Effects of an Intensive Disability-Focused Training Experience on University Faculty Self-Efficacy

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Abstract

The current study evaluates the short-term effects of a disability-focused training on the disability-related self-efficacy of university faculty. Three consecutive cohorts of faculty (N = 102) participated in an intensive four-day training institute focused on understanding and supporting university students with disabilities. Self-efficacy for understanding and working with students with disabilities was measured prior to and following training and faculty satisfaction with the training experience was assessed at post-test only. Participation in training had strong positive effects on faculty self-efficacy for understanding and supporting students with disabilities and faculty reported high levels of satisfaction with the experience. Implications of the study for similar efforts in postsecondary settings are discussed and free access to our training materials is provided.

Keywords: Faculty training, postsecondary education, disabilities, disability awareness

Recent data from the National Longitudinal Transition Study-2 (NLTS-2) indicate that participation in four-year postsecondary programs among students with disabilities grew from just over 1% in 1987 to just under 10% by 2003 (Wagner, Newman, Cameto, & Levine, 2005). Later data from the same study indicate that up to eight years after high school, nearly 20% of youth with disabilities report having attended a four-year college or university at some point since high school (Newman et al., 2011). These findings regarding *participation* in postsecondary school among students with disabilities are promising and continuing to expand such opportunities will continue to be important in an increasingly competitive, knowledge-based economy. Unfortunately, these promising trends pertaining to participation in postsecondary school are tempered somewhat by corollary research showing that college students with disabilities experience higher course failure rates, lower retention rates, and have significantly lower rates of graduation than do their nondisabled peers (Adams & Proctor, 2010; Hurst & Smerdon, 2000; Sanford et. al., 2011; Wessel, Jones, Markle, & Westfall, 2009). Moreover, NLTS-2 findings indicate that approximately two-thirds of students with disabilities who enroll in four-year programs fail to successfully complete these experiences (Newman et al., 2011).

Efforts to understand postsecondary performance among students with disabilities have focused on a wide range of potential predictors including background educational experiences (Halpern, Yovanoff,

Doren, & Benz, 1995), individual skills (Murray & Wren, 2003), family supports (Murray, Lombardi, Bender, & Gerdes, 2013), and supports provided within postsecondary environments such as accommodations and services offered through campus Disability Services Offices (Allsopp, Minskoff, & Bolt, 2005). Although this research is still evolving, one consistent finding from this work is that university faculty play a critical role in promoting – or inhibiting – positive postsecondary experiences among students with disabilities (Hartman-Hall & Haaga, 2002; Wilson, Getzel, & Brown, 2000).

College and university faculty can affect the postsecondary educational experiences of students with disabilities in at least five important ways: (a) through the design and delivery of instruction in their own courses, (b) through their direct interactions with students with disabilities around issues pertaining to student disclosure and accommodation requests; (c) through their mentoring and relationships with individual students, (d) through their knowledge of campus services and supports available for students with disabilities, and (e) through their influence on the overall climate of the institution (Harrison, 2003; Mytkowiz & Goss, 2012; Scott & Gregg, 2000; Wilson, Getzel, & Brown, 2000). According to college students with disabilities in one study, "…instructional faculty, more so than any other campus entity, can impact their success" and "…without the support of faculty, they would have had little chance of success" (Wilson et al., 2000, p. 41). Mytkowiz and Goss (2012) interviewed students with disabilities at one college and found that supportive student-professor relationships was one of three key themes identified by students as contributing to their success and persistence in postsecondary school. Similar findings were reported by Dowrick et al. (2005), who found that faculty-student mentor relationships were among the most valuable types of support students reported receiving during postsecondary education.

