Disability Awareness & Inclusive Teaching Online Training Videos for College Instructors Featuring Students with Disabilities

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Abstract

Students with disabilities are a rapidly growing population in postsecondary education, estimated to be approximately 19.4% of undergraduate students (U.S. Department of Education, 2019). However, many postsecondary faculty members are unaware of the issues that students with disabilities experience and are not confident in how to teach diverse learners. While researchers have designed disability awareness and inclusive teaching trainings for postsecondary faculty, these trainings do not always include the voices of students with disabilities as the primary content. In this study, we demonstrate the importance of using student voice in postsecondary faculty disability awareness trainings. We highlight a mixed methods study that evaluates instructor perceptions of a Disability Awareness & Inclusive Teaching Video Training that uses student voice as its primary teaching tool.

Keywords: disability awareness, postsecondary education, inclusive teaching, student voice, universal design of instruction

Participation rates of students with disabilities in postsecondary education continue to increase. In the United States, approximately 1% of postsecondary students self-disclosed disabilities in 1987, 10% in 2003, and current estimates indicate that 19.4% of undergraduates report experiencing a disability (Wagner et al., 2005; U.S. Department of Education, 2019). Postsecondary students with disabilities encompass a group that possesses a range of diagnoses and experiences. Additionally, there are potentially many more students with disabilities on college and university campuses than only those who self-disclose disability (Newman & Madaus, 2015). Based on data from the National Longitudinal Transition Study-2 (NLTS2), Newman & Madaus (2015) found that only 35% of postsecondary students with disabilities self-disclosed their disabilities to their institutions, and even fewer, approximately 24%, received one or more accommodations in postsecondary education. As such, it is likely that the numbers of postsecondary students with disabilities in college classrooms exceed those who self-disclose and receive formal accommodations.

Despite the rapid growth of this population, students with disabilities do not achieve comparable academic outcomes to their peers without disabilities. These learners experience higher rates of course failure, and both lower retention and graduation rates than their peers without disabilities (Adams & Proctor, 2010; Hurst & Smerdon, 2000; Sanford et. al., 2011; Wessel et al., 2009). Additionally, while almost 60% of young adults with disabilities attend college after high school, only one-third of these students graduate within six years (Newman et al., 2011).

Research has sought to identify factors that contribute to the academic performance of postsecondary students with disabilities. One consistent finding is faculty familiarity with and attitudes toward disability can affect students with disabilities' satisfaction with postsecondary education (Hartman-Hall & Hagga, 2002; Wilson et al., 2000). Wilson et al. (2000) found students with disabilities felt postsecondary faculty not only lacked knowledge about disabilities and related needs but also did not effectively teach and accommodate students with disabilities. Fleming et al.

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(2017) reported students with disabilities felt faculty expressed negative feelings toward them, including refusing to provide requested accommodations. Another study found that postsecondary students with disabilities felt patronized by faculty, and as a result, experienced lower self-esteem and negative learning experiences (Majoko, 2018).

A lack of disability awareness and inclusive teaching practices may be due to a lack of explicit instruction on these topics geared toward university faculty. Wilson et al. (2000) reported faculty expressed feeling unprepared to effectively work with students with disabilities. They reported not knowing where or how to access information and resources relating to students with disabilities; further, they desired a systematic way to gain knowledge and training about disability law, disability characteristics and general information, and teaching and academic success strategies (Wilson et al., 2000). Cook et al. (2009) surveyed faculty from an 8-campus university system in the Midwestern United States, seeking to ascertain their perceptions on the importance of student-related disability issues, as well as if and to what degree their institutions were addressing them. The researchers found that faculty noted the importance of accommodation policies, disability etiquette, disability law, universal design for instruction (UDI), and disability characteristics; however, out of these, the latter three were not satisfactorily addressed by their universities. This finding mirrors an earlier study by Salzberg et al. (2002), which also reported postsecondary faculty members do not receive training in UDI or instructional methods, generally. As university faculty typically possess content-area expertise and not necessarily pedagogical expertise, higher education institutions need to develop programs to address this knowledge gap.

Disability Awareness & Inclusive Teaching Training

Researchers are beginning to explore the influence of disability-related training on faculty's attitudes toward and abilities to effectively serve students with disabilities. Rohland et al. (2003) found that after a 4-day disability-awareness training, faculty were able to share information regarding disability, related legal issues, and supports for students with disabilities with colleagues. Similarly, Sowers and Smith (2004) found that after a two-hour training about students with disabilities, faculty experienced improved perceptions toward and decreased concerns about working with this group. Murray et al., (2009) also showed that after participating in a disability-awareness training, faculty members were more willing to provide accommodations, and also felt more confident in serving students with disabilities, as compared to those who did not participate in a training. Wynants and Dennis (2017) examined an online disability awareness training that presented information on disability and UDI and found that participants increased disability-related knowledge, attitudes, and confidence regarding teaching inclusively.

