# Table of Contents

*Journal of Postsecondary Education and Disability* 30(1)

<table>
<thead>
<tr>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partnering to Achieve Intended Outcomes: From the Editor</td>
<td>3-4</td>
</tr>
<tr>
<td>Roger D. Wessel</td>
<td></td>
</tr>
<tr>
<td>Collaborations Between Centers for Teaching and Learning and Offices of Disability Services: Current Partnerships and Perceived Challenges</td>
<td>5-15</td>
</tr>
<tr>
<td>Kirsten Behling</td>
<td></td>
</tr>
<tr>
<td>Kathryn E. Linder</td>
<td></td>
</tr>
<tr>
<td>Exceptional Faculty Members Who Responsively Teach Students with Autism Spectrum Disorders</td>
<td>17-32</td>
</tr>
<tr>
<td>Kimberly S. Austin</td>
<td></td>
</tr>
<tr>
<td>Edlyn Vallejo Peña</td>
<td></td>
</tr>
<tr>
<td>Embracing Diversity and Accessibility: A Mixed Methods Study of the Impact of an Online Disability Awareness Program</td>
<td>33-48</td>
</tr>
<tr>
<td>Shelli A. Wynants</td>
<td></td>
</tr>
<tr>
<td>Jessica M. Dennis</td>
<td></td>
</tr>
<tr>
<td>Postsecondary STEM Education for Students with Disabilities: Lessons Learned from a Decade of NSF Funding</td>
<td>49-60</td>
</tr>
<tr>
<td>Linda P. Thurston</td>
<td></td>
</tr>
<tr>
<td>Cindy Shuman</td>
<td></td>
</tr>
<tr>
<td>B. Jan Middendorf</td>
<td></td>
</tr>
<tr>
<td>Cassandra Johnson</td>
<td></td>
</tr>
<tr>
<td>Disability and Career Services Provision for Students with Disabilities at Institutions of Higher Education in Japan: An Overview of Key Legislation, Policies, and Practices</td>
<td>61-81</td>
</tr>
<tr>
<td>Heike Boeltzig-Brown</td>
<td></td>
</tr>
<tr>
<td>The Impact of the Psychological Sequela of Trauma on Veterans Seeking Higher Education</td>
<td>83-96</td>
</tr>
<tr>
<td>Joshua Medley</td>
<td></td>
</tr>
<tr>
<td>Ann M. Cheney</td>
<td></td>
</tr>
<tr>
<td>Traci Abraham</td>
<td></td>
</tr>
<tr>
<td>Kathleen Grubbs</td>
<td></td>
</tr>
<tr>
<td>Justin Hunt</td>
<td></td>
</tr>
<tr>
<td>Liya Lu</td>
<td></td>
</tr>
<tr>
<td>John C. Fortney</td>
<td></td>
</tr>
<tr>
<td>Geoffrey M. Curran</td>
<td></td>
</tr>
<tr>
<td>Student Attitudes and Perceptions About Postsecondary Education for People with Intellectual Disabilities (Practice Brief)</td>
<td>97-104</td>
</tr>
<tr>
<td>Michelle R. Haney</td>
<td></td>
</tr>
<tr>
<td>Kati Fisher</td>
<td></td>
</tr>
<tr>
<td>Author Guidelines</td>
<td>105-106</td>
</tr>
</tbody>
</table>
Partnering to Achieve Intended Outcomes
From the Editor

An essential core strategy in higher education involves developing partnerships so that you can collaborate to achieve a desired outcome. This has been well-documented throughout the literature (e.g., Wills, 2016). Partnerships with campus and community colleagues often enable disability services educators to help students with disabilities (SWD) achieve their goals.

