, and increased utilization of instructional design units would help support a more accessible and inclusive learning environment. Some participants even emphasized that top-down support was essential, even if they may not feel it was the best approach.

The Impact of COVID on Prioritizing Accessible and Inclusive Online Course Design

When discussing whether they felt institutions were providing enough emphasis on accessible and inclusive online learning, participants mentioned the impact of the COVID-19 pandemic. For some, the pandemic halted progress in this area because of competing priorities and the need to put content online during emergency remote teaching. For others, the pandemic brought issues of inequity and inaccessibility to the forefront. Some participants even felt that the pandemic may have encouraged previously reluctant faculty to seek out instructional design services in general as they had to move quickly online. The following quote illustrates this idea:

> I think it really probably brought [accessibility] to the forefront again because everybody was having to plug into technology, and so people were finding out…what might have been missing accessible-wise…. I just think you…probably had a lot more students realize they needed certain things in online learning that maybe they didn't realize before.

Overall, participants described a growing institutional emphasis and culture shift toward prioritizing accessible and inclusive online learning. Most of the participants credited their department's focus for helping them personally prioritize accessibility in their work. Participants were mixed on the effects of the COVID-19 pandemic on their work; however, most agreed that a growing level of empathy and awareness facilitated their advocacy for equitable access.

RQ2: What are instructional designers' perceptions of how institutions are providing accessible and inclusive online learning experiences?

We wanted to better understand the barriers and strategies that institutions—and instructional designers in particular—used to provide accessible and inclusive online experiences. Participants related that instructional design teams are leading the charge in providing faculty development initiatives in this area because they are trained in course design and accessibility, whereas most faculty are hired for their subject matter expertise. However, they felt limited by a lack of data about the effectiveness of their offerings. Participants also discussed leveraging quality assurance frameworks with accessibility components (e.g., Quality Matters Standards) and the associated challenges with implementing such initiatives. They noted how course design standards may help faculty members understand the importance of quality course design and especially accessibility. Participants also suggested that peer reviewers were not adequately familiar enough to note accessibility barriers, adding that finding other standards to satisfy quality assurance reviews is sometimes easier.

- **Theme 4.** Instructional designers play a critical role in raising faculty awareness of the importance of accessible and inclusive course design.

Instructional Designers Help Faculty Understand the "Why"

Many participants discussed challenges with obtaining faculty buy-in. They felt faculty members needed to understand why accessibility is important to motivate them to seek further assistance and training from instructional designers. One participant noted, "I would say the barrier would be [that] it's hard for them to understand the value of why [we're] doing this. If they don't understand why, they wouldn't have the motivation to take our training."

Some participants believed that faculty members may believe they will not have disabled students in their online courses. In these situations, participants felt it was their job to explain to faculty members how accessibility and inclusivity strategies can benefit all learners. One participant said,

> Sometimes also I think faculty forget, or they think, "Well, I'm not going to have a deaf student in my class. I'm not going to have a blind student in my class." And what they need to realize is those pieces of accessibility affect students that do or don't have disabilities. And as well as how many of our students don't state that they have one.

Other participants acknowledged that faculty are subject matter experts, facing competing priorities, and may lack training in online pedagogy, let alone accessible course design. The following quote expresses this challenge:

> [Faculty are] experts in their field, very smart, very good researchers, name recognition, but a lot of them weren't trained in online course development nor accessibility, nor really any interest in knowing about it. I would say some of them—not all of them.

Instructional Designers' Role in Spreading Awareness of Accessible and Inclusive Online Course Design Through Faculty Development and Consultations

Participants also talked about using faculty development initiatives and consultations to help instructors understand why accessibility is important. They described designing and delivering courses, webinars, job aids, tutorials, and providing one-on-one consultations related to accessibility. Participants shared their thoughts:

> I think the way that [instructors] learn about accessibility is through our training process. I think for those instructors that if they don't take the process, they might not know about the concept or the importance of having their course become accessible." "Sometimes we don't always get the buy-in [from faculty] right away. So, we have to really do a lot of influencing and I really build in the case for why this needs to be done this way.

Lack of Measures of Effectiveness of Training/Advocacy

Some participants believed that faculty who had been exposed to accessibility training were more open to the instructional designers' suggestions because they understood the significance of the work.