Universal Design for Instruction

Universal design for instruction, or UDI, emerged from a universal design movement intended to design structures and products to be accessible for all individuals by providing multiple methods of use (Scott et al., 2003). It has since been applied to the field of education to create more inclusive and accessible instructional methods that maximize learning outcomes for the greatest number of learners, including those with disabilities (McGuire & Scott, 2006). The nine principles of UDI include (1) equitable use, (2) flexibility in use, (3) simple and intuitive, (4) perceptible information, (5) tolerance for error, (6) low physical effort, (7) size and space for approach and use, (8) a community of learners, and (9) instructional climate (Scott et al., 2003). Examples of these principles being used in instructional settings include providing students with class notes, providing grading rubrics, and using accessible materials, such as digital textbooks (see Scott et al., 2003 for more information and examples of each principle).

UDI is beneficial for instructors to implement because it incorporates adaptability, flexibility, and preemptive planning to ensure all aspects of a course are inclusive and responsive to students' needs (Scott et al., 2002). Students with and without disabilities in higher education stated that UDI supported their education because it allowed them to learn content based on their preferences (Black et al., 2015). Postsecondary disability service providers also noted the following strengths of UDI: "enhanced recruitment and retention of a diverse student body, provision of effective instruction to all students, empirical support for the scholarship of university teaching, and the reduction of stigmas associated with disabilities" (Embry et al., 2005, p. 41). Specifically, the UDI framework can be used to promote faculty teaching practices through multiple methods such as course syllabus design, course mapping, and assessment (Lombardi et al., 2018).

Student Voice

Disability awareness & inclusive teaching trainings may be a promising tool to inform understanding and shift perceptions of disability in postsecondary education. While these trainings cover a range of

subjects, including disability characteristics, accommodations, inclusive teaching, disability laws, and campus resources (Carballo et al., 2021; Cook et al., 2006; Murray et al., 2009; Rohland et al., 2003; Sowers & Smith, 2004; Wyants & Dennis, 2017), some also feature panels of students with disabilities. Featuring students with disabilities in disability awareness and inclusive teaching trainings enables these learners to construct the narrative about what it means to experience disability in postsecondary education. Further, students with disabilities can offer valuable feedback regarding how to make postsecondary education accessible. Aquino (2016) suggests, "To better understand students with disabilities and the potential stigma and exclusion they may face, it is vital to learn first-hand accounts of what they may endure" (p. 318). As such, there is a need to examine disability awareness and inclusive teaching training that uses student voice, or the voices of students with disabilities, as the primary teaching tool.

The Current Study

With funding support from her institution's Center for Excellence in Teaching and Learning, the lead author of this study created the *Disability Awareness and Inclusive Teaching Online Video Training* for postsecondary instructors. The training consists of five videos, one each on ADHD, autism spectrum disorders, anxiety and depression, and traumatic brain injuries, including concussions. These disabilities were selected at the advice of the Center for Teaching and Learning, as they are common disabilities about which faculty inquire. The fifth video introduced the concept of UDI and provided tools, including a course mapping worksheet, an inclusive instruction checklist, and inclusive syllabus checklist, to enact these principles (Lombardi et al., 2018).

Each video presented definitions of the disabilities, described typical symptoms of each, and how they may manifest in a learning environment. The primary component of the videos included excerpts from interviews with postsecondary students with disabilities, who described their experiences with disability, especially when learning. The student narratives complemented the objective information and allowed students to inform how professors understood the experiences of students with disabilities. The videos also included short interviews with disability-related professionals, such as psychologists and speech language pathologists. To intentionally model the principles of UDI to faculty, information was presented in various ways, including both auditorily and visually, as well as having concepts explained by different parties. Each video concluded with a summary chart that outlined common disability symptoms, potential ways symptoms may manifest when learning, and inclusive teaching strategies that may assist students experiencing each. Videos were captioned throughout. A link to a worksheet outlining the same information was also included. To make the videos easily accessible to instructors, each spanned between 16-28 minutes, could be paused and returned to, and viewers could take as long as they needed to watch them. The training was made available on the institution's learning management system.

The current study sought to determine how completing the training influenced postsecondary instructors' awareness of disability and inclusive teaching practices. A second aim included receiving feedback from instructors on what aspects of the training were most and least useful. As such, the study examined the following research questions:

Research Questions

1. How did completing the *Disability Awareness & Inclusive Teaching Online Video Training* influence instructors' disability-related self-efficacy?
2. Were there differences between disability-related self-efficacy scores among instructors based on number of years taught and faculty rank?
3. How did completing the *Disability Awareness & Inclusive Teaching Online Video Training* influence instructors' teaching methods?
4. What aspects of the *Disability Awareness & Inclusive Teaching Online Video Training* were most helpful to instructors?
5. What changes to the *Disability Awareness & Inclusive Teaching Online Video Training* would instructors recommend?