Professional organizations often advocate for increased collegiality and collaboration among university faculty members and their staff counterparts. The Association on Higher Education and Disability’s (AHEAD) statement on Professional Standards (n.d.a) contains a major section on collaboration, encouraging disability services educators to interact with faculty members, technology professionals, campus architects, and community resources. The first section of AHEAD’s Program Standards and Performance Indicators (n.d.b) introduces the importance of fostering collaboration between disability services professionals and colleagues in academic, student, and business affairs. AHEAD was among the first professional associations to align with the Council for the Advancement of Standards in Higher Education to develop standards for college and university disability resources and services (Mitstifer, 2012). These standards indicate that disability services educators “must collaborate with colleagues and departments across the institution to promote student learning and development, persistence and success” (p. 232).

How is collaboration achieved? This issue of the Journal of Postsecondary Education and Disability provides some practical examples of partnering and collegiality that leads toward successful student outcomes. The issue begins with a study about collaboration between centers for teaching and learning and disability services offices. Kirsten Behling of Suffolk University, and Kathryn Linder from Oregon State University, report the current collaborative efforts occurring between these offices and the perceived challenges of those collaborative efforts. Of course faculty members are a primary constituent group of disability services educators; Kimberly Austin of Moorpark College and Edlyn Vallejo Peña from California Lutheran University share their study on exceptional faculty members who responsively teach students with Autism Spectrum Disorders (ASD). The qualitative research study documents the ways that supportive faculty members approach students with ASD in their teaching roles including structured scaffolding, differentiated instruction, comprehensive accommodations, and collaborative institutional support.

In the third article, Shelli Wynants, of California State University Fullerton, and Jessica Dennis of California State University Los Angeles, discuss the value of embracing diversity and accessibility in an online disability awareness program. Their mixed methods study investigated the impact of an online disability awareness program designed to introduce college faculty to universal design for instruction principles. Then, Linda Thurston, Cindy Shuman, B. Jan Middendorf, and Cassandra Johnson, all from Kansas State University, present the findings from a four-year mixed methods research project that assessed a decade of funded projects (2001-2011) under the National Science Foundation’s Research in Disabilities Education program. One of the primary goals of the project was to create a collection of challenges, lessons learned, and suggested practices for SWD and those working with SWD in STEM education and STEM fields.

The next article provides an overview of key legislation and policies in disability and higher education in Japan, followed by a description of the current state of cross-disability services provision at Japanese institutions of higher education. Heike Boeltzig-Brown, of the University of Massachusetts Boston, focuses on career development and employment as critical aspects of comprehensive supports for SWD in higher education. Joshua Medley, Ann Cheney, Traci Abraham, Kathleen Grubbs, Justin Hunt, Liya Lu, John Fortney, and Geoffrey Curran, from multiple universities and other settings, present findings from a study on the mental health burden of student veterans attending rural community colleges in the southern United States. These authors discuss the impact of the psychological sequela of trauma on veterans seeking higher education.

The issue concludes with a practice brief about student attitudes and perceptions about postsecondary education for people with intellectual disabilities (ID). In this interesting article, Michelle Haney and Kati Fisher of Berry College present the findings of a study that assessed the attitudes and perceptions of 133 undergraduate students at a small liberal arts college about creating a postsecondary education program for young adults with ID. Overwhelmingly positive attitudes and perceptions were reported. Most respondents reported that they would be interested in serving as a mentor and felt that a postsecondary education program would provide opportunities for growth and increase diversity on campus.

The editorial team and review boards hope that the information shared in this issue of the Journal of Postsecondary Education and Disability encourages disability services educators to continue to share your expertise with your campus colleagues as we work together for the common good of our students.

Roger D. Wessel, Ph.D.
Executive Editor
References


Collaborations Between Centers for Teaching and Learning and Offices of Disability Services: Current Partnerships and Perceived Challenges

Kirsten Behling¹
Kathryn E. Linder²

Abstract
The authors report on the results of a survey conducted in the United States on collaboration between Centers for Teaching and Learning (CTLs) and Offices of Disability Services (ODSs) in institutions of higher education. The authors, a disability services professional and a former director of a Center for Teaching and Learning, give particular attention to the current collaborative efforts occurring between these two offices as well as the perceived challenges of those collaborative efforts. Significant findings from the survey results include five key challenges to collaboration between ODSs and CTLs: (1) time and logistics; (2) faculty-related challenges; (3) competing priorities; (4) changing the campus culture; and (5) funding and limited resources.