However, other participants were not always clear on the effectiveness of their advocacy and training initiatives. Their awareness goals were to ensure that all students were supported in their online courses. However, without information about how faculty ultimately designed their courses, IDs were unsure what faculty learned or implemented from the training provided. For instance, participants described how they often make accessible course design suggestions but lack data to determine if the faculty implemented their recommendations. One participant noted,

> We guide and we say, "These videos are automatically captioned through Panopto. They're machine-captioned, which is a start." And then we guide faculty and say, "You should go in and look at these videos and make sure the captions are accurate." Do they always do that? I can't say they do. We hope they do, but that's probably the hardest part because of the time commitment to do that.

Overall, participants felt IDs were critical in helping faculty understand the importance of designing with accessibility and inclusivity in mind. Participants found that to obtain faculty buy-in, they needed to raise awareness of why accessibility matters in online courses. However, IDs' consultative role often meant a lack of data to measure if their advocacy and training efforts resulted in more accessible and inclusive course designs.

- **Theme 5.** Instructional designers described how quality assurance frameworks, like Quality Matters, can help demonstrate the importance of accessible course design but can at the same time present barriers due to peer reviewers' lack of knowledge.

We asked participants about additional strategies used at their institutions to support accessible and inclusive online learning. Participants discussed leveraging quality assurance frameworks (e.g., the Quality Matters rubric) to guide their advocacy efforts. Most participants had an internal set of quality standards "inspired by Quality Matters" and focused on accessibility. Participants also described various internal course design review processes; however, the review processes were often met with challenges. For instance, one participant

described how academic divisions conduct their own peer reviews but might lack expertise in accessible course design.

Other participants talked about their internal course design review process, where courses must meet a specific score on the internal rubric. One participant described how they may not focus on accessibility in favor of "easier ways" to help faculty attain a higher score on their quality assurance rubric.

Discussion

This study was designed to investigate instructional designers' perceptions of accessible and inclusive online course design in higher education to understand how ID preparatory programs can better prepare IDs for this work and to improve ID practice to support all learners. We explored instructional designers' knowledge, education, and perceptions of barriers and strategies that prevent or help an institutional cultural shift toward more proactive accessible and inclusive online courses. The results of this study build on previous research suggesting that instructional designers play a critical role in this institutional culture shift (Lowenthal & Lomellini, 2023; Singleton et al., 2019; Xie et al., 2021a). This study also aligns with the literature suggesting that confusion remains about who is responsible for accessible and inclusive online course design (Linder et al., 2015).

Accessibility Knowledge and Skills: An Opportunity for Instructional Designer Preparatory Programs

Participants defined accessibility and inclusivity as interconnected but separate entities. They felt that accessibility directly translated to supporting disabled students, while inclusivity had a broader focus, including students of different races and economic backgrounds. Previous research also suggested that accessibility is central to inclusive design frameworks such as Universal Design for Learning (UDL) (Rogers & Gronseth, 2021). Instructional designers in this study had a developing and technical conception of accessibility that focused on "the basics" including captions, transcripts, alternative text, and color contrast. To address inclusivity, participants most often discussed strategies involving UDL and especially a need to present content in multiple formats. This aligns with previous research suggesting that presenting content in different ways significantly impacts students' learning (Davies et al., 2013; Evmenova, 2021). Participants were generally less confident in their knowledge of inclusive online course design compared to accessibility. They often sought professional development to improve their skills in implementing UDL strategies and understanding—and communicating to faculty members—students' experiences with barriers in online learning. The desire for additional training in application of UDL principles and understanding the human side of accessibility has also been suggested in previous research (Lowenthal & Lomellini, 2023 Xie et al., 2021a; Xie et al., 2021b).

Participants in this study hesitantly described their skills in accessible and inclusive online course design as average to strong, which aligns with previous research (Lowenthal & Lomellini, 2023; Singleton et al., 2019; Rogers & Gronseth, 2021). Participants discussed the importance of learning from their colleagues and seeking additional professional development beyond the limited coverage of accessible and inclusive online course design topics in their master's degree programs. Rogers and Gronseth (2021) also found that instructional designers

learn about accessible design from independent research, their colleagues, workshops, and videos. In a recent pilot study that asked instructional designers about where they learned their skills related to accessibility and inclusivity, participants most frequently cited learning from their coworkers, online resources, and professional development (Lowenthal & Lomellini, 2023). In that study, college coursework was the least cited method of learning about accessible and inclusive online course design. Those findings, coupled with most participants in this study stating that their master's programs did not cover accessibility sufficiently, suggest that instructional designer preparatory programs should provide more coursework related to accessibility and inclusivity to prepare students better.