Methods

Study Design

We used a convergent mixed method research design (Creswell, 2015) to determine how participating in the *Disability Awareness & Inclusive Teaching Online Video Training* affected participants' disability-related self-efficacy and teaching methods. Disability-related self-efficacy encompasses general disability knowledge, familiarity with disability-related supports and principles of UDI and feeling prepared to share this information with colleagues (Murray et al., 2014). The quantitative portion of this study measured disability-related self-efficacy scores before and after participants accessed and completed the training. Originally, the research team planned

to invite study participants to attend a focus group to share their perceptions of the training and how it may or may not have affected their teaching. However, due to the COVID-19 pandemic, the focus group was cancelled. Instead, the four qualitative questions, listed in the Appendix, were included in a Qualtrics survey link that was emailed to participants after they completed the training. These additional questions enabled participants to describe their experiences participating in the training and how it may or may not have influenced them as educators; the qualitative questions also asked participants to provide feedback on what components of the training were most and least effective. Data from the quantitative analysis and the first two qualitative questions were integrated complementarily in order to "provide a better understanding of the research problem than either form of data alone," (Creswell, 2015, p. 2). Data from the second two qualitative questions were analyzed to improve future iterations of the training tool.

Procedures

After Institutional Research Board Exempt Approval was received at the authors' institution, they collaborated with the university's Center for Excellence in Teaching & Learning to recruit instructors to participate in the training. Recruitment began in spring 2019 and continued through summer 2020 with study recruitment information posted in the university-wide daily faculty emails. Information was also sent directly to department chairs requesting that it be shared with faculty during departmental meetings.

Participants

Signed informed consent was received from 120 participants and one hundred of those participants completed the training within the study timeframe (83%). Of the 100 participants, 52% (*n*=52) were faculty members and 46% (*n*=46) were graduate assistants. Instructors in the College of Liberal Arts made up the largest portion of participants with 50% (*n*=50). The second most represented was the School of Education with 22% (*n*=22) of respondents. Eleven percent (*n*=11) of participants were from the School of Engineering, 5% (*n*=5) from the School of Agriculture, 4% (*n*=4) from the School of Medicine, and 2% or less from the remaining colleges. The majority of participants identified as female (82%, *n*=82) and White (83%, *n*=83). Of instructors at the institution, about 38% are females, with our study having a larger portion of females than the sample population. A comparison of race and ethnicity representation in the training and the overall representation for the sample institution can be viewed in Table 1. Our survey included an overrepresentation of White faculty and an under representation of faculty of color.

Data Collection

To participate in the evaluation of the video training, faculty members were required to review and sign a consent form describing the purpose of the study. After providing consent, participants were given access to the training on the institution's learning management system. Before and after watching the videos, they were prompted to complete a pre-test, the *Disability-Related Self-Efficacy Scale*, which was previously developed and validated to measure disability-related self-efficacy in the context of in-person faculty training that was similar in content (Murray et al., 2014). Participants rated their level of confidence with given statements on a scale from 1 (*no confidence at all*) to 5 (*complete confidence*). The measure includes four subscales: Knowledge of Services (3 items), Sharing Information (3 items), Universal Design (4 items), and Knowledge of Disability (8 items). To assess the reliability of the measure, Cronbach's alpha was computed at the subscale level as it is the most widely used reliability measure (Aron et al., 2013). Table 3 shows alpha values at both time points on the current sample. Reliability on the current sample is reported in Table 3 and in the Results (p.15)

Data Analysis

Quantitative Measures

We examined the influence of the disability-awareness training on faculty member's awareness of and familiarity with student disability issues by conducting four multiple regression models for each of the disability-related self-efficacy outcomes. A difference score was computed based on subtracting pre-test score from post-test score by subscale. The difference scores were regressed on the predictors of years teaching, graduate assistant status and tenure status. Participants' years teaching was rounded up (e.g., if a participant stated 4.5 years, their answer was input as 5 years). Graduate assistant status was identified as participants who responded that they were a "graduate student teaching assistant" for the question of "Rank" and tenure status was identified as participants who responded that they were "full professor," "assistant professor," or "associate professor" on the disability-related self-efficacy measure.

Qualitative Measures

Participants were asked four open-ended questions (Appendix), that provided them with an opportunity to describe what components of the training they found most and least helpful and how complet-

Table 1

Race/Ethnicity Representation in Training and Overall Institution (n=100)

	Participants	Institution
White	83%	77%
Asian	9%	15%
Black/African American	1%	6%
Hispanic/Latino	7%	4%
Multiple Races	6%	Not reported

Table 2

Results of the Regression Models of Change Scores Across Subscales

Predictor	Change in Knowledge of Services		Change in Knowledge of Disability		Change in Knowledge of Universal Design		Change in Knowledge of Sharing Information	
	β	*t*	*β*	*t*	*β*	*t*	*β*	*t*
Intercept		4.850*		5.083*		5.873*		5.652*
Years Teaching	.025	.277	.105	.924	.043	.367	.067	.592
Graduate Assistants	.365	2.799*	.306	2.278*	.143	1.022	.270	2.014*
Tenured Faculty	.035	.280	.107	.827	.073	.546	.018	.136

