Creating the Inclusive Higher Education Classroom for Students with Disabilities: The Role of Attitude and Confidence Among University Faculty

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Faculty at postsecondary institutions are working with students with disabilities at a higher rate in the last two decades than ever before due to an increase in students with disabilities pursuing and entering higher education. The American with Disabilities Act Title II requires faculty and universities to provide accommodations to students with disabilities, so they have equal access to higher education. This study assessed faculty self-efficacy in working with students with disabilities and what effect their self-efficacy had on their perceptions of and willingness to accommodate students with disabilities. Engaging in professional development related to creating inclusive environments was found to affect teacher self-efficacy, and higher teacher self-efficacy was found to be related to more positive perceptions of and willingness to accommodate students with disabilities. These findings provide researchers with information relevant for future studies on differences in willingness to accommodate specific disabilities of college students, as well as set the stage for recognizing the importance of professional development for understanding and accommodating students with disabilities in higher education.

There is an increased presence of students with disabilities in higher education today, and therefore an increased focus on supporting faculty who work with such students through different efforts at the university (Bruder & Mogro-Wilson, 2010; Sniatecki, Perry, & Snell, 2015; Wolman, McCrink, Rodríguez, & Harris-Looby, 2004). In 2009, 11% of students in postsecondary institutions identified as having a disability (Planty et al., 2009). A decade later, 19% of students in higher education reported having a disability (Snyder, de Brey, & Dillow, 2019). Students with disabilities are entitled to equal access in education and inclusion under Title II of the Americans with Disabilities Act (ADA). Faculty may be unfamiliar with the federal regulations for working with individuals with disabilities; they also may not receive any formal training on how to create inclusive learning environments. There is some evidence that states that lack of faculty knowledge and training contributes to lower success rates for this group of students and can contribute to the creation of barriers for students with disabilities (Becker. Martin, Wajeeh, Ward, & Shern, 2002; Cook, Runrill, & Tankersley, 2009; Gadbow, 2002; Hong, 2015). In this study, faculty efficacy, perception, and willingness regarding accommodating students with disabilities were assessed. Understanding how teacher self-efficacy influences perceptions of disability and willingness to accommodate students can help structure universities' efforts in providing faculty with professional development opportunities to learn the nuances of creating inclusive classrooms.

Challenges in Higher Education

Students with disabilities in pre-K through grade 12 are entitled to special education that is free, public, and appropriate (34 C.F.R. Part 104.33), and to have advocates in the form of parents, teachers, and other school personnel to help them obtain those services. Teachers in K-12 have support available to them as well, in the form of teacher preparation programs, school psychologists, and program teams who create education programs for students (Eckes & Ochoa, 2005). Such is not the case for students entering higher education. When transitioning to higher education, many students with disabilities encounter a set of challenges that they have not experienced before. While the 1990 reauthorization of Section 504 and the ADA proposed a broad set of regulations to cover all students attending postsecondary institutions (Leuchovius, 2004), little to no attention was given to how to help faculty meet the needs of this group of students and many students were unsure of how to navigate this new terrain themselves.

In higher education, the responsibility to find support on campus transitions to the student with the disability (Connor, 2012). Many students may lack knowledge of existing services and resources available to them and may lack self-efficacy in securing what they need when transitioning from high school to higher education (Eckes & Ochoa, 2005). The more prepared students are with knowledge of available services and skills to advocate for themselves, the better transition they will have entering higher education (Gil, 2007). Knowledge of resources available on campus and registering with disability services contribute to student success, in comparison to students who do not register for services (De Los Santos, Kupczynski, & Mundy, 2019). Students must advocate for themselves by disclosing they are a student with a disability to university services to qualify for accommodations (Connor, 2012; Eckes & Ochoa, 2005; Gil, 2007;

Madaus, 2005). Unlike their pre-K-12 counterparts, adult students are not guaranteed advocacy for special instruction or resources, even if they have a documented disability, unless they take that first step. Once faculty and academic personnel are made aware that a student qualifies for accommodations, reasonable accommodations and academic adjustments for equal learning opportunities for a student can be provided.