Instructional Designers' Roles and Responsibilities in Accessible and Inclusive Course Design

Research suggests that digital accessibility is an increasingly important priority in higher education, but questions remain about who is responsible for accessible and inclusive materials and online course design (Linder et al., 2015; Mancilla & Frey, 2020; Lomellini et al., 2022; Xie et al., 2021a). Some researchers view accessibility as a major responsibility of instructional designers (Xie et al., 2021a), whether it be in their role as faculty trainers, as advocates, or as a shared responsibility for course development (Frey & Mancilla, 2020; Xie et al., 202a1; Xie et al., 2021b). Participants in this study felt strongly that instructional designers played a critical role in supporting their institution's growing emphasis on accessibility and inclusivity. They believed that without their intervention and advocacy, instructors might not be aware of the digital accessibility needs of their students. This finding aligns with previous research that faculty are hired as subject matter experts and may not have training in online pedagogy or accessible and inclusive design (Izzo et al., 2008; Linder et al., 2015; Lowenthal & Lomellini, 2023).

Participants in this study felt that institutions rely on their expertise to deliver faculty development training and to help faculty members understand the importance of accessible and inclusive online course design. Interestingly, previous research about instructional designers' required competencies has often overlooked accessibility (Klein & Kelly, 2018; Kumar & Ritzhaupt, 2017; Ritzhaupt et al., 2021). This presents an opportunity for future research to explore if accessibility and inclusivity are areas where institutions are increasingly relying on instructional designers, as suggested in this study.

This study also brought up questions about whether instructional designers want the responsibility associated with designing accessible and inclusive online experiences. Some participants felt confident and well-prepared. They believed they were trained in design and pedagogy and had the technical skills to create accessible online courses; others feared inadvertently creating an accessibility barrier for students. The latter participant preferred to bring accessibility issues to the attention of leaders and ask for support and guidance. The lack of clear definitions of responsibility is a common barrier mentioned in the literature (Behling & Linder, 2017; Linder et al., 2015; Lowenthal & Lomellini, 2023).

Accessible and Inclusive Design as Quality Course Design

Overall, participants in this study related accessible and inclusive design strategies to quality instructional design in general. They highlighted the importance of proactively planning for consistent and clear design, as other research has highlighted (Burgstahler & Russo-Gleicher, 2015; Meyer et al., 2014; Rogers & Gronseth, 2021). Several participants discussed the

Universal Design for Learning (UDL) as a framework for their designs, and to start conversations about, and raise awareness of, the importance of accessibility and inclusivity with faculty members. They noted how faculty members, subject matter experts and not necessarily trained in online pedagogy, may rely on teaching methods that mirror how they were taught (e.g., long lectures). They described how such methods may not be considered quality course design and may in fact create additional accessibility challenges. Participants in this study felt that additional training on best practices of quality online course design, in general, could help faculty members develop more engaging and accessible learning experiences.

Previous research has suggested that an internally designed rubric, often based on the Quality Matters (QM) Rubric, is the most common way to measure course quality (Lenert & Janes, 2017; Shattuck et al., 2014). It is also common for courses to go through an internal review process. In Lenert and Janes' (2017) study, 68% of participants' courses were reviewed and improved each year, but 32% of participants noted that their courses were rarely or never reviewed or improved annually. Most participants in the current study also used an internal version of the Quality Matters Rubric and a peer review process. However, participants noted significant challenges with implementing quality course design initiatives. For instance, participants discussed how official QM reviews were expensive, time-consuming, and sometimes not applicable to their institutional culture. Participants also admitted that accessibility is not always a priority in online course reviews because it can be easier to meet other standards to pass a review on a tight schedule. Previous research also cautioned that over-reliance on standards may reduce the complex topics of accessible and inclusive online course design and create a problematic compliance mentality (Baldwin & Ching, 2021; Lowenthal et al., 2021). The standards set forth in any rubric should be understood in the broader context of removing barriers, including accessibility and usability barriers, from online course designs (Lowenthal et al., 2021).