Note. *$p<.001$

Table 3

Pre-Score and Post-Score Alpha, Mean, and Standard Deviation for Each Factor

	Pre-Scores			Post-Scores		
	α	*M*	*SD*	*α*	*M*	*SD*
Knowledge of Services	.704	2.7050	.77845	.807	3.9483	.74675
Knowledge of Disability	.905	2.7399	.72507	.893	3.8900	.55534
Universal Design	.861	2.5846	.90788	.850	4.2138	.64508
Sharing Information	.807	2.4317	.87844	.809	4.0600	.70652

ing it may or may not affect their teaching; they were also able to share any additional feedback. This study used a basic qualitative design, as outlined by Merriam & Tisdell (2016), to analyze and identify themes in participants' qualitative survey responses. Analysis involved "identifying recurring patterns that characterize the data," (Merriam & Tisdell, 2016, p. 25). As such, the "primary goal of a basic qualitative study is to uncover and interpret" (Merriam & Tisdell, 2016, p. 25) meaning in participants' responses.

Responses to the qualitative survey questions were exported from Qualtrics to a Microsoft Word document. To begin the analysis, the first and third authors independently read and reread the data, recording initial responses to it in separate memos. Next, each author began open coding the data or "identifying segments," that were "responsive to (the) research questions," (Merriam & Tisdell, 2016, p. 203). Each segment, or code, encompassed "a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data," (Saldana, 2013, p. 24). To stay "within the data," (Grbich, 2013, p. 83) and close to the participants works, the authors used in-vivo coding, or creating codes using participants' words whenever possible. Coding continued until saturation was reached, or "no new information, insights, or understandings" emerged from the data. The authors compared codes and resolved any discrepancies.

Next, the authors individually reviewed codes to identify patterns, similarities and connections between codes, and subsequently grouped them into categories. Merriam and Tisdell (2016) describe categories as "conceptual elements that 'cover' or span many individual examples (orbits or units of the data you previously identified)" and that they should "capture some recurring pattern that cuts across your data" (p. 206). Once categories were established, each author returned to the initial codes to determine if they supported the categories. In the final step of analysis, the authors reflected on the categories and identified overarching themes that were present throughout the data; a theme, as the result of coding/categorization, captures abstract concepts, analytic patterns (Merriam & Tisdell 2016), and "meaning within the data set," (Braun & Clarke, 2006, p. 261). Each author intentionally named and remained aware of her biases throughout the analysis to ensure she did not project them onto the findings. These authors also included positionality statements in the manuscript.

Positionality Statements

The authors who conducted the qualitative analysis were cognizant of their experiences and how they could impact their results. Both researchers have worked in postsecondary settings supporting students with disabilities and are currently active in an undergraduate student group focused on disability. The two researchers also both identify as students with disabilities. In order to minimize any bias that may occur, the researchers remained aware of their positions how they could affect them and applied methods to establish credibility throughout the research process.

Credibility

In qualitative research, credibility refers to increasing "the correspondence between research and the real world," (Wolcott, 2005, p. 160). In this study, the authors used investigator triangulation, stated their positionality, and clearly described their research process, or audit trail, to establish credibility. Investigator triangulation involves multiple investigators independently "collecting and analyzing data," and "compar(ing) their findings" (Merriam & Tisdell, 2016, p. 245). In addition to remaining aware of their biases throughout the analysis, the authors also included positionality statements, to "allow the reader to better understand how the individual researcher might have arrived at their particular interpretation of the data" (Merriam & Tisdell, 2016, p. 249). Finally, the authors provided an audit trail, which clarified how the data were collected, coded, categorized, and developed into themes, enabling readers to understand each process. Coding trees illustrating how themes were developed from codes are also included in Figures 1-3.

Results

Quantitative

RQ1: How did completing the Disability Awareness & Inclusive Teaching Online Video Training influence instructors' disability-related self-efficacy?

Table 3 shows the mean scores across subscales. Results show trend level changes from pretest to posttest illustrating a change in disability-related self-efficacy that suggests the training videos were a positive influence for those faculty who participated in the training. In all cases these changes were more than one point on a five-point scale.

RQ2: Were there differences between disability-related self-efficacy scores among instructors based on number of years taught and faculty rank?