Typical academic adjustments for students with disabilities in higher education may include, but are not limited to, note-takers, extended time for exams and quizzes, tape recorded lectures, and/or interpreters (Leuchovuis, 2004). However, disability resource centers typically cannot work with faculty the same way K-12 support resource personnel work with teachers.

The high number of teaching faculty at most universities makes it difficult, if not impossible, for disability resource personnel to work as closely with faculty as support personnel do with teachers in K-12. Consider that the National Association of School Psychologists (NASP) recommends one school psychologist to every 500 to 700 students in K-12 (Weir, 2012). Applying this same ratio to higher education, the number of school psychologists needed at a university of 35,000 undergraduate students would range between 50 to 70. There is also some evidence that faculty may not understand how or why it is important to provide support to their students, which sometimes leads to a reluctance to make course adjustments and provide needed accommodations (Cook et al., 2009; Hong, 2015), which further compounds the difficulties disability resource staff might face in this context. In addition, there is the barrier created by students who do not disclose and believe they can do it on their own (G. Altamirano, personal communication, October 24, 2019), despite evidence that shows that students who have a greater sense of autonomy and acceptance of their disability have been shown to have greater success in higher education (Connor, 2012).

Although universities are increasing resources for students with disabilities, complaints from this group make up the second largest category of complaints fielded by the Department of Education Office of Civil Rights (OCR) (Davis, 2018). Faculty are not always prepared to accommodate students' needs. There is also some evidence that faculty believe that providing students with accommodations gives the student an unfair advantage in the classroom (Cook et al., 2009; Gadbow, 2002) and therefore are less willing to provide the accommodations (Cook et al., 2009; Donato, 2008; Skinner, 2007; Wyndham & Hardy, 2010). Faculty are responsible for providing students with needed and reasonable accommodations, but the provision of these accommodations has not always been regarded as satisfactory by some students (Cook et al., 2009).

Students with disabilities report the lack of knowledge faculty have about disabilities as an obstacle to their success in higher education (Hong, 2015). Students think faculty often fail to recognize their disability and sometimes fail to offer beyond baseline accommodations (Hong, 2015); students may not be performing to their maximum ability as a result of insufficient access to disability resources (Hadley, 2007).

This study assessed how teacher self-efficacy regarding providing accommodations affects faculty perception of working with students with disabilities. This study asked if faculty are willing to provide accommodations to students and if they feel they have the knowledge and ability to provide those accommodations. Further, are there differences that make some faculty more willing and feel more able than others?

Method

Participants

Participants in this study included faculty at a large public research university located in the southeastern United States. The study was conducted in the fall semester of 2019. Total enrollment at the university at the time of the study was 52,218 students, 35,491 of whom were undergraduates. Our survey targeted a random sample of faculty of the nearly 5,000 total faculty. Included in this study were faculty with appointments as lecturers, clinical faculty, and tenure track faculty. All ranks within appointments were included. All colleges at the university were sampled. Within each college, 30-40% of departments were randomly sampled. The departments in each college were listed and numbered in alphabetical order and a random number generator was used to select the departments from which the faculty would be sampled.

Measures

Demographics. We collected demographic information which included gender, age, number of years teaching at a postsecondary institution, title/position, level(s) of higher education taught at (undergraduate, graduate, professional), number of classes taught each year, number of online classes taught (if said yes to teaching online), whether faculty taught exclusively online, number of students requesting accommodations, and college and department affiliation. See Table 1.

Accommodation of University Students with Disabilities Inventory. The Accommodation of University Students with Disabilities Inventory (AUSDI) (Wolman et al., 2004) measures faculty attitudes related to students with disabilities who are in school at a postsecondary institution and investigates

Table 1
Demographics Frequency Table

Variable	N	Percent
Gender Identity		
Female	91	45.9
Male	79	52.9
Other	2	1.2
Age		
26-40	58	33.7
41-55	57	33.1
56+	57	33.1
Years in Higher Education		
0-7	62	36.2
8-22	54	37.4
23+	45	26.3
Faculty Appointment		
Tenure Track	110	65.5
Clinical Track	31	18.5
Lecturer Track	27	16.1
Level of Teaching		
Undergraduate	91	52.9
Graduate	121	71.2
Professional	77	45.8
Class Size		
0-150	112	74.3
151-300	32	20.6
300+	11	5.0
Number of Students Requesting Accommodations		
0-9	119	76.3
10-19	24	15.4
20+	13	8.3

the willingness of faculty in providing accommodations and was adapted for use in this study. The AUSDI is composed of the following subscale measures: faculty willingness to accommodate students with learning disabilities (eight items), willingness to accommodate students with deafness or blindness (eight items), willingness to accommodate mental health (six items), and willingness to accommodate physical disabilities (five items). The AUSDI has three other subscales: assumptions about students with disabilities (five items), professional development provided by the college (six items), and friendship with persons with disabilities (seven items).

The subscales were adapted for this study to use a six response Likert scale (1 = *extremely unlikely* to 5 = *extremely likely*), with a sixth option of N/A. We included the option of *N/A* for respondents who felt uncomfortable with the topic and/or chose not to answer. For the factors assessing willingness to accommodate students with learning disabilities and willingness to accommodate students with deafness or blindness, scores ranged from a low of 8 to a high of 40. Score for willingness to accommodate for students with mental health needs

ranged from 6 to 30; and for willingness to accommodate for students with physical disabilities scores ranged from 5 to 25. The mean score for each subscale was calculated in order to make comparisons among groups. A mean score of 1 reflects extreme unwillingness to accommodate students with each type of disability; a mean score of 5 reflects extreme willingness to accommodate students with the type of disability.

We obtained Cronbach's alphas for willingness to accommodate for learning disability ($\alpha =.85$), deafness or blindness ($\alpha =.80$), mental health ($\alpha =.78$), and physical disability ($\alpha =.73$); and for faculty assumptions about students with disabilities ($\alpha =.68$), professional development ($\alpha =.70$), and becoming friends with students with disabilities ($\alpha =.94$).

Faculty Perspectives about Teaching and Working with Students with Disabilities. Becker and Palladino (2016) created the Faculty Perspectives about Teaching and Working with Students with Disabilities instrument that measures faculty dispositions on working with and accommodating students with disabilities. This inventory includes two subscales that assess faculty attitudes and

experiences with students needing accommodations and faculty professional development. The items in the first subscale that assess faculty attitudes and experiences (six items) came from a validated measure done by Houck et al. (1992). The items assessing faculty professional development related to recent experiences faculty had with a student with disabilities and prior experience with resources and training.

Responses for the first subscale were recorded using a six response Likert-scale of level of agreement (1 = *strongly disagree* to 5 = *strongly agree*) with a sixth option of N/A. Becker and Palladino did not include the sixth response option of "N/A"; it was adapted for this study for respondents who did not want to respond or did not have experience with a student with a disability. For the factor assessing faculty attitudes and experiences using a level of agreement, scores ranged from 8 to 40. Responses for the second subscale measuring resource use and training and professional development were answered as yes/no or select a response and were reported as percentages according to each answer option. Becker and Palladino did not report internal consistency measures. We ran Cronbach's alpha of the 6 items we used, and an internal consistency estimate was calculated ($\alpha = .63$).

Patterns of Adaptive Learning Scale. The third inventory that was adapted for this study was the Patterns of Adaptive Learning Scale (PALS) teaching efficacy scales (Midgley et al., 2000). We used the seven teacher efficacy items from PALS, which uses a five-point Likert-scale (1 = *strongly disagree* to 5 = *strongly agree*). For this factor, scores ranged from 7 to 35. A mean score of 5 means that faculty respondents have the highest teacher efficacy and therefore believe in their personal abilities to accommodate students at postsecondary institutions. A mean score of 1 means that faculty respondents have the lowest teacher efficacy in accommodating students in higher education and do not believe in their abilities to accommodate students in higher education. Our Cronbach alpha was .64.

Procedure

IRB approval was obtained from the university Institutional Review Board (IRB201902353). Participants were invited to complete the survey via email. Participants were sent one email requesting their participation. Qualtrics was the mechanism used to deliver the invitation to participate and collect the data. Recipients were given the option to accept or decline the invitation to complete the survey. After data collection was complete, all data were exported from Qualtrics to SPSS.

Analyses

Pearson product moment correlations were completed to test the relationship between willingness to accommodate students with disabilities and teacher perception of working with students with disabilities, between teacher perception of working with students with disabilities and teacher self-efficacy, and between willingness to accommodate students with disabilities and teacher self-efficacy.

An analysis of variance compared teacher willingness to accommodate students with learning disability, mental health, deafness or blindness, and physical disability between faculty with high self-efficacy and low self-efficacy. An analysis of variance compared teacher self-efficacy, willingness to accommodate students with disabilities, and faculty perception of working with students with disabilities between faculty with professional development training and faculty without professional development training.

Independent groups *t*-tests further explored differences in teacher self-efficacy, willingness to accommodate students with disabilities, and faculty perception of working with students with disabilities between male and female faculty, tenure track and non-tenure track faculty, and novice and veteran teachers.

Results

This study explored the relationships between teacher self-efficacy, instructor perception of working with students with disabilities, and willingness to accommodate specific types of disabilities.

Table 2

Correlations Between Willingness to Accommodate, Perception of Working with Students with Disabilities, and Teacher Self-efficacy

Variable	Willingness to Accommodate	Perception of Working with Students with Disabilities	Teacher Self-efficacy
Willingness to Accommodate	--		
Perception of Working with Students with Disabilities	.668**	--	
Teacher Self-efficacy	.475**	.499**	--

Note. **Correlation significant at 0.01 level (2-tailed)

Table 3
Correlations Between Willingness to Accommodate Specific Disabilities and Teacher Perception of Working with Students with Disabilities and Teacher Self-Efficacy

Group	Willingness to Accommodate	
	N	*r*
Teacher Perception		
Learning Disability	56	.610**
Deafness/Blindness	55	.543**
Mental Health	58	.509**
Physical Disability	57	.564**
Teacher Self-Efficacy		
Learning Disability	38	.365*
Deafness/Blindness	37	.429**
Mental Health	39	.331*
Physical Disability	38	.406**

*Correlation significant at 0.05 level (2-tailed).
**Correlation significant at 0.01 level (2-tailed)

Pearson Product Moment Correlations

Statistically significant correlations were found between teacher's willingness to accommodate, their perceptions of working with students with disabilities, and their teacher self-efficacy. These results showed moderate positive correlations, suggesting that the higher the teacher self-efficacy, the more positively they view working with students with disabilities and the more willing they are to make needed accommodations (See Table 2).

Statistically significant correlations were found between willingness to accommodate for different types of disabilities with teacher's perception of working with students with disabilities and teacher self-efficacy. These results showed moderate positive correlations, suggesting that the more positively faculty view working with students with disabilities, and the more they feel equipped to work with students with disabilities, the more willing they are to make needed accommodations for different types of disabilities (See Table 3).

Analysis of Variance

Statistically significant effects for teacher self-efficacy groups were found regarding willingness to accommodate students with different types of disabilities. These results showed significant differences between faculty with high teacher self-efficacy and faculty with low teacher self-efficacy, suggesting that difference in teacher self-efficacy has an impact on willingness to accommodate students with different types of disabilities (See Table 4). Willingness to accommodate for students whose needs for mental health was higher for instructors with high self-efficacy ($M = 4.23$, $SD = .633$) than for those with low self-efficacy ($M = 3.73$, $SD = .895$). Willingness to accommodate for students whose needs for learning disabilities was higher for instructors with high self-efficacy ($M = 4.14$, $SD = .639$) than for those with low self-efficacy ($M = 3.63$, $SD = .775$). Willingness to accommodate for students whose needs for physical disabilities was higher for instructors with high self-efficacy ($M = 4.41$, $SD = .667$) than for those with low self-efficacy ($M = 3.81$, $SD = .805$). Willingness to accommodate students whose needs for deafness or blindness was higher for instructors with high self-efficacy ($M = 4.70$, $SD = .310$) than for those with low self-efficacy ($M = 4.28$, $SD = .310$).

An analysis of variance showed that the effect of professional development training for faculty on teacher self-efficacy was significant ($F(2,40) = 4.102$, $p = .024$). Teacher self-efficacy was higher for instructors who took part in professional development opportunities provided by their institution ($M = 26.58$, $SD = 2.01$) than for those who did not participate in professional development training ($M = 24.70$, $SD = 1.06$). No differences were found between those who were unaware of professional development training opportunities and those who either participated in or did not participate in professional development opportunities. Professional development training had no effect on willingness to accommodate students with disabilities or on teacher perception of working with students with disabilities.