Challenges to Providing Accessible and Inclusive Online Course Designs

With instructional designers leading the charge—officially or unofficially—to help faculty members become more aware of accessible and inclusive course design strategies, participants described the challenges involved in their strategic initiatives. First, participants discussed using faculty development and consultations to spread awareness of the importance of accessibility and inclusivity. However, these initiatives are often limited by a lack of faculty attendance and engagement. Faculty often face competing priorities, limited time and resources, and variable knowledge and skills related to accessible and inclusive online course design (Singleton et al., 2019; West et al., 2016). Research suggests that faculty development aimed at increasing faculty awareness and shifting their mindset toward the social model of disability can lead to a willingness to improve the accessibility and inclusivity of their course designs (Ginsberg & Schulte, 2008; Izzo et al., 2008; Rogers & Gronseth, 2021).

On the other hand, even when faculty members have the knowledge and desire to create inclusive learning experiences, they may not have the time or resources to implement the strategies in their course designs (Lombardi et al., 2011). Instructional designers, who typically have a consultative role in online course design, may lack the agency to enact real change (Lomellini et al., 2022). Participants in this study emphasized a need for more effective measures to know whether faculty members implement the accessible and inclusive course design strategies they recommend. They also called—some more reluctantly than others—for more top-

down support from leadership to require faculty to complete related training and prioritize accessible and inclusive online course design in general. Some participants in this study recognized that top-down mandates may not be the best approach to obtaining faculty buy-in. However, they felt stymied by a lack of faculty engagement with the training and resources they offered. The need for support from leadership is echoed throughout the literature (Seale et al., 2020; Singleton et al., 2019).

Conclusion

This study was limited by the relatively small, self-selected group of participants, making the results difficult to generalize. However, the value of qualitative research is rooted in the description of themes that emerge from a shared phenomenon (i.e., the experience of designing accessible and inclusive courses) and not in generalizability (Creswell & Creswell, 2018). Those who participated in this study likely had more experience or interest in accessibility. While this could have potentially skewed the results, the challenges and successes of experienced professionals ultimately provided deeper insight into the shared phenomenon of accessible and inclusive online course design.

Research in this area suggests that effective implementation of inclusive online course design strategies requires greater institutional support and additional training for instructional designers as well as faculty. Instructional designers are on the front lines of online course design at a critical time in history. Understanding their perceptions of the challenges and successes in designing inclusive online courses, the impact of COVID-19 on inclusive design initiatives, and how they perceive and attain related knowledge, skills, training, and responsibilities will help inform ID preparatory programs, improve instructional design practice, and support the learning experiences of diverse students.

References

American Council on Education. (2022). *The Carnegie classification of institutions of higher education: Size & setting classification description.* https://carnegieclassifications.acenet.edu/classification_descriptions/size_setting.php

Anderson, G. (2020, April 6). Accessibility suffers during pandemic. *Inside Higher Ed*. https://www.insidehighered.com/news/2020/04/06/remote-learning-shift-leaves-students-disabilities-behind

Andrews, E. E., & Forber-Pratt, A. J. (2022). Disability culture, identity, and language. In M. L. Wehmeyer & D. S. Dunn (Eds.), *The positive psychology of personal factors: Implications for understanding disability* (pp. 27-40). Lexington Books. https://lccn.loc.gov/2021044033

Baldwin, S. J., & Ching, Y. H. (2021). Accessibility in online courses: A review of national and statewide evaluation instruments. *TechTrends 65*, 731–742. https://doi.org/10.1007/s11528-021-00624-6

Bartz, J. (2020). All inclusive?! Empirical insights into individual experiences of students with disabilities and mental disorders at German universities and implications for inclusive higher education. *Education Sciences, 10*(9). https://doi.org/10.3390/educsci10090223

Behling, K., & Linder, K. E. (2017). Collaborations between centers for teaching and learning and offices of disability services: Current partnerships and perceived challenges. *Journal of Postsecondary Education and Disability*, *30*(1), 5-15.