Keywords: Center for teaching and learning, office of disability services, collaboration, challenges

Institutions of higher education are legally mandated—by the Rehabilitation Act of 1973, the original Americans with Disabilities Act (ADA) of 1990, and the revised Americans with Disabilities Act Amendment Act (ADAAA) of 2008—to support students with disabilities who are enrolled on their campuses and in their courses. At the same time, the diversity of college students continues to grow (Humphreys, 2000); this has caused increased attention by institutions regarding how to provide wholly inclusive experiences for all of their students, including those with disabilities (Wolanin & Steele, 2004). As a result, there is a pressing need for faculty developers (staff, administrators, or faculty members tasked with offering professional development opportunities for faculty, frequently related to best practices for teaching and learning in the higher education environment) to know more about access as it pertains to the diverse learner. Specifically, faculty developers need to educate faculty on the best practices, resource sharing, and methods of diversifying their instructional approaches in their classrooms. Many faculty developers are looking to the principles of Universal Design to guide faculty in the design and delivery of their courses so that all students, including those with disabilities are able to access the content in a manner that works best for them (e.g., Burgstahler, 2003; Ouellett, 2004). The use of Universal Design to increase accessibility has become equally important in online courses.

In just ten years, online enrollment of courses as a percentage of total enrollment in higher education rose from 9.6% in 2002 to 32% in 2012 (Allen & Seaman, 2013). As of 2012, 94.5% of higher education institutions have some form of online offering for students, with 62.4% offering fully online programs in additional to individual courses (Allen & Seaman, 2013). Online learning is not an area in which access has been strongly considered for students with disabilities, nor are most faculty members aware of best practices for accessibility when teaching in this medium. Both disability service professionals and faculty developers are struggling to figure out how to ensure that all courses are accessible to the wide range of diverse learners attending today’s institutions of higher education.

The authors, a director of an Office of Disability Services (ODS) and a former director of a Center for Teaching and Learning (CTL), are frequent collaborators on a range of initiatives and programs. These collaborations led the authors to co-direct a national research project on structures and resources for online accessibility in institutions of higher education,
as well as the collaborations that are occurring between CTLs and ODSs. This project started with two research questions: what are current institutional practices and policies that support accessible online teaching and learning, and how can CTLs and ODSs best collaborate in support of institutional, faculty, and student needs around online accessibility? Linder, Behling, and Fontaine-Rainen (2015) responded to the first question, and this article focuses on the second question.

The research on unit-to-unit collaboration is neither recent nor exhaustive. Although articles exist on CTLs and student collaborations (Bhavsar & Skinner, 2008), and CTL collaborations with student affairs or research offices (Chism, 2004), this body of research is small. No literature specifically explores collaborations between CTLs and ODSs. Yet, these collaborations are becoming increasingly necessary as the number of students with disabilities increases, student populations continue to diversify, and faculty members are asked to consider access in terms of course design for all learners. This article will share the study’s findings regarding the current collaborations occurring between the two offices and the challenges of collaboration that can impede partnerships between ODSs and CTLs.

Methodology

In the fall of 2013, the authors received a research grant from the Professional and Organizational Development (POD) Network to study the current institutional practices and policies that support accessible online teaching and learning in higher education in the United States as well as collaborations between CTLs and ODSs. The study began with the research questions referenced earlier in the article in order to better understand the current state of CTL and ODS collaborations as well as how CTLs and ODSs can better collaborate in the future. The main purpose of this study was to determine best practices for maximizing collaboration between CTLs and ODSs.