The predictors of graduate assistant status, tenure status and years teaching explained approximately 11% of the total variance. Graduate assistant status explained significant unique variance (β = .365, t = 2.799, p = .006). Though the overall models for the subscale of Knowledge of Disability, Universal De-

Figure 1

Coding Trees Illustrating Research Question 3 Theme Development

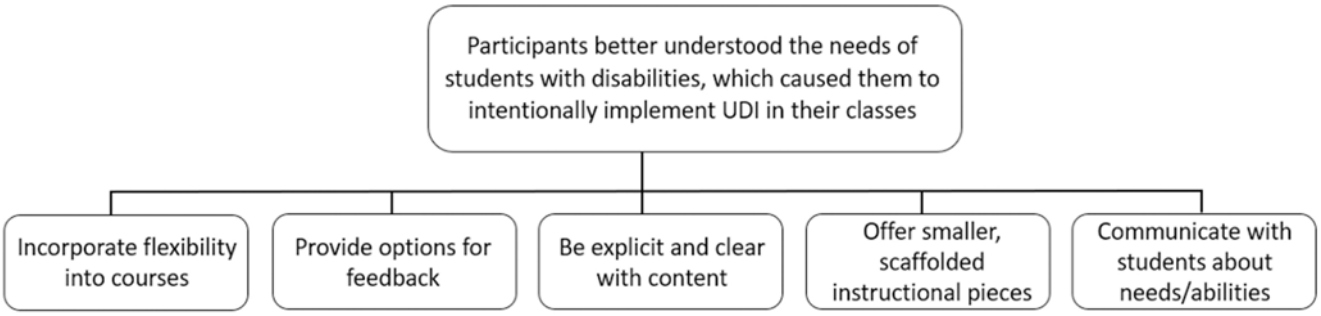


Figure 2

Coding Trees Illustrating Research Question 4 Theme Development

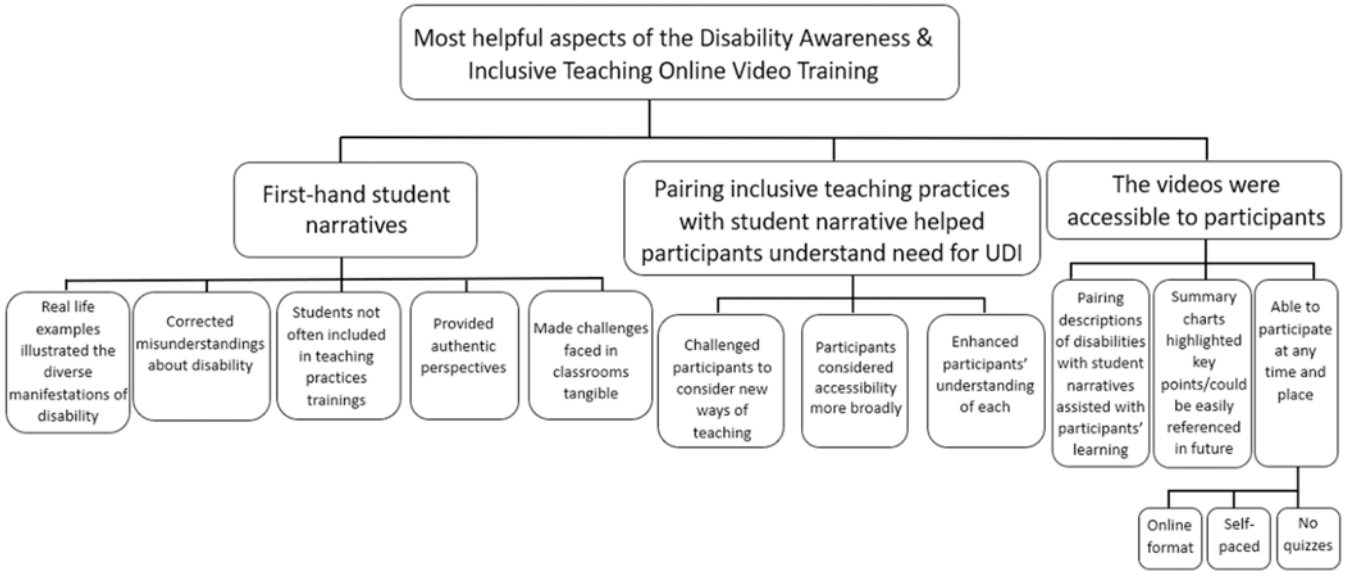
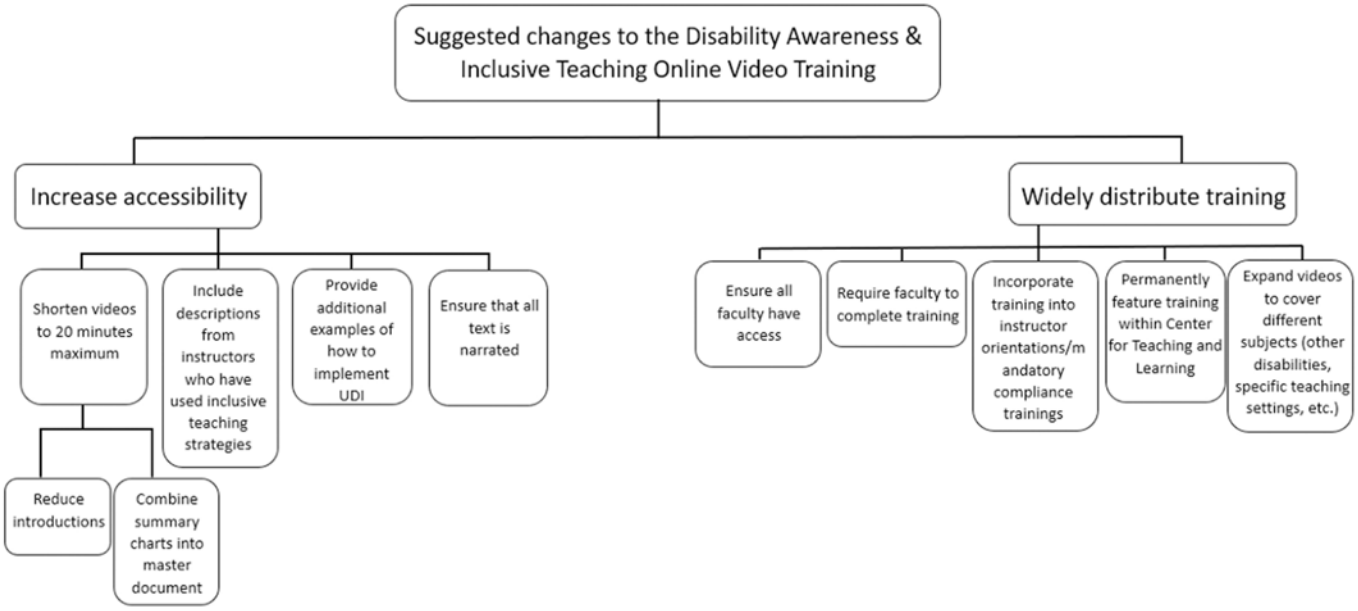