Black, R. D., Weinberg, L. A., & Brodwin, M. G. (2015). Universal Design for Learning and instruction: Perspectives of students with disabilities in higher education. *Exceptionality Education International, 25*(2), 1–26. https://doi.org/10.5206/eei.v25i2.7723

Bogart, K. R., & Dunn, D. S. (2019). Ableism special issue introduction. *Journal of Social Issues, 75*(3), 650–664. https://doi.org/10.1111/josi.12354

Bond, A., Lockee, B., & Blevins, S. (2023, October). Instructional designers as institutional change agents. EDUCAUSE Review. https://er.educause.edu/articles/2023/10/instructional-designers-as-institutional-change-agents

Bureau of Labor Statistics. (2022). *Occupational outlook handbook: Training and development specialists*. U.S. Department of Labor. https://www.bls.gov/ooh/business-and-financial/training-and-development-specialists.htm

Burgstahler, S. (2022). Leveling the playing field for students with disabilities in online opportunities. In M. Bonous-Hammarth (Ed.), *Bridging marginality through inclusive*

higher education. neighborhoods, communities, and urban marginality (pp. 235–250). Palgrave Macmillan. https://doi.org/10.1007/978-981-16-8000-7_11

Burgstahler, S., & Russo-Gleicher, R. J. (2015). Applying Universal Design to address the needs of postsecondary students on the autism spectrum. *Journal of Postsecondary Education and Disability, 28*(2), 199–212.

Chen, A. (2017). Addressing diversity on college campuses: Changing expectations and practices in instructional leadership. *Higher Education Studies, 7*(2), 17–22. http://doi.org/10.5539/hes.v7n2p17

Chongwony, L., Gardner, J. L., & Trope, A. (2020). Instructional design leadership and management competencies: Job description analysis. *Online Journal of Distance Learning, 23*(1). https://edtechbooks.org/-NnRa

Cory, R. C. (2011). Disability services offices for students with disabilities: A campus *resource. New Directions for Higher Education, 154*(154), 27–36. http://dx.doi.org/10.1002/he.431

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). SAGE.

Davies, P. L., Schelly, C. L., & Spooner, C. L. (2013). Measuring the effectiveness of Universal Design for Learning intervention in postsecondary education. *Journal of Postsecondary Education and Disability, 26*(3), 195–220.

Dolmage, J. T. (2017). *Academic ableism: Disability and higher education.* University of Michigan Press. http://dx.doi.org/10.3998/mpub.9708722

Evmenova, A. (2021). Walking the UDL walk: Designing an online course about UDL. *The Journal of Applied Instructional Design, 10*(1). https://doi.org/10.51869/jaid2021102

Fichten, C. S., Ferraro, V., Asuncion, J. V., Chwojka, C., Barile, M., Nguyen, M. N., Klomp, R., & Wolforth, J. (2009). Disabilities and e-learning problems and solutions: An exploratory study. *Educational Technology & Society, 12*(4), 241–256.

Fowler, F. J., & Cosenza, C. (2009). Design and evaluation of survey questions. In L. Bickman, & D. J. Rog (Eds.), *The SAGE handbook of applied social research methods* (pp. 375–412). SAGE. https://dx.doi.org/10.4135/9781483348858.n12

Fram, S. M. (2013). The constant comparative analysis method outside of grounded theory. *The Qualitative Report, 18*(1), 1–25. https://doi.org/10.46743/2160-3715/2013.1569

Frey, B., & Mancilla, R. (2020, September 21). *Digital accessibility: Benchmarking QM institutional policies and practices in 2020* [Video]. QMCommunication. Quality Matters. YouTube. https://youtu.be/5WZ7gcH_x4M

Gair, S. (2012). Feeling their stories: Contemplating empathy, insider/outsider positionings, and enriching qualitative research. *Qualitative Health Research, 22*(1), 134–143. https://doi.org/10.1177/1049732311420580

Garrett, R., Simunich, B., Legon, R., & Fredericksen, E. E., & (2021). *CHLOE 6: Online learning leaders adapt for a post-pandemic world*. Quality Matters & Encoura. https://encoura.org/project/chloe-6/

Ginsberg, S. M., & Schulte, K. (2008). Instructional accommodations: Impact of conventional vs. social constructivist view of disability. *Journal of the Scholarship of Teaching and Learning, 8*(2), 84–91. https://files.eric.ed.gov/fulltext/EJ854849.pdf

Gladhart, M. A. (2010). Determining faculty needs for delivering accessible electronically delivered instruction in higher education. *Journal of Postsecondary Education and Disability, 22*(3), 185–196. https://files.eric.ed.gov/fulltext/EJ906692.pdf

Halupa, C. (2019). Differentiation of roles: Instructional designers and faculty in the creation of online courses. *International Journal of Higher Education, 8*(1), 55–68. https://dx.doi.org/10.5430/ijhe.v8n1p55