Participants

The data for this research are drawn from two groups of participants: (1) members of the Professional and Organizational Development (POD) Network listserv, and (2) members of the Association of Higher Education and Disability (AHEAD). The POD Network consists of professionals who provide support for faculty members, primarily through CTLs or similar programs at institutions of higher education in the U.S. According to their mission, the POD Network “provide[s] a community for scholars and practitioners who advance teaching and learning through faculty and organizational development” (POD Mission Statement, 2015, para. 2). AHEAD (2004-2017) consists of professionals who primarily support students through their work in ODSs or similar programs at higher education institutions in the U.S. and abroad. AHEAD describes itself as “professional membership organization for individuals involved in the development of policy and in the provision of quality services to meet the needs of persons with disabilities involved in all areas of higher education” (About AHEAD, para. 1).

Participants responded from institutions across the United States with 40 states represented in this sample. Of 192 total respondents, 143 were affiliated with an ODS, 29 were affiliated with a CTL, 14 identified as being affiliated with both an ODS and a CTL, and six identified as “Other” (e.g., Student Development Office, Instructional Design Office, or Advising Office). The number of ODS respondents may have been disproportionately higher due to the higher number of AHEAD members than POD members. Respondents were drawn from a range of institution types and sizes, with over half of the respondents (59.8%) coming from public institutions.

Design and Procedures

The data analyzed in this study were from a survey instrument that the authors developed for broad distribution. The instrument was reviewed several times by the authors as well as an expert researcher, to clarify language where necessary. The survey included 37 questions and was divided into the following areas: institutional demographics, CTLs and ODSs demographics, collaborative programming, and information on the presence of and preparedness of online learning at that institution. The survey also included questions to gather information on the resources of ODSs and CTLs, the level of awareness and joint programming done between the two offices, and specific information regarding those programs. Sample programming questions included:

1. Which of the following joint programs do you offer with faculty development or disability services (depending on your affiliation)?
2. How many programs have you jointly offered within the last year with faculty development or disability services (depending on your affiliation)?

3. For the programs that are jointly offered, please describe the target audience and program goals.

The survey also collected information about universities’ experiences with online learning, faculty development, and the access needs of all students. Responses were examined to determine how institutions are supporting faculty as they move toward a more online environment. Sample questions included:

1. What steps has your institution taken to address the needs of students with disabilities within online learning environments?

2. If your institution has created any educational resources about online accessibility for student audiences, please describe them below.

3. Have you designated a “point person” on your campus for online accessibility initiatives?

For the purposes of this paper the authors focused on two different aspects of the survey: (1) information regarding the collaborative work between CTLs and ODSs, and (2) the challenges of these collaborations. To better understand the collaborative efforts, the authors examined the responses to questions in the survey that focused on number of collaborations, type of collaborations, effects of those collaborations, and plans for future collaborations. A question regarding the challenges of collaboration was answered with qualitative responses that were imported into QSR Nvivo (version 10), a qualitative software analysis tool, and coded for further analysis. Following the coding method outlined in Creswell (2014), each author read through all of the qualitative responses for the question familiarizing themselves with the data. Each author then independently identified the primary themes that emerged from the data. The authors compared notes and further honed the themes. The authors then re-read the qualitative responses with the themes in mind and added some additional sub-themes. Lastly, each author independently coded the qualitative responses according to the previously identified themes. The coding was then compared through the use of QSR Nvivo queries to identify the Kappa score. Scores of over 0.75 were considered to be excellent agreement, scores between 0.40 - 0.75 were considered to be fair to good agreement, and scores below 0.40 were considered to be poor agreement. KAPPA coefficient scores for each theme are offered in the results section below (see Table 1).

Results

Current Forms of Collaboration

Centers for Teaching and Learning and Offices of Disability Services are currently offering a range of programs and services in collaboration with one another (see Table 2). The most common of these services is individual consultations (74.2%) followed by workshops (67%) and group consultations (60%). A little more than a third of respondents noted collaborating specifically around online content or resources and about a quarter of respondents collaborate to provide training on online learning.

The number of programs that are jointly offered by CTLs and ODSs (measured within the year previous to the survey offering) was wide ranging (see Table 3). The vast majority of offices collaborated on one to five programs (72%), but 31 respondents had no collaborative programs together. Less than 10% had six or more collaborative programs in the last year.