Despite these positive characterizations of faculty, a consistent finding in prior research has been that many students with disabilities report having negative experiences with faculty (Cawthon & Cole, 2010; Houck, Asselin, Troutman, & Arrington, 1992; Kurth & Mellard, 2006). Farone, Hall, and Costello (1998) conducted interviews with 32 students with disabilities and found that students perceived that faculty lacked information about disability issues, had poor attitudes towards students with disabilities,

and were not receptive to student accommodation requests. Similar findings were reported by Cawthon and Cole (2010) who found that students were hesitant to report their disability to university faculty because they anticipated that professors would be unwilling to provide accommodations. Dowrick et al. (2005) found that students with disabilities experienced difficulty obtaining basic accommodations and supports due to faculty members' unwillingness to accommodate and their lack of understanding about disability law. Other findings suggest that faculty may have lower academic expectations for students with disabilities than for students without disabilities (Houck, Asselin, Troutman, & Arrington, 1992; Mathews, Anderson, & Skolnick, 1987). Several researchers have reported that, although college and university faculty are generally willing to provide students with minor accommodations such as tape recorded lectures or additional time during exams, they are less willing to provide major accommodations such as reductions in work load or alterations of major course assignments (Lombardi, Murray, & Gerdes, 2011; Matthews, Anderson, & Skolnick, 1987; Nelson, Dodd & Smith, 1990; Vogel, Leyser, Wyland & Brulle, 1999). Still other researchers have observed that students and faculty often have differing views about campus environments, with faculty generally endorsing more positive views about the supportiveness and responsiveness of campus settings than students (Baker, Boland, & Nowik, 2012).

Given the important role faculty appear to play in promoting or inhibiting success among students with disabilities, it is unfortunate that there have been limited published reports regarding the effectiveness of efforts to improve the disability-related knowledge and skills of faculty. Although several *descriptions* of faculty training efforts exist in the literature (Krampe & Berdine, 2003; McGuire, Scott, & Shaw, 2003; Park, Roberts, & Stodden, 2012), systematic evaluations of the effects of such efforts are far less common. Two exceptions include the research conducted by Rohland et al. (2003) and a study conducted by Sowers and Smith (2004).

Roland and colleagues recruited 103 faculty from 45 departments at seven different colleges and universities in Rhode Island to participate in a four-day training that was designed to promote disability awareness, an understanding of legal issues, and an understanding of supports for students with hearing, vision, learning, attention, and emotional disabilities. The training participants also discussed and developed

strategies for serving as disability mentors in their home academic units. Thus, the goal of this project was to develop institutional resources and supports by training individuals who would then serve as trainers of other faculty. Findings from an analysis of trainee perceptions prior to and following the training activities indicated that trainees had greater confidence in meeting training objectives and were satisfied with the training materials at the end of the training sessions.

In a second example, Sowers and Smith (2004) trained nursing faculty on disability issues using a brief two-hour training curriculum that focused on (a) enhancing the perceptions of faculty regarding the capabilities of students with disabilities, (b) providing strategies for accommodating students with disabilities during instruction and supervision, (c) information pertaining to laws (Section 504 & ADA), and (d) information regarding the costs associated with providing accommodations. Evaluations of nursing faculty perceptions prior to and following training indicated that this brief training experience led to improvements in faculty participants' perceptions of the capabilities of students with disabilities and decreased concerns about having students with disabilities in nursing programs.

In addition to this work, the results of several correlational investigations suggest that disability-focused training is associated with faculty attitudes and skills. Bigaj, Shaw, and McGuire (1999) examined the relationship between prior disability-focused training and faculty attitudes and found that faculty participation in some form of prior disability-related training was predictive of faculty members' willingness to provide, and report use of, teaching and exam accommodations. These findings were replicated and extended by Murray, Lombardi, Wren, and Keys (2009), who found that university faculty who participated in some form of prior disability-focused training had greater willingness to provide exam accommodations, greater fairness and sensitivity towards students with disabilities, greater willingness to personally invest in students with disabilities, and greater personal actions in support of students with disabilities (i.e., inviting disclosure and providing accommodations) than did faculty who had not participated in prior training. Moreover, Murray et al. (2009) studied different types of prior training and found that prior participation in disability-related coursework or workshops had stronger effects on faculty attitudes and skills than did less direct forms of training (i.e., read books or visited websites).