Izzo, M. V., Murray, A., & Novak, J. (2008). The faculty perspective on Universal Design for Learning. *Journal of Postsecondary Education and Disability, 21*(2), 60–72. https://files.eric.ed.gov/fulltext/EJ822094.pdf

Kent, M. (2016). *Access and barriers to online education for people with disabilities*. National Center for Student Equity in Higher Education. https://espace.curtin.edu.au/bitstream/handle/20.500.11937/55588/55669.pdf

Klein, J. D., & Kelly, W. Q. (2018). Competencies for instructional designers: A view from employers. *Performance Improvement Quarterly, 31*(3), 225–247. https://doi.org/10.1002/piq.21257

Krippendorf, K. (2004). *Content analysis: An introduction to its methodology* (2nd ed.). SAGE.

Kumar, S., & Ritzhaupt, A. (2017). What do instructional designers in higher education really do? *International Journal on E-Learning, 16*(4), 371–393. https://www.learntechlib.org/primary/p/150980/

Kumar, K. L., & Wideman, M. (2014). Accessible by design: Applying UDL principles in a first year undergraduate course. *Canadian Journal of Higher Education 44*(1), 125–47. https://doi.org/10.47678/cjhe.v44i1.183704

Leech, N. L., & Onwuegbuzie, A. J. (2007). An array of qualitative analysis tools: A call for data analysis triangulation. *School Psychology Quarterly, 22*, 557–584. https://psycnet.apa.org/doi/10.1037/1045-3830.22.4.557

Legon, R., & Garrett, R. (2018). *The changing landscape of online education (CHLOE) 2: A deeper dive.* Quality Matters & Eduventures Research. https://www.qualitymatters.org/sites/default/files/research-docs-pdfs/2018-QM-Eduventures-CHLOE-2-Report.pdf

Lenert, K. A., & Janes, D. P. (2017). The incorporation of quality attributes into online course design in higher education. *International Journal of E-Learning & Distance Education, 32*(1). http://www.ijede.ca/index.php/jde/article/view/987

Linder, K. E., Fontaine-Rainen, D. L., & Behling, K. (2015). Whose job is it? Key challenges and future directions for online accessibility in US institutions of higher education. *Open Learning, 30*(1), 21–34. https://doi.org/10.1080/02680513.2015.1007859

Lombardi, A., Murray, C., & Gerdes, H. (2011). College faculty and inclusive instruction: Self-reported attitudes and actions pertaining to Universal Design. *Journal of Diversity in Higher Education, 4*(4), 250–261. https://www.doi.org/10.1037/a0024961

Lomellini, A., & Lowenthal, P. R. (2022). Inclusive online courses: Universal Design for Learning strategies for faculty buy-in. In J. E. Stefaniak & R. Reese (Eds.), *The instructional designer's training guide: Authentic practices and considerations for mentoring ID and ed tech professiona*ls (pp. 101-111). Routledge.

Lomellini, A., Lowenthal, P. R., Trespalacios, J., & Snelson, C. (2022). Leaders' perspectives of accessible and inclusive online learning. *Distance Education, 43*(4), 574-595. https://doi.org/10.1080/01587919.2022.2141608

Lowenthal, P. R., & Lomellini, A. (2023). Accessible online learning: A preliminary investigation of educational technologists' and faculty members' knowledge and skills. *TechTrends, 67*, 384–392. https://doi.org/10.1007/s11528-022-00790-1

Lowenthal, P. R., Lomellini, A., Smith, C., & Greear, K. (2021). Accessible online learning: A critical analysis of online quality assurance frameworks. *Quarterly Review of Distance Education, 22*(2), 15–29.

Mancilla, R., & Frey, B. (2020). A model for developing instructional design professionals for higher education through apprenticeship. *The Journal of Applied Instructional Design, 9*(2). https://dx.doi.org/10.51869/92rmbf

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey Bass.

Meyer, A., Rose, D. H., & Gordon, D. (2014). *Universal design for learning: Theory and practice.* CAST. http://udltheorypractice.cast.org

Miles, M. B., Huberman, A. M., & Saldana, J. (2020). *Qualitative data analysis: A methods*

sourcebook (4th ed.). SAGE.