Independent Groups *t*-tests

We conducted several independent groups *t*-tests to explore if there are differences in perceptions of working with students with disabilities, teacher self-efficacy, and willingness to accommodate students with disabilities based on demographic variables. Female faculty had more positive teacher perception of working with students with disabilities ($M = 41.55$, $SD = 4.992$)

Table 4
Analysis of Variance for High and Low Teacher Self-Efficacy Groups

Source	df	SS	MS	F	p
Learning Disability					
Between Groups	1	2.45	2.45	4.96	.032*
Within Groups	36	17.77	.49		
Total	37	20.22			
Deafness/Blindness					
Between Groups	1	1.53	1.53	8.73	.006**
Within Groups	35	6.12	.18		
Total	36	7.65			
Mental Health					
Between Groups	1	2.41	2.42	4.20	.047*
Within Groups	37	21.25			
Total	38	23.66			
Physical Disability					
Between Groups	1	3.30	3.30	6.24	.017*
Within Groups	36	19.03	.53		
Total	37	22.33			

*ANOVA significant at 0.05 level (2-tailed)
**ANOVA significant at 0.01 level (2-tailed)

than did male faculty ($M = 38.68$, $SD = 5.100$), $t(145) = 3.443$, $p = .001$. Female faculty had higher sense of teacher self-efficacy ($M = 24.44$, $SD = 3.094$) than did male faculty ($M = 22.92$, $SD = 3.491$), $t(80) = 2.097$, $p = .039$. There was no difference in willingness to accommodate students in higher education between male and female faculty. Further, our data does not show a difference based on college affiliation of faculty, unlike what a previous study reported (Lombardi & Murray, 2011).

We created two groups for several demographic variables in order to run independent groups t-tests; length of time teaching in higher education was separated into a 0-7 years teaching in higher education group and a 23 or more years of teaching in higher education group. Type of faculty appointment was grouped to include a tenure track faculty group and a non-tenure track faculty group. Tenure track faculty include Assistant Professor, Associate Professor, and Full Professor. Non-Tenure track faculty include Lecturer, Senior Lecturer, Master Lecturer, Clinical Assistant Professor, Clinical Associate Professor, and Clinical Professor. Length of time spent teaching in higher education nor faculty appointment had any effect on faculty on willingness to accommodate students with disabilities for faculty, on perception of working with students with disabilities, or on teacher self-efficacy.

Discussion

Key questions investigated in this study include: 1) are faculty willing to provide accommodations to students and do they feel they have the knowledge and ability to provide those accommodations? And 2) are there differences that make some faculty more willing and feel more able than others? Our results suggest that when faculty take part in professional development opportunities that help them develop an understanding and skillset to create inclusive learning environments, they report higher teacher self-efficacy, which is related to more positive perceptions of working with students with disabilities; those positive perceptions are related to a willingness to accommodate. Having the opportunity for and attending some form of professional development training is what really seems to matter. Given that previous research provides evidence that students who advocate for themselves and seek out the resources available to them at the university have more success in their collegiate pursuits (De Los Santos et al., 2019) and this study provides support for the value of providing professional development to faculty (Fletcher & Patrick, 2006; Skinner, 2007) because of the spill-over effect it will have on students, efforts to educate faculty on how and why to create inclusive learning environments should be considered. Latouche and Gascoigne (2019) demonstrated that even a brief in-service training for primary school teachers on ADHD increased their knowledge about ADHD and their self-efficacy in working with students with ADHD. Positive effects on general teacher self-efficacy were also found by Ibrahim, Clark, Reese, and Shingles, (2020) following participation in their teaching development program for early career researchers at the postsecondary level. Combined with the conclusions of Sniatecki et al. (2015)

and Collins, Azmat, & Rentschler, (2019) that faculty members have demonstrated a desire for professional development regarding creating inclusive environments, these results provide even more of a reason to provide faculty with training in inclusive pedagogy. It is interesting that research shows positive outcomes from participation in professional development training for faculty (Murray, Lombardi, Seely, & Gerdes, 2014), and yet these trainings are not required. This is especially interesting considering that most higher education faculty do not receive much, if any, formal training to teach before assuming their roles in the classroom.

No differences were found due to field of teaching, length of teaching, or type of teaching appointment. We studied these three variables in particular to investigate if disciplinary differences might affect perceptions and willingness to work with students with disabilities, whether there might be a tendency for faculty whose teaching appointment was primarily teaching (clinical faculty and instructors) as opposed to more evenly split between teaching and research (tenure track) to feel more comfortable with creating an inclusive learning environment, or whether those with more recent training would be more comfortable to do so. That none of these variables made a difference suggests the power of professional development in fostering a sense of self-efficacy for creating inclusive classrooms.

Future Research

This study surveyed faculty at only one institution and the sample size was small. Of the 1,447 invited to participate, 177 responses were obtained, representing a quite low 12.23% response rate. Faculty who responded might be more familiar with working with students with disabilities and making accommodations, or they might have a strong view of students with disabilities depending on their field of study. Additional limitations include the format of delivery of the online survey, along with the possibility that faculty with stronger opinions or more experience may have a higher response rate.

Future studies might investigate further the distinction between type of university and professional development and consider an international comparison as well. Type of university could be categorized by type of degree earned and length of degree offered, classification of public or private, field of study, and geographic region. Professional development can be conceptualized as required, strongly encouraged, or not required and only offered. Studying the faculty responses at a two-year institution might provide different insight than faculty responses at a four-year institution. Conducting the study at different types of universities, public or private, two-year or four-year, rural or urban, would result in a more diverse sample that would enhance the reliability of results and

discussion to be had on this topic. We might understand better the distinction between veteran and novice faculty, and tenure track and non-tenure track faculty and attitude toward professional development if we assess differences and similarities of universities other than four-year, public research universities.

The results of this study raise the question: if faculty know of professional training development offered at their institution and do not take the opportunity to participate, what might encourage faculty to take the opportunity for professional development? Would compensation perhaps in the form of acknowledgment of professional development efforts at the time of review encourage participation in professional development? Future studies should investigate the effects of required or elective formal professional development, mentoring, or assistance from trained professionals, as well as ways to motivate faculty to enter professional development activities around inclusive instruction and universal design. Future studies could assess the differences in effects of a generic session required for all faculty and further elective trainings on students with specific needs, as well as the half-life of the positive effects on self-efficacy from professional development opportunities. Future research might assess if one training is enough for lasting effects on self-efficacy for faculty or if follow-up or more advanced professional development activities are needed. Differentiating between types of professional development could assess differences in outcomes for faculty going through these training sessions. Future research is needed to know what style, modality, length, and areas of focus of professional development programs are offered to faculty and which are effective and preferred. Knowing that professional development has benefits for faculty members, future studies could look at styles of trainings used, such as conferences, seminars, or workshops; length, such as one-time trainings compared to multiple session trainings; and modality, which could include virtual, interactive, etc. Areas of focus refers to opportunities of trainings on specific disability groups, types of accommodations typical for specific disabilities, and methods of improving efficacy. Additionally, understanding the ways in which instructors determine whether their efforts at accommodating have the intended effect for the student might provide further insights on the effects of professional development activities. More research is needed to understand effective ways to encourage faculty to take part in professional development training because these topics are important to what it means to teach in higher education today.

Conclusion

Past literature cites that faculty at postsecondary institutions have demonstrated satisfaction with professional development training on students with disabilities (Murray et al., 2014) as well as a desire for

professional development training on the topic of disability in higher education (Sniatecki et al., 2015). This is promising, considering the number of complaints received each year from students with disabilities at higher education institutions and common misconceptions and misunderstandings faculty have of what accommodations do for students and how it alters curriculum in a higher education classroom. The number of faculty working with and accommodating students with disabilities in higher education is increasing and will continue to increase. Faculty in postsecondary institutions will be required to continue efforts at creating inclusive learning environments for all students. This study provides evidence that professional development training can increase teacher self-efficacy, create more positive perceptions for faculty of students with disabilities, and impact one's willingness to work with and provide students accommodations for a more equally accessible education.

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