Respondents also noted a range of different kinds of additional collaborative activities that were occurring between CTLs and ODSs (see Table 4), the most popular of which is New Faculty Orientation (64%) followed by participation in Advisory Boards (35%). Less than 10% of respondents noted sharing resources like space, staff, or administrative tasks. A little over one quarter of respondents noted that they were not collaborating at all with their respective counterpart in the ways that were mentioned.

Survey respondents were also asked if they thought that faculty members were more aware of disability-related teaching and learning issues as a result of their collaboration or partnership with a CTL or ODS. Interestingly, 120 respondents (65.93%) answered in the affirmative, 7 respondents (3.9%) answered “no” and 45 respondents (24.7%) indicated that they did not know.

Challenges of Collaboration

Of 192 total respondents, 150 answered the qualitative question regarding the kinds of challenges the respondents perceived when collaborating with their respective counterpart. In our analysis five themes
emerged: (1) time and logistics; (2) faculty-related challenges; (3) competing priorities; (4) changing the campus culture; and (5) funding and limited resources. Eight respondents (5%) noted that they did not have any challenges or that they could not identify any challenges at this time. Two independent coders had at least fair to good agreement on all categories with two categories having excellent agreement (see Table 1).

**Time and logistics (104 references by 61 individuals).** Lack of time was the most common challenge cited by survey respondents:

- Finding time to get together can be tough, even when there are just two or three of us – because we are all so busy.
- It can be difficult at times to get individuals together and to agree on what/how something should be accomplished.

Other challenges cited were lack of staff. Interestingly, only respondents from ODSs sited this challenge:

- The Disability Services office is understaffed, therefore time to work on collaboration is difficult to find. Resources are also not centralized making arrangements for simple things like reserving labs for training more difficult than at some other institutions.
- Not enough staff resources on DS side.

A minimal number of comments mentioned that there is no CTL office on their campus, they have had staff turnover, or that the offices are located in different buildings:

- Ever-changing staffing that requires continuous establishment and nurturing of relationships.

**Faculty-related (84 references by 53 individuals).** Lack of faculty understanding of the role of the ODS office and the needs of SWDs, or lack of buy-in for accessibility related initiatives, were the most commonly cited challenges in this category:

- Faculty see the office of disability services as a student affairs program and not relevant to their needs.
- Confusion of faculty about varieties of formats, student needs, and accommodation guidelines. Some faculty feel overwhelmed by requirements.
- Faculty do not feel accessibility is their job, and would like to defer all responsibility to [the Office of Disability Services].

Several respondents also noted the challenges of faculty having a lack of time and faculty being resistant to change:

- Faculty typically do not have the time/energy or see a need for training opportunities until they are in a difficult situation.
- Many faculty have been teaching for an extensive period of time. Some of these instructors really do not like change or the thought of changing their approach on teaching.

Respondents also noted the unique challenges of working with adjunct instructors or faculty who teach primarily online:

- It’s tough to find the part-time faculty who are not on campus regularly.
- It can be especially difficult to work with faculty who are online only.

**Competing priorities (75 references by 48 individuals).** The most common challenge cited by respondents in this theme was the differing perspectives or goals of each office:

- We don’t always speak the same language – figuring out how to bridge the practical realities of guaranteeing ‘reasonable accommodations’ and the idealistic goals of ‘good pedagogy/universal design’ can sometimes be challenging.
- Either ‘side’ being entrenched in ‘this is the only way we can do things…’ and not listening well.

Respondents also noted the challenge of accessibility not always being part of the primary workload and that accessibility concerns and initiatives can feel like “extra” work on the part of faculty members or CTLs:

- Priority workload takes precedence.
• Getting sucked into the day-to-day administration of either office.

Several respondents also cited the challenge of having different reporting structures:

• Oftentimes, one office (the CTL) is in academic affairs and the other (ODS) is in student services. Because of reporting structures, then, partnerships can sometimes be challenging.
• We are not organizationally related.

Changing the campus culture (65 references by 43 individuals). Culture or climate barriers were the most frequently cited challenges in this category:

• I’m not sure I even know how to attempt a collaboration on my campus.
• Disability services are not seen as important enough to warrant time to address in formalized training. At this point we only trouble-shoot. Nothing proactive.

Others noted the challenge of a general lack of awareness on their campus regarding disability-related issues:

• Denial that issues exist.
• Getting faculty & admin to pay attention and time to SWD/ADA issues in anything but an emergency.

This lack of awareness led to the challenge of constantly educating the campus community in response to misconceptions or myths regarding accessibility and students with disabilities:

• Misconceptions of hidden disabilities and social behavior.
• Educating everyone.

Lastly, respondents also noted that lack of administrative support, as well as a lack of awareness of who should own accessibility issues, presented additional challenges:

• Not supported as a priority from upper admin/institutionally.
• Pervasive lack of ownership with regard to on-line accessibility.

• Some confusion regarding who is responsible for what.

Funding and limited resources (29 references by 15 individuals). It was surprising that a lack of funding or other resources were the least-cited challenge by respondents. However, upon reflection, it is possible that respondents did not see a lack of funds or resources as a challenge to collaboration although it may be seen as a challenge in other ways. One respondent noted that a lack of financial incentives for faculty presents a particular challenge:

• No incentives for faculty—they see it as going WAY above and beyond.

Other respondents noted that lack of funds for programming or other initiatives presented a challenge:

• Finding resources to do what we want to do.

Discussion

This study examined the collaborative relationship between Offices of Disability Services and Centers for Teaching and Learning, with a particular focus on online learning and accessibility. Respondents from both fields answered the questions as they reflected on their own experience at their institution of higher education. Overall, it appears that these two distinct offices do collaborate in a wide variety of ways to educate faculty as to the needs of students with disabilities in their courses, but that their collaborations do not yet fully address accessibility in online learning. Through this study, we were able to identify five challenges for collaboration between ODSs and CTLs: (1) time and logistics, (2) faculty-related challenges, (3) competing priorities, (4) changing the campus culture, and (5) funding and limited resources.

Programming

“As higher education steps up to make broad, institutional level change, [CTLs] should be prepared to function in partnership, leadership, and collaboration” (Schroeder, 2010, p. 2). This statement is certainly also true for ODSs. While the study found that CTLs and ODSs are collaborating in a wide range of ways, it was significantly less common for collaborations to be connected to issues related to online accessibility. According to this study, only 37% of CTLs and/or ODSs are working together to offer faculty trainings
or resources specific to ensuring that online courses are accessible. The data suggested a lack of awareness of the importance of online accessibility as an institutional imperative. Previous research has provided evidence of the confusion regarding institutional responsibility for online accessibility (Linder et al., 2015) with most responsibility falling to ODSs by default.

Interestingly, individual consultations make up the majority of collaborative efforts between these two offices, occurring at 74% of respondent institutions. However, the authors found this number is misleading as the data suggested that these “collaborative” consultations frequently refer to a situation in which one office recommends a faculty member to the other. In the data, respondents did not report working together with a faculty member at the same time. In the authors’ experience, a commitment to shared consultations between the units, involving staff from both offices, might take more time and staff resources initially, but ultimately result in additional learning for all involved, as well as communicating the offices mutual respect for one another to the faculty client.

The data also reflect that about 40% of the collaborative efforts between CTLs and ODSs are passive in nature. Disability service professionals may make recommendations for the CTL lending library or may develop tools for faculty use on their own time. CTL websites in turn, may include information about disability services or host information, trainings, and/or tutorials for faculty to use when designing a course. The passive nature of providing resources to faculty may be in response to the challenge of finding time to work together and to attract faculty to a specific workshop. Passive forms of collaboration were frequently described in combination with “active” collaborations such as shared initiatives or co-developed and co-facilitated programming.

In many institutions faculty developers and disability services professionals see the importance of working together in