Current Study

The goal of the current investigation was to evaluate the short-term effects of a summer training experience on university faculty members' self-efficacy for understanding and supporting college students with disabilities. Self-efficacy reflects an individual's beliefs or "confidence" that they can successfully engage in and complete a task (Bandura, 1997). A growing body of research suggests that teacher self-efficacy beliefs are associated with teaching behavior and job satisfaction (Betoret, 2006; Skaalvik & Skaalvik, 2007). Although we know of no investigations that have targeted disability-related self-efficacy among university faculty, such beliefs are a natural target for disability-focused intervention efforts because they may be indicative of future behavior. According to Bandura (1977, 1982), self-efficacy beliefs are developed through personal achievements/performance accomplishments, vicarious learning experiences, and verbal persuasion. Given that faculty may sometimes feel uncomfortable about their understanding of and ability to work with college students with disabilities, finding ways to improve their self-efficacy for supporting this population within the context of postsecondary settings is important. We anticipated that faculty training participants would show improvements in their self-efficacy for understanding and supporting postsecondary students with disabilities following the training experience. We also anticipated that participants would indicate a high degree of satisfaction with the experience.

Methods

Participants

The current study focuses on faculty who participated in a summer training workshop during one of three consecutive summer training opportunities: Year 1 (*n* = 39), Year 2 (*n* = 25), and Year 3 (*n* = 38). Training participants were selected based on four criteria. First, we limited this opportunity to full-time faculty (.5 FTE or greater) based on the assumption that these individuals would have more secure positions in the institution and would thus be more likely to remain in the university after the training. Second, non-tenure track research faculty were excluded from participation because the vast majority of these individuals at the study site do not teach. Third, as shown in Table 1, we attempted to recruit faculty from schools and colleges within the university in proportions that were

Table 1

College Representation in Training and Overall Institution

College	Participants	Institution
Arts & Sciences	55%	40%
Architecture & Allied Arts	13%	8%
Business	3%	5%
Education	6%	15%
Honors	2%	1%
Journalism	6%	1%
Music	14%	5$
Academic Supports	1%	5%
Law	0%	3%
Research Institutes	0%	13%

Note. Institution column sums to 96% due to 4% with unknown affiliations.

approximately equal to their overall representation within the university. Overrepresentation of faculty from the majority of colleges was due mainly to the fact that 13% of faculty at the institution were research faculty and thus were not recruited for training. Although we do not know exactly why College of Education faculty participated in low rates, it is possible that faculty in this unit believed that they already had knowledge about the needs of college students with disabilities (Lombardi & Murray, 2011; Murray et al., 2008; Skinner, 2007). The College of Law had their own highly specific policies and procedures for working with students with disabilities, so faculty within this college asked not to be included in the project. Our fourth criterion was to make every possible effort to follow the criteria above while also accepting applicants for training on a first-come/first-serve basis.

Using these general criteria, every full-time faculty member who expressed an interest in participating in the training over the three-year period was offered an opportunity to do so. Participating faculty represented approximately 43 different departments and programs in the university.

Measures

Disability self-efficacy. To evaluate changes in faculty members' disability-related self-efficacy, we created an 18-item measure specifically for this study. Consistent with prior research on teacher-self-efficacy, items on the instrument were constructed to reflect domain specific rather than global functioning among faculty (Klassen & Chiu, 2010). These items contained the same question prompt: "How confident are you that you could……" and item stems focused on specific

disability-focused domains relevant to postsecondary faculty including universal design (e.g., "identify ways to implement universal design principles in planning for your courses"), general disability knowledge (e.g., "describe the basic defining characteristics of different types of disabilities"), and accessing disability-related supports (e.g., "describe the basic process used for students to access Disability Services") (Scott & Gregg, 2000; Sowers & Smith, 2004; Stodden, Whelley, Chang, & Harding, 2001). For the specific purposes of the current effort, items were also developed to reflect a fourth domain pertaining to providing information and training to other faculty and staff about the characteristics and needs of postsecondary students with disabilities (e.g., "Improve awareness of disability-related topics among other faculty in your department"). Items were rated on a five-point scale ranging from 1 = "no confidence at all" to 5 = "complete confidence."