Figure 3

Coding Trees Illustrating Research Question 5 Theme Development



sign and Sharing Information were not significant, there was a trend level change from pre- to post-test scores across these subscales. The predictor of graduate assistant status was also significant in the models of Knowledge of Disability and Sharing Information though the overall models were not significant. Overall, faculty self-reported greater disability-related self-efficacy after completing the training, and there was some variation with regard to faculty rank. Specifically, graduate assistants reported greater change scores suggesting this group gained the most from the training experience. Further details for all predictors can be viewed in Table 2.

Cronbach's alpha was computed for the items from the disability-related self-efficacy scale to determine the reliability (see Table 3). Reliability results for the current sample can be found on p. 11 and 14. All subscales were within adequate range with alphas between .704 and .905, as a score of .60 signifies the minimum sufficient Cronbach's alpha score, though a score closer to .90 is preferred (Aron et al., 2013). The subscales of Knowledge of Disability and Universal Design had the highest reliability between .850 and .905, while the Knowledge of Services and Sharing Information subscales had slightly lower alphas between .704 and .809. Means and standard deviations for subscale pre- and post-scores are also provided in Table 3.

Qualitative

RQ3: How did completing the Disability Awareness & Inclusive Teaching Online Video Training influence instructors' teaching methods?

Participants' responses revealed that viewing the training helped them to better understand the needs of students with disabilities, and ultimately, influenced them to intentionally implement UDI in their classes if they have not done so previously – or to maximize ways that they were already applying these principles. The most frequently mentioned change, incorporating flexibility into courses, involved creating options for assignments and assessments, deadlines, and methods of participation. One participant described the changes she made:

> I've worked to make my activities more multi-modal to accommodate different abilities. I am also planning more flexible end-of-term projects that can be completed in a number of different ways, so that students can apply the knowledge in whatever way suits them the best.

Another participant commented on how she adapted how she sought feedback from students.

> I have stopped asking students to raise their hand if they did not understand something. Once I

> watched the video on anxiety, I realized how horrible that was! Now I ask my students to smile if they want me to repeat something. This makes everyone smile and so I just go over the confusing bits again.

Participants also stated that the videos reminded them to be explicit and clear with not only class content, but deadlines and descriptions of assignments as well. Specific changes included using "take home" slides that emphasize key points, slowing down and repeating instructions, especially in lab settings, and providing detailed syllabi and class materials, and reminders for long-term assignments. One participant detailed how inclusive instruction may affect students learning in her lab:

> I think labs could work better if we offered smaller instructional pieces, allowed students to do that part of the lab, pause for more instruction, etc. This would allow students to put the pieces they learned into effect right away and help students who have trouble retaining that information.

A final area of change that participants described involved communicating with students, especially about their accessibility needs. Several participants shared that as the videos illustrated the diversity of students and their abilities, they also emphasized the need to learn about students and how to best enable their learning. Summarizing this, one participant said, "There are no one size fits all and especially at a college level, it is critical to be accommodating in a multitude of ways." Participants also communicated that in addition to learning about specific disabilities, they also had better understandings of why students may be hesitant to self-disclose and the purpose of reasonable accommodations.

RQ4: What aspects of the Disability Awareness & Inclusive Teaching Online Video Training were most helpful to instructors?

The qualitative analysis revealed three themes relating to this research question; instructors stated that most helpful aspects of the training were hearing first-hand narratives of disability from students, receiving information regarding specific inclusive teaching practices, and the videos' ease of access. Participants most frequently described being impacted by student narratives, which was mentioned by 34 out of 47 participants who responded to the qualitative survey. They described that the hearing "real life examples" from students with disabilities illustrated the diverse ways disability can manifest in the classroom, and corrected misunderstandings instructors had about disability. Additionally, several participants noted that students themselves are not often included in trainings about best teaching practices. One participant noted, "I really liked hearing from students who had disabilities themselves. I feel as though that happens less in other trainings. But it gives some real perspective from people who are actively living and learning with these disabilities." Another stated that "the excerpts from students really made tangible the challenges they face in classrooms that aren't universally designed."

A second theme related to student voice was participants reported better understanding of UDI as well as the need for accessible classrooms. One participant explained, "the anecdotes challenged me to think about aspects of my teaching in new ways and consider accessibility much more broadly than I had previously." Others described how combining information about disability awareness and inclusive teaching enhanced their understanding of each. Illustrating this, one participant said:

> The Universal Design of Instruction framework was most helpful. After learning about the various challenges that those with disabilities might face, this framework helped to conceptualize concrete ways of structuring the course to be most accommodating.

Participants also appreciated receiving specific practices to implement these principles to make their teaching more accessible. They described, "learning new strategies to help all students learn in my courses," receiving "very specific guidelines to inspire practices," and "liking the specific information about how instructors can be more inclusive."

A third theme involved the accessibility of the videos themselves. Participants shared that the videos' organization and supplemental materials allowed them to easily absorb the information and will enable them to apply it to their future teaching. Specifically, participants indicated that following the objective descriptions of disabilities and their typical symptoms, which were based on descriptions from the Center for Disease Control, American Psychological Association, and the American Speech-Language-Hearing Association, with narrative accounts from students who experience them enhanced their understanding of different disabilities. Other participants commented that the summary charts at the end of each video highlighted key points and could be easily referenced for future use. One participant stated, "I found the handouts the most helpful, particularly the grids that explained the obstacles students face, how this manifest, what in-

structors can do to help. I saved all of these to my computer for future reference charts that I could look back at to guide me." In addition to the organizational structure, participants appreciated that the videos were online, self-paced and did not include quizzes.

RQ5: What changes to the Disability Awareness & Inclusive Teaching Online Video Training would instructors recommend?

While 98%, or all but one, of the qualitative survey respondents indicated that the videos improved their disability awareness and knowledge of inclusive teaching, participants also shared ways to improve the videos. This feedback encompassed two themes: increase ease of access and widely distribute the video training. The first theme included making the videos shorter, providing additional examples of how to implement UDI, and ensuring that all text is narrated. Several participants suggested that each video should not span more than 20 minutes. Recommended ways to shorten the videos included reducing the introductory information (e.g., reenactments of students' accounts) and combining the summary charts at the end of each video into a "master" document as many of the inclusive teaching strategies overlapped.

Participants also stated that the videos could have included descriptions from instructors who have used inclusive teaching strategies. One participant described, "It might have been helpful to have a video of an actual teacher talking about how they adapted to a student in their class. They could address what worked and what did not work." Incorporating more examples, as well as non-examples, of inclusive course materials and teaching strategies was recommended. A third aspect of the theme "Increase Ease of Access" involved ensuring that all text in the videos was also verbally narrated.

The second theme involved ensuring all faculty have access and be required to complete disability awareness and inclusive teaching training. Participants recognized that instructors from different fields may receive various levels of training regarding teaching practices, and many more may not be aware of the issues students with disabilities experience. As such, participants proposed a range of ways to expose postsecondary instructors to this information, including incorporating this type of training into faculty and teaching assistant orientations, mandatory compliance trainings, and permanently featuring disability awareness and inclusive teaching resources within centers for teaching and learning. Another recommendation included continually creating videos on different subjects, such as other disability types, how to apply inclusive teaching in small versus large classes, and in lab settings.

Discussion

The findings of this study suggest that the *Disability Awareness and Inclusive Teaching Online Video Training* featuring students with disabilities had positively influenced postsecondary instructors' disability-related self-efficacy and influenced their use of UDI principles when teaching. Our findings were similar to those found in other studies that examined how disability awareness and/or inclusive teaching trainings influenced faculty members' perceptions and understandings of disability, accommodations, and related laws, and confidence in serving students with disabilities (Hromalik et al., 2020; Hsiao et al., 2019; Stevens et al., 2018). While the training under investigation in the current study included many similar features to other disability awareness and inclusive teaching trainings, it used the voices of students with disabilities as the primary teaching tool. Trend level increases from pretest to posttest scores provide promising feedback on the *Disability Awareness & Inclusive Teaching Online Video Training*. Among all participants, each subscale had at least a 1-point increase in the mean score between the pre- and post-scores indicating participants felt more "confident" in items on the disability-related self-efficacy scale after completing the training. Further, significant variance was explained for graduate student instructors in three of the four subscales, which were Knowledge of Services, Knowledge of Disability, and Sharing Information. These findings indicate the training was particularly informative for novice instructors. Further, 72% of respondents to the qualitative survey indicated that these narratives were the most impactful aspect of the training and helped them to understand not only disability, but the need for UDI in college classrooms. Featuring students with disabilities in disability awareness and inclusive teaching trainings enables these learners to create the narrative about what it means to experience disability in postsecondary education, to highlight the ways postsecondary education is still inaccessible (Dolmage, 2017), and to inform how institutions and instructors can make these settings more inclusive.