Mohler, E. C., & Rudman, D. L. (2022). Negotiating the insider/outsider researcher position within qualitative disability studies research. *The Qualitative Report, 27*(6), 1511–1521. https://doi.org/10.46743/2160-3715/2022.5047

Nieminen, J. H., & Pesonen, H. V. (2019). Taking Universal Design back to its roots: Perspectives on accessibility and identity in undergraduate mathematics. *Education Sciences, 10*(12). https://doi.org/10.3390/educsci10010012

Park, J. -Y., & Luo, H. (2017). Refining a competency model for instructional designers in the context of online higher education. *International Education Studies, 10*(9), 87–98. http://dx.doi.org/10.5539/ies.v10n9p87

Rice, M. F., & Dunn, M. (Eds.). (2023). *Inclusive online and distance education for learners with dis/abilities: Promoting accessibility and equity*. Routledge.

Ritzhaupt, A. D., & Kumar, S. (2015). Knowledge and skills needed by instructional designers in higher education. *Performance Improvement Quarterly, 28*(3), 51-69. https://doi.org/10.1002/piq.21196

Ritzhaupt, A. D., Kumar, S., & Martin, F. (2021). *The competencies for instructional designers in higher education.* EdTech Books. https://doi.org/10.59668/164.4268

Rogers, S., & Gronseth, S. L. (2021). Applying UDL to online active and interactive learning. *The Journal of Applied Instructional Design, 10*(1). https://doi.org/10.51869/jaid2021101

Schelly, C. L., Davies, P. L., & Spooner, C. L. (2011). Student perceptions of faculty implementation of Universal Design for Learning. *Journal of Postsecondary Education and Disability, 24*(1), 17–30. https://files.eric.ed.gov/fulltext/EJ941729.pdf

Schrier, M. (2012). *Qualitative content analysis in practice.* SAGE.

Seale, J., Burgstahler, S., & Havel, A. (2020). One model to rule them all, one model to bind them? A critique of the use of accessibility-related models in post-secondary education. *Open Learning: The Journal of Open, Distance and e-Learning, 37*(1), 6–29. https://doi.org/10.1080/02680513.2020.1727320

Shattuck, K., Zimmerman, W. A., & Adair, D. (2014). Continuous improvement of the QM rubric and review processes: Scholarship of integration and application. *Internet Learning, 3*(1), 25–34. https://jolrap.scholasticahq.com/article/26875-continuous-improvement-of-the-qm-rubric-and-review-processes-scholarship-of-integration-and-application

Shpigelman, C. -N., Mor, S., Sachs, D., & Schreuer, N. (2021). Supporting the development of students with disabilities in higher education: Access, stigma, identity, and power.

Studies in Higher Education, 47(9), 1776-1791. https://doi.org/10.1080/03075079.2021.1960303

Singleton, K., Evmenova, A., Jerome, M. K., & Clark, K. (2019). Integrating UDL strategies into the online course development process. *Online Learning, 23*(1), 206–235. https://doi.org/10.24059/olj.v23i1.1407

Tobin, T. J. & Behling, K.T. (2018). *Reach everyone, teach everyone: Universal Design for Learning in higher education*. West Virginia University Press.

W3C. (2022). *WCAG 2 overview.* https://www.w3.org/WAI/standards-guidelines/wcag/

West, E. A., Novak, D., & Mueller, C. (2016). Inclusive instructional practices used and their perceived importance by instructors. *Journal of Postsecondary Education and Disability, 29*(4), 363–374. https://files.eric.ed.gov/fulltext/EJ1133764.pdf

Westine, C. D., Oyarzun, B., Ahlgrim-Delzell, L., Casto, A., Okraski, C., Park, G., Person, J., & Steele, L. (2019). Familiarity, current use, and interest in Universal Design for Learning among online university instructors. *The International Review of Research in Open and Distributed Learning, 20*(5). https://doi.org/10.19173/irrodl.v20i5.4258

Williams van Rooij, S.., & Zirkle, K. (2016). Balancing pedagogy, student readiness and accessibility: A case study in collaborative online course development. The Internet and Higher Education, 28, 1-7. https://doi.org/10.1016/j.iheduc.2015.08.001

Xie, J., Gulinna, A., & Rice, M. F. (2021a). Instructional designers' roles in emergency remote teaching during COVID-19. *Distance Education, 42*(1), 70–87. https://doi.org/10.1080/01587919.2020.1869526

Xie, J., Gulinna, A., Rice, M. F., & Griswold, D. E. (2021b). Instructional designers' shifting thinking about supporting teaching during and post-COVID-19. *Distance Education,42*(3), 331-351. https://doi.org/10.1080/01587919.2021.1956305