Using pre-test data from all three cohorts, faculty responses to the 18 items were subjected to a principal components analysis with a varimax rotation. Examination of the scree plot and resulting Eigenvalues (i.e., greater than 1.0) indicated that four factors accounted for approximately 66% of the variance in responses. The first factor, Universal Design, contained four items related to faculty understanding of universal design principles (e.g., "How confident are you that you could use implement universal design principles in delivering instruction in your courses"). Cronbach's alpha on this factor was .91. The second factor, Knowledge of Disability, contained eight items pertaining to faculty confidence in understanding disability. Sample items on this factor included, "How confident are you that you could describe the basic defining characteristics of different types of disabilities" and "How confident are you that you could identify the range of disabilities that exist on college campuses" ($\alpha = .87$). The third factor, Knowledge of Services, contained three items related to faculty confidence pertaining to their understanding of disability services within the university context (e.g., "How confident are you that you could describe the basic process used by students to access Disability Services," $\alpha = .77$). The fourth factor, Sharing Information, contained three items pertaining to faculty members' ability to share disability-specific information within the university context (e.g., "How confident are you that you could improve awareness of disability-related topics among other faculty in your academic department," $\alpha = .68$).

Participant Satisfaction. In addition to the self-efficacy measure, we also administered a brief nine item training satisfaction measure. This instrument was administered directly following the training experience and included six items rated on a five-point scale ranging from 1 = "Strongly Disagree" to 5 = "Strongly Agree." Items focused on participants' satisfaction with the workshop materials (e.g., "Presentation of material was appropriately balanced with application activities, discussion, and lecture") and the workshop content (e.g., "The workshop sessions were clear and easy to follow").

Procedures

Training participants were recruited by sending letters to department and unit heads. These recruitment letters included a description of the project, training dates, and a description of the training stipend ($1,500 per participant). This stipend was based on the amount typically offered to faculty for participating in summer workshops offered through the teaching effectiveness program within the institution. Department and unit administrators sent recruitment letters via email directly to faculty within their units and interested faculty responded directly to project staff. The training, *Expanding Cultural Awareness of Exceptional Learners,* was developed through a collaborative effort between the Director of the Disability Services Office, a faculty member in special education, a project coordinator who was an advanced doctoral student in special education, and a doctoral student in educational leadership. Training consisted of four 7-hour sessions held at the beginning of summer (June), approximately one week after the end of the academic school year. The institute was designed to improve faculty self-efficacy for understanding, working with, and advocating for students with disabilities but also included a section designed to motivate faculty to promote disability awareness among their colleagues. The manualized curriculum was based on available resources in the professional literature (Burgstahler & Doe, 2006; Cook et al., 2006; Debrand & Salzberg, 2004; Kurth & Mellard, 2006; Rohland et al., 2003; Sowers & Smith, 2004). In Table 2 we provide an overview of the training topics. All training materials are available on the following website: aec.uoregon.edu/faculty/reference.html#institute.

Day 1 activities focused on building faculty awareness about disability and included an overview of definitions of disability categories, prevalence rates

Table 2

Overview of Summer Institute Training Sessions

Day 1: Awareness
    Definitions
    Prevalence
    Learning Characteristics
    Social, Emotional, Psych
    Student Speakers

Day 2: Laws, Accommodations, University Supports
    Brief History & Post-School Outcomes
    Federal Legislation
    Defining Accommodations
    University Supports & Disability Services

Day 3: Practice
    Universal Design
    Adaptive Technology
    Planning for Instruction
    Delivering Instruction
    Evaluating Instruction & Assessment

Day 4: Institutionalizing
    Overview of faculty & student surveys
    Developing Training Ideas
    Developing Personal & Training Goals

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among school-age and college-age populations, and general academic, emotional, behavioral, and social characteristics college students with disabilities by category. This information was presented by a faculty member in special education, the director of disability services, and a doctoral student with a disability who is an expert in hearing impairments. At the end of Day 1, a panel of six college students with disabilities (i.e., ADHD, LD, hearing impairment, visual impairment, physical disability, and mental health) presented a student panel. Students each spoke for approximately 15 minutes and provided a brief overview of their educational experiences historically and during post-secondary school, challenges they had experienced as college students, and strategies or resources that they believed had a positive impact on their ability to access and succeed in postsecondary school.

Day 2 activities began with an historical overview of special education including a review of research pertaining to the post-school outcomes of students with disabilities, with a specific focus on outcomes pertaining to postsecondary attendance and graduation. Following this segment, participants were provided an overview of federal legislation (Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act) along with the implications of these laws for admissions (e.g., qualifying), enrollment (e.g., reasonable accommodations), and academic standards. A faculty member from the College of Law with a disability who teaches disability law presented this legal overview. Following this presentation, approximately 1.5 hours was devoted to an in-depth discussion of accommodations including types of accommodations, the process for requesting accommodations, the process

for determining student eligibility to receive accommodations, and specific case examples to provide faculty with numerous examples of how the process for requesting and receiving accommodations looks in practice. These materials were presented by the Director of Disability Services.

Day 3 activities began with an overview of universal design and included definitions from leading organizations (www.cast.org) as well as specific examples of universal design in practice. This information was presented by a counselor from the disability services office at the university. This segment was followed by a presentation about using technology to create alternative text formats, accessible pdf's for syllabi and course readings, and a presentation about using universal design principles when developing and delivering course materials through Blackboard. Technology information was presented by staff from the teaching effectiveness program within the university who were experts in using technology for teaching. Day 3 concluded with a series of discussions and group activities related to delivering and evaluating instruction using universal design principles.

The final day of training, Day 4, was devoted primarily to providing faculty with the tools and motivation to disseminate information from the training to other faculty and staff within their respective departments and programs. This session began with an overview of the results of an annual campus-wide survey of students with disabilities (Lombardi, Murray, & Gerdes, 2011) along with results of a second survey focused on faculty attitudes, knowledge, and skills pertaining to understanding and supporting students with disabilities in the university (Lombardi & Murray, 2011). This provided participants with an overview of campus-wide attitudes and beliefs among faculty and students. We then provided each participant with all of the project training materials by adding them to a Blackboard course site that contained all training materials as well as access to over 150 journal articles focused on postsecondary education and disability, a list of over 100 video links pertaining to postsecondary education and disability, contact information for all of the individuals who had presented during their training experience, a list of university and community organizations that could potentially support college students with disabilities, and six informational newsletters developed specifically for this particular institution. These materials were provided in a format that could be modified by the user (e.g., MS Word, PowerPoint)

to provide participants with the ability to tailor materials to their specific needs. The vast majority of these resources are freely available for public or institutional use (aec.uoregon.edu/faculty/reference.html#institute) or can be requested from the first author.

By the end of Day 4, participants had experienced the training, had access to all of the training materials, and could access additional resources that could facilitate further professional development. We then asked faculty to work in small groups to develop their own training ideas for faculty and staff within their home academic units. For this task, participants created three training formats: (a) a brief 15-20 minute training, (b) a 30-40 minute training, and (c) a 90 minute training experience. All participants' training ideas were transcribed and all participants were provided copies of all training strategies.

Our final activity involved asking each faculty member to develop specific individualized goals for the consequent academic year. For this activity, faculty created specific goals pertaining to training other faculty (e.g., deliver brief training on characteristics of college students with disabilities at department meeting), making changes to their own instruction (e.g., change instructional approach in one course by incorporating UDI principles), and/or initiating broader campus-wide disability initiatives (e.g., creating a campus-wide Universal Design Committee).

Results

Our primary interest in the current investigation was to examine the effects of the training experience on participants' disability-related self-efficacy. To evaluate the baseline equivalence of the three cohorts at pretest, we conducted a multivariate analysis of variance (MANOVA). For this analysis, cohort was entered as the between-subjects variable and pre-test scores on the four factors served as criterion variables. The overall multivariate results were not significant Wilks' Lambda $= .887$, $F = 1.48$ (8, 192) ns, nor were any of the between-subjects univariate tests. Since the three cohorts did not differ on self-efficacy constructs at baseline, all three groups were combined for subsequent analyses.

To evaluate the effects of the faculty training program, pre-post paired t-tests were conducted on the four self-efficacy domains of universal design, knowledge of disability, knowledge of services, and sharing information. In Table 3 we provide the pre-test and post-test

Table 3

Pretest-Posttest Descriptive Statistics and Paired t-test Results on Self-Efficacy Domains

Self-efficacy Domain	Pretest		Posttest				Effect
	M	*SD*	*M*	*SD*	*t*	*p*-value	Size
Universal Design	1.82	0.86	4.15	0.53	25.55	<.001	.93
Knowledge of Disability	2.35	0.59	4.12	0.44	28.61	<.001	.94
Knowledge of Services	2.34	0.75	4.27	0.50	26.14	<.001	.93
Sharing Information	2.44	0.68	4.24	0.54	23.54	<.001	.92

Note. $N = 102$. Effect size is the partial point-biserial correlation (Rosnow & Rosenthal, 2008, p. 391).

means and standard deviations as well as paired t-test results and effect sizes for the outcome measures. As shown in the table, significant and large effects were obtained on all four self-efficacy factors in the predicted directions. On average, faculty reported low self-efficacy in their understanding and knowledge regarding issues related to disability within a higher education environment at pre-training but high levels of self-efficacy in dealing with these issues following training.

We also evaluated participants' overall satisfaction with the training experience using data gathered from a brief measure of satisfaction administered directly following the training. These ratings were provided on a five-point scale ranging from "1 = Strongly Disagree" to 5 = Strongly Agree." The overall average of participants' ratings on the six quantitative items was $M = 4.37$ ($SD = .416$), indicating a high degree of satisfaction. Faculty provided the strongest endorsement on an item that asked, "I will make changes or accommodations in my teaching as a result of what I learned," $M = 4.71$ ($SD = .536$) and the lowest average ratings on "Presentation of material was appropriately balanced with application activities, discussion, and lecture" $M = 3.94$ ($SD = .775$). On average, all ratings were in the "agree" to "strongly agree" range indicating a high degree of satisfaction.

Discussion

Finding ways to improve the postsecondary experience of college students with disabilities will continue to be important as a greater number of students with disabilities seek access to postsecondary education (Park et al., 2012). Prior research indicates that university faculty can play a positive or negative role in the educational experiences of college students with disabilities but much of this work suggests that faculty often lack an understanding of the specific needs of this population (Cawthon & Cole, 2010; Houck et al., 1992). In an effort to address this need, we designed and implemented an intensive four-day training experience designed to improve university faculty members' self-efficacy for understanding, working with, and supporting students with disabilities in postsecondary environments. Results of pre-post analyses of participants' self-efficacy for understanding and working with postsecondary students with disabilities indicated that the training had beneficial effects on participants. Similarly, participants demonstrated significant improvements in their self-efficacy pertaining to training other university faculty within their home academic units. Moreover, findings from faculty ratings of their satisfaction with the training experience were overwhelmingly positive.

This finding is important because it provides some social validity for the training experience and suggests that university faculty can have positive views of disability-related training experiences.

Our findings are promising because they highlight the potential benefits of providing university faculty with specific disability-focused training experiences. Unfortunately, the findings from several investigations suggest that college and university faculty members are rarely provided opportunities to receive disability-focused training (Baker, Boland, & Nowik, 2012). Therefore, one implication of our findings is that similar efforts should be implemented whenever possible. The current project was funded through the U.S. Department of Education, Office of Postsecondary Education's Demonstration Projects to Ensure Quality Higher Education for Students with Disabilities. Between 2000 and 2010 approximately 90 universities received these three-year demonstration projects and Congress appropriated approximately $7 million per year to fund this program. Unfortunately, this program was discontinued in 2011. This is problematic because these funds provided direct support for faculty training and technological innovations designed to enhance supports for students with disabilities in postsecondary settings.

A recent national survey of 29 public four-year institutions found that the greatest barrier (70% of respondents) hindering the implementation of universal design was limited staff resources to provide such training (Raue & Lewis, 2011). Thus, declining federal funds to support training initiatives and a lack of sufficient resources among colleges and universities to deliver training opportunities without external support is occurring during a time when a growing number of students with disabilities are gaining access to postsecondary settings (Newman et al., 2011). Therefore, at least in the immediate future, finding creative ways to promote disability awareness among faculty in a climate of reduced federal and institutional supports will require disability support services personnel, university administrators, and other concerned individuals (e.g., faculty) to initiate and implement innovative, cost effective strategies for promoting faculty awareness without external supports.

The current study offers several promising directions for such efforts. First, all of the assessments and training materials created by this project are available at no cost upon request. These materials were developed over the course of three years in collaboration with faculty from special education and law, the director and staff of the Disability Services Office, graduate students in the College of Education, staff from the Teaching Effectiveness Program, and undergraduate and graduate students with disabilities who attended this particular university. The materials include faculty and student surveys that can be administered to the entire university, PowerPoint materials used to deliver trainings, a bibliography and access to over 150 journal articles focused on postsecondary education and disability, a list of over 100 video links pertaining to postsecondary education and disability, and six informational newsletters on the following topics: (a) accommodations, (b) universal design, (c) planning instruction, (d) delivering instruction, (e) evaluating instruction, and (f) technology. All of these materials are available in modifiable formats so that they can be tailored to address specific institutional goals and initiatives.

Second, although the current study was funded, a promising approach for providing training opportunities without extensive funds is to utilize preexisting institutional resources and events. For example, preexisting events such as new faculty orientations and college or departmental meetings are ideal forums for brief disability-awareness activities and presentations. Although disability support service personnel are the obvious choice for facilitating such opportunities, most campus disability services offices are understaffed and are often attempting to provide direct supports to a large and growing population of students with disabilities. Therefore, training efforts will be most successful if faculty can be recruited to provide information and training to other faculty whenever possible. Throughout the current project we were struck by the a large number of faculty across the university who were invested in learning about and advocating for students with disabilities regardless of the funds available to support them. Many of these individuals had personal investments in disability awareness because they had family member with a disability or because they had disabilities themselves. These individuals can be natural allies within postsecondary environments and can facilitate training within their own departments and units. In our experience, faculty and staff who are personally invested in supporting students with disabilities are often willing to deliver information to other faculty without compensation. Thus, such approaches provide opportunities to reach broader audiences through small scale train-the-trainer models.

A third strategy for promoting disability awareness is to elicit support from students by designing course assignments to facilitate disability awareness. One faculty participant in our training from the College of Journalism created the following goal during the final day of training: *"Use a wide variety of media to establish an awareness campaign involving materials that would vary from doc videos to logos, etc. Should be student-oriented and campus wide."* During the consequent year, this faculty member designed a course project for undergraduate students to develop a branding and advertising campaign for the Disability Services Office at the university where the project took place. As part of the assignment, students in the course interviewed students with disabilities, staff from the disability services office, and conducted research to learn more about the needs of college students with disabilities. Students in the course then created a series of materials that included informational booklets, posters, videos, and a strategy for building awareness among students and faculty. In this example, one faculty member's idea to teach advertising skills through the lens of disability awareness resulted in innovative ideas and extensive awareness building materials. Students in the course created six new promotional logos, six informational brochures, 15 different posters, and six videos. Sample materials created by students in the course are provided in the Appendix and two sample videos also created by students in the course can be viewed at the following links youtube.com/watch?v=SJgMliXz_S8 and youtube.com/watch?v=rFxBcfTC7zA&feature=channel_video_title.

Limitations

Although the findings from this study are promising, this study suffers from several important limitations that should be considered. First, this study did not include a no-treatment control group. Future efforts such as the one described here that incorporate experimental designs would allow researchers to draw causal conclusions about the effects of training efforts. A second limitation is that the outcome variables studied in this investigation were gathered from faculty self-reports; we did not include direct assessments of faculty behaviors. Future efforts that incorporate observations of teaching practices following training are important as such data would help to validate self-reports. Third, post-test data were gathered directly following training and no follow-up data were gathered to assess maintenance effects. Evaluating the long-term effects of training is important because such information could be useful for determining the need for booster sessions or ongoing training opportunities. A fourth important limitation is that we did not gather demographic information from training participants such as gender, age, or academic rank. Future efforts that incorporate such information would allow researchers to study questions pertaining to the potential differential benefits of training for certain groups. Given these important limitations, the data presented here should be interpreted as having potential importance. The magnitude of the effects are promising and continuing to explore strategies for providing university faculty with opportunities to learn more about the needs of students with disabilities in postsecondary settings is certainly needed.

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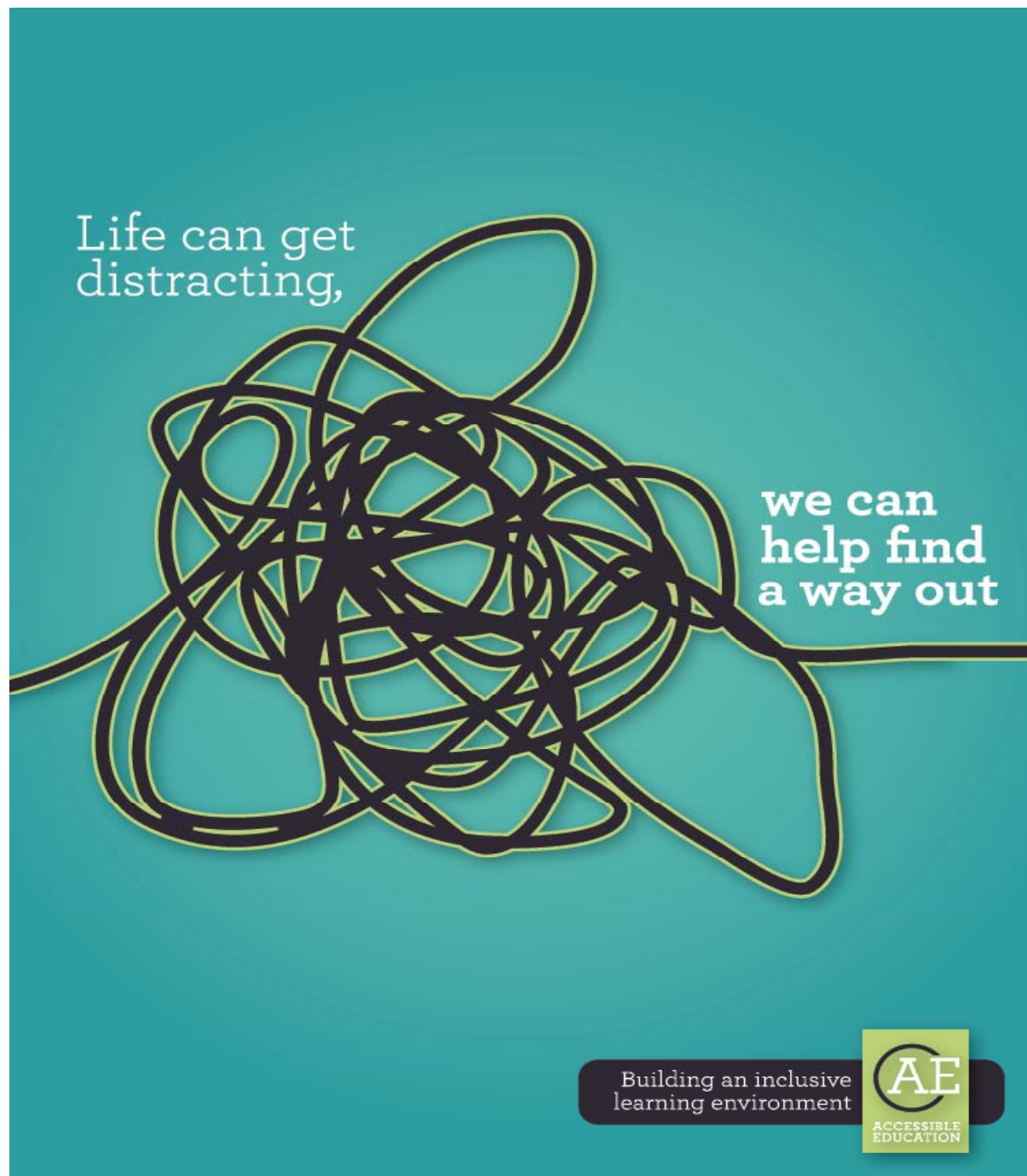
Authors' Note

Appendix

Sample Materials Developed by Undergraduate Students in a 10-week Journalism Course

Sample Poster 1

Created by: Renee Alvarado, Corey Haugen, Emily Papp, Jake Matthews, & Holly Schnackenberg

Sample Poster 2

Created by: Renee Alvarado, Corey Haugen, Emily Papp, Jake Matthews, & Holly Schnackenberg