Previous research shows the greatest barrier to faculty completing disability awareness and inclusive teaching training was staff resources and faculty time (Raue & Lewis, 2011). This project assessed an online training that did not require additional resources after creation, and faculty could take any period of time to view it and could do so from any location. Participants reported appreciating the online, self-paced format, and also the supplemental summary materials that could be easily referenced later. Future trainings may benefit from using similar features.

Feedback from participants regarding how to improve the training presented a contradiction: participants recommended both shortening the length of the videos, but also including more information, such as covering more disabilities or different educational settings. One potential way to fulfill both suggestions would be to develop a series of shorter videos that focus on individual disabilities, presenting only information about each disability and narratives from students who experience them. Other videos in the series could focus exclusively on inclusive teaching strategies and methods. Creating video series with a greater range of short videos would allow instructors to select pertinent videos as they required or had time for them, which could potentially increase the number of instructors who could access the content. Regardless of the video format, all training materials should ensure accessibility by including narration of all text and closed captions for all auditory communication.

Limitations

Though the findings of this study are promising, some limitations need to be addressed. This pilot study was underpowered and therefore generalizability is limited. We did not have a comparison group of faculty, which would have allowed us to more rigorously test the effects of the training. Limitations involving the quantitative analysis were also due to an underpowered study. The sample of participants in the study was highly skewed with 83% female, which differs greatly from the overall faculty population of 38% female. The racial distribution of participants was also mostly White with very few participants who identified as faculty of color. The largest discrepancy appeared for Black/African American participants with only 1% of the sample identifying as Black/African American compared to the 6% of the general population. The qualitative results were collected via internet survey instead of through in-person focus groups due to COVID-19 restrictions, which may have impacted the quality of answers obtained since participants could not be asked to elaborate on their answers. Further, a limitation involving the qualitative analysis includes that only researcher triangulation was used, and not other forms of triangulation.

Implications for Practice

This study extends the research literature by demonstrating that disability awareness and inclusive teaching training may increase instructors' awareness of disability and knowledge and use of inclusive teaching practices. However, this work did not examine whose role it is to provide such training. While the authors of this study collaborated with their institution's Center for Excellence in Teaching and Learning to promote the *Disability Awareness & Inclusive Teaching Online Video Training*, offices that facilitate equity and diversity trainings may also be positioned to fill this role. Bezrukova et al. (2012) define diversity training as "a distinct set of programs aimed at facilitating positive intergroup interactions, reducing prejudice and discrimination, and enhancing the skills, knowledge, and motivation of people to interact with diverse others" (p. 207). While students with disabilities constitute one of the largest minority groups on college campuses, disability is often not featured as an aspect of student diversity and diversity faculty trainings (Davis, 2011). Similarly, research suggests faculty may not consider disability as a component of diversity (Barnard et al., 2008). Including disability awareness as a component of diversity training may ensure the greatest number of faculty are exposed to disability-related information.

Future Research

Additional research will be critical to scale-up and more rigorously test the faculty training in order to confirm the findings. First, future research should be conducted with a larger and more diverse sample. As described in the previous section, there may be a need to create additional disability awareness and inclusive teaching online videos, such as shorter versions covering other disabilities and specific assessment of inclusive teaching strategies. As the central feature of this training was students with disabilities, future research may also compare the effects of disability awareness and inclusive teaching trainings with and without these voices to determine how this inclusion may affect instructors. Other instructor characteristics, beyond years teaching, graduate assistant status and tenure status, could also be examined in future studies.

Additionally, the video training was evaluated based on the perspectives of the instructors watching them. It may be valuable to seek student feedback, especially from those with disabilities, regarding how their instructors' teaching may or may not have changed before after instructors complete this type of training.

A final area of potential future research includes creating and evaluating disability awareness and inclusive practices trainings on student affairs professionals. Trainings, similar to those in the current study, could be developed that use student voices as the primary teaching tool; however, the inclusive teaching consent could be adapted to reflect how student affairs professionals can incorporate accessibility and inclusive practices into their work.

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Appendix

Qualitative Survey Questions

1. What components of the Disability Awareness & Inclusive Teaching online video training did you find the most helpful and why?

2. What components of the Disability Awareness & Inclusive Teaching online video training did you find the least helpful and why?

3. How did, if at all, the Disability Awareness & Inclusive Teaching online video training inform your teaching practices? In other words, will you be making any changes to your courses as a result of participating in this training?

4. Do you have any other feedback regarding the Disability Awareness & Inclusive Teaching online video training?