Identifying Academic Ableism: Case Study of a UDL-Learning Community Participant

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To improve accessibility and inclusion in postsecondary STEM education, we propose implementing Universal Design for Learning (UDL) based practices to meet the needs of a variety of learners. The UDL is a design framework aimed at improving and optimizing teaching and learning for all people, regardless of their disability status. As part of a larger professional development project, interviews were conducted with members of a faculty learning community to discuss their instructional practices and to offer feedback regarding opportunities to remove barriers to access and participation. In this paper, we focus on an interview with a physics instructor and examine their beliefs about students with disabilities as evidenced by the disability-specific language used in the interview. This prompted a new perspective on professional development regarding accommodating students with disabilities that focuses on confronting ablest beliefs as a crucial component in promoting inclusion in STEM education.

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I. INTRODUCTION

What factors affect an instructor's ability to effectively support students with disabilities in their courses? Is there a need for professional development (PD) to support instructors in learning about the variety of disabilities students may present in the classroom? Is there a need for more specialized training in frameworks for supporting students with disabilities, such as the Universal Design for Learning (UDL) framework and aligned instructional practices? A need for more accountability in implementing accommodations? While all these are significant issues to consider, they require institutional support that often goes beyond an individual instructor's power. In this study, we examine the (possibly unexamined and unnoticed) beliefs that may play a role in STEM instructors' attitudes about supporting students with disabilities in their courses.

For example, the language that instructors use when speaking about providing accommodations and the ways they describe students with disabilities often reflect the ableist society in which we live. Since STEM faculty exist within an ableist culture, they may not be aware of their own ableism until it's expressed through their words. Research has shown that STEM faculty are most resistant to implementing accommodations [1]. This may lead to unintentional use of harmful language regarding students with disabilities and have a negative impact that exceeds an individual instructor's course or institution and affects the perception of the physics community as a whole.

This paper presents a case study of a physics professor who was interviewed as part of a year-long learning community focused on supporting students with executive functioning disorders in postsecondary STEM courses. The author team has a range of physics teaching experiences in K-12 and higher education and a range of personal experiences with disability. Here, we focus on an interview with a physics professor before they attended professional development. In the interview the instructor was asked about their current knowledge and implementation of UDL-aligned instructional practices. When studying the interviews, we noticed this instructor's enthusiasm for participating in professional development about UDL often contrasted with the ways in which they described working with students with disabilities.

II. BACKGROUND

The UDL guidelines offer a set of concrete suggestions that can be applied to any discipline or domain to ensure that all learners can access and participate in meaningful, challenging learning opportunities [2]. We feel UDL is a useful starting point for instructors who seek to improve the level of accessibility and inclusion in their courses.[1] While UDL is increasingly used in many postsecondary programs, it is relatively unknown to postsecondary STEM instructors [3], in part due to the lack of knowledge about and professional development regarding students with disabilities in STEM. This lack of knowledge can have a negative impact on STEM instructors' perceptions of students with disabilities and inclusive teaching strategies.

Academia sets able-bodiedness and able-mindedness as the standard, which is an instantiation of academic ableism [4]. Ableism is so ingrained in American society that often we neglect to recognize it within ourselves. These unrecognized ableist beliefs and attitudes have the potential to continue the discourse that physics is not as supportive and accepting of students with disabilities as other disciplines may be. Almost 20% of postsecondary physical science students in the U.S. identify with a disability, with the most common being cognitive, emotional/mental health, and health impairments. So, we cannot ignore the need to support students with disabilities and rid ourselves of ableist beliefs/attitudes as instructors [5]. We seek to inform future professional development by illuminating ableist ideas instructors may bring into PD by presenting examples from a voluntary participant in a UDL learning community.

II. METHODS AND ANALYSIS

We applied Critical Discourse Analysis to the interview responses. "Critical discourse analysis (CDA) is a qualitative analytical approach for critically describing, interpreting, and explaining the ways in which discourses construct, maintain, and legitimize social inequities [6]." Through CDA we can explore the possible meaning behind the participant's word choices, pauses, and the descriptive language used when referring to instructing students with disabilities [7]. CDA analyses the language used by people who have a position of power as these people are responsible for the existence of inequities and have the means and opportunity to improve conditions [8]. In this study the professor has a position of power in relation to students; their words can enhance or deter the educational experience of the students they teach.

CDA studies are geared to uncovering, revealing, or disclosing what is implicit, hidden, or otherwise not immediately obvious in relation to the discourse of those in power and their underlying ideologies [9]. "Therefore, discursive practices may have ideological effects since they can produce and reproduce unequal power relations between social classes, gender groups and ethnic and cultural majorities and minorities through the ways they represent things and position people [10]." In academia, the discursive practice about what constitutes knowledge, the purpose of

[1] See Dolmage (2017) for critics of UDL framework.

schooling, and appropriate curriculum is embodied in the white male able-bodied teaching force that dominates physics education [11].

CDA focuses on role of power in language. One way power operates is privileging/marginalizing along social identities. One example is ableism. Thus, using CDA, we looked for how power, specifically ableism, showed up in how the instructor talked. The instructor was talking about a situation where he has some power, namely as the instructor of a class. Thus, CDA guided us to look for specific examples of how ableism showed up in the instructor's talk about teaching. It is not the only comments the instructor made; thus, we do not claim this instructor is more ableist than others, we view the analysis as an example of how ableism shows up in instructional discourse.

We followed the General Analytical Framework for CDA. The framework includes seven stages, designed for flexibility and simplicity. The stages are listed in Table I: locate and prepare data, explore the background of each text, code texts and identify overarching themes, analyze the external relations in the text, analyze the internal relations in the texts, and interpret the data [6].

Table I. General Analytical Framework for CDA

Stages of Analysis
1. **Select the discourse**: Select a discourse related to injustice or inequality in society.
2. **Locate and prepare data sources:** Select data sources and prepare the data for analysis.
3. **Explore the background of each text**: Examine the social and historical context and producers of the texts.
4. Code texts and identify overarching themes: Identify the major themes and subthemes using choice of qualitative coding methods.
5. Analyze the external relations in the texts: Examine social relations that control the production of the text; in addition, examine the reciprocal relations (how the texts affect social practices and structures).
6. Analyze the internal relations in the texts: Examine the language for indications of the aims of the texts.
7. Interpret the Data: Interpret the meanings of the major themes, external relations, and internal relations identified in stages 4, 5, and 6.

The participant was recruited from a large research-intensive institution in the southeastern United States through emails to physics instructors who expressed an interest in increasing accessibility and inclusion in their courses. The participants selected which UDL strategy to implement.

Author WJ conducted the one-hour interview, while they were a graduate student, and used a semi-structured one-hour interview protocol to investigate the practices and strategies instructors used in their courses. The questions asked were aligned with the three UDL principles and included questions about how the instructor presented information to students, how students engaged with information, and how students expressed their understanding of information. Additionally, the interviews provided a brief description of how we define UDL, asked about the instructor's familiarity with UDL and questioned if they believed the UDL framework could be helpful in designing inclusive practices.

The interview's verbatim transcript was examined for comments that embodied the semantic meaning behind the participants' words and their subconscious attitudes and beliefs about teaching students with disabilities. We highlighted comments we felt were reflective of an ableist mindset because an integral part of CDA involves analyzing how the language of those in positions of power affects social practices and structures. In the selected quotes, the professor's language expressed ableist stereotypes and tropes that can create barriers for disabled people to fully participate in schooling and society [12].

A pragmatic approach was used when analyzing the comments because pragmatics focuses on conversational implicature, a process in which the speaker implies, and a listener infers [13]. Pragmatics studies language that is indirectly spoken, so we looked for comments in the interview where the participant seemed to hesitate to find the right words or made comments that we felt were ableist in nature and therefore could be harmful to students. For example, the participant often begins responding to the interviewer's questions with a pause which can indicate that there was an attempt to make a careful and appropriate response [14].

Additionally, there were a few instances when the participant would preface their responses with comments such as "this sounds extremely harsh, but I'll just say it..." or "I could be off here, but...." This indicates that there was some awareness that the things they were saying and the ways in which students with disabilities were characterized could be offensive. In fact, part of CDA requires investigating not only what is said, but also what is not being said. CDA also explores the underlying meaning behind one's words [9].

II. FINDINGS AND DISCUSSION

Author CC coded the interview transcript for words or phrases that were similar in meaning or connotation. Based on this coding, CC identified three emergent themes: 1) perceiving disability as weakness; 2) feeling that disability accommodations are unfair; and 3) feeling that accommodations were burdensome. The words the participant used to describe students with disabilities during

the interview often held negative connotation even though they were typically not openly disparaging. We highlighted several examples of how the participant referred to students with disabilities with a negative connotation. Words and phrases that we found problematic are bolded in the text.

A. Disability is not a weakness

When asked by the interviewer if students with attention difficulties struggle with any means of evaluation, the participant said: "*Um... yeah so, I mean it depends, it depends on the particular kind of* ***disorder*** *or* ***weakness*** *I don't want to call it a* ***weakness****, but particular issue...*"

First, in describing students' disabilities as a disorder, the participant alluded to the medical model of disability which characterizes disability as a deficit within the individual that should be cured or fixed [15]. The word "disorder" is a medical term from the Diagnostic and Statistical Manual of Mental Disorders (DSM) V, the authoritative guide for mental health professionals in the United States. The issue here is that those who subscribe to the medical model often deny agency to disabled people while reserving power for medical professionals [16].

Secondly, the participant describes disability as a weakness. Disability is not a weakness, and an instructor who espouses this perspective of their students will most likely experience challenges in supporting them. This participant also reaffirmed this belief when comparing students with disabilities to other students in group work by saying:

WJ: Okay, um and have you noticed any students having particular difficulties with the group work, with the interactions with other people or just anything like that?

Interviewee: Yeah, for sure. Like this semester I noticed there are a handful of students who are, who are just not - I don't know what it is, there's just some social issues or something like that and I just do not. And I've, you know I try to not keep them obviously in the same group the whole time, but there are a few students that just it doesn't matter what group they're in, they're ***not working well*** *with the groups, they just sit there and work by themselves the entire time or something like that. And that's* ***a challenge****, I don't know what to do about it but it's just the way it is. But if I do put that student in a group that the other students are strong-ish students so that they don't, you know, so the whole group doesn't get too* ***weighed down*** *by it.*

Instead of viewing the students with disabilities' lack of participation as a burden, instructors should recognize it as an opportunity to improve the interactions between disabled and non-disabled students [17]. Instructors should model respect and understanding towards students with disabilities to show that their presence and participation in the class is valuable. Research has indicated that the success of students with disabilities in postsecondary education is related to faculty attitudes toward disability [18]. Also, by providing students with disabilities with the necessary support they may need, it can send a positive signal to all students that the contributions of people with disabilities are important in science.

Finally, as displayed in the quote below, the participant appears to have a lack of understanding about attention disorders and perceives them as displaying symptoms that the students can control.

Interviewee: students who have attention issues a lot of times they'll be taking the test, they'll be okay for the first 20 minutes and then they'll, they'll just be ***screwing around*** *or something like that.*

A student's lack of ability to maintain focus should not be seen as just "screwing around." Students with attention disorders can be easily distracted, may be unable to sit still for extended periods of time, or may constantly have thoughts racing through their minds which could cause them to become overwhelmed and stop working [19].

B. Disability accommodations are necessary to level the playing field

Some instructors hesitate to implement approved accommodations for students with disabilities because they feel that they can provide an "unfair advantage" to students. There is often a concern that accommodation(s) provide an academic advantage that will drive other students who do not require accommodation to seek to attain them as well. This concern originates from the false assumption that all students begin college on a level playing field. In reality, students with disabilities begin college at a disadvantage due to inaccessible and exclusive campus, curricular, and classroom environments. For these students, accommodation simply advances them to the level playing field occupied by students without disabilities [20].

When asked about their opinions on accommodations, the participant expressed that they are concerned about whether the accommodations will be perceived as unfair, stating:

Interviewee: all these other students I'm saying at 2 hours later 'I'm picking up your test no matter what' and they're saying, 'well I could've used an extra half hour as well' and ***it's an issue*** *which I think about but yeah.*

Accommodation is neither fair nor unfair. The determination of appropriate accommodations is based only on need, reasonableness, and curricular impact [20]. It is not unfair to offer students with executive functioning (EF) disorders additional time to complete exams and assignments because "college students who struggle with EF skills often experience stress and higher levels of distraction due to the inability to self-regulate and engage in independent, purposeful, self-serving behaviors affecting their learning [21]". Deficits in EF skills can greatly affect

students' academic performance such as studying, taking notes and exams [21].

Additionally, the participant expressed that they had mixed feelings about the appropriateness of accommodations and said:

Interviewee: I, you know, I've had thoughts in the past that maybe this is, that ***accommodations aren't really appropriate*** *most of the time because if it takes you twice as long to do a test, that's you know in real life if you're working for a corporation, you don't get twice as long to do your projects just because you have some diagnosed issue or something like that. I haven't I haven't, I've never raised a fuss and I have no problem actually if students say I need accommodation we'll get them set up but in the back of the mind* ***I wonder sometimes****.*

This viewpoint on accommodation is common amongst STEM professionals because they have been shown to have more negative attitudes towards people with disabilities than their peers in other disciplines [22]. Lack of knowledge about disabilities and disability laws supporting accommodations create this false assumption about the limitations of employment opportunities for people with disabilities.

C. Disability accommodations should not be burdensome

Some faculty consider the effort to accommodate students with disabilities burdensome or believe that it is not worth the effort if the majority of students are able to be successful in the course's current instantiation. The participant was concerned that accommodations can negatively impact both instructors and students.

Interviewee: Uh, I've only heard it this past semester which is what you're doing... you know it's the kind of thing that I'm hopeful will you know give me some good ways to go improve the ways I teach the class, but also at the same time I keep my ***skeptical scientific nature*** *about me...I certainly wouldn't ever want to make a change that you know while it benefitted 3 or 4 students...* ***hurt*** *the other 95% or something like that. At some point you, you know you know, if the accommodations are too much that becomes a* ***burden*** *on the faculty and other students...*

The advantage of employing Universal Design for Learning (UDL) principles is not only do they improve access and inclusion for students with disabilities, but these principles will benefit many other students as well. For example, UDL checkpoint 1.1 is to provide options for perception. The instructional practice of supplying class notes and materials online prior to class is suggested [23]. This enables students who may need to customize the text time to do so before coming to class and it affords students who may require more processing time to review the notes for better comprehension before attending class.

Implementing UDL-aligned instructional practices can help all students and it ensures that students who may need additional support receive it and are able to be as successful as their peers. Under Title III of the Americans with Disabilities Act (ADA), all students with disabilities must receive an equal opportunity to participate in and benefit from the goods and services of colleges and universities that are provided to others [24].

IV. CONCLUSION

For more than three decades, exclusionary and stigmatizing social processes and structures that constrain people with disabilities have been challenged, an effort highlighted by the 1990 enactment of the Americans with Disabilities Act [25]. Education is a social structure that has a significant impact on equity for people with disabilities. The participating instructor espoused ableist beliefs which are reflective of the wider spread ableist views within academia. Instructors also hold ableist perspectives of who can do and excel in physics. As a society, "we should feel that an increase in students with disabilities, and an increase in resources for these students, would be cause for celebration; that this would signal real progress [4]."

The instructor chosen for this study made many stereotypical ableist comments that are problematic in helping to create inclusive environments for STEM students. While instructors might consider themselves to be open and receptive to improving the accessibility of their instruction, we found that their ableist beliefs oppose one's ability to effectively do so.

This enables gatekeeping, which comprises a set of behaviors, practices, and traditions, backed up by individual and organizational power to guard the boundaries of a discipline [27]. When faculty position themselves as gatekeepers, this can result in the creation of disabling barriers for students with disabilities. Disabling barriers are defined as characteristics of social structures which disable individuals with disabilities from access to and participation in social structures; in this study, the disabling barriers of interest are primarily related to course design [28].

Although the effective implementation of UDL-aligned instructional strategies requires knowledge and understanding of UDL principles, we argue that it is equally beneficial for instructors to examine their own unrecognized ableist beliefs and uncover any unconscious bias they may hold toward students with disabilities. We advocate that professional development begins by defining and exposing ableism as a precursor to effective disability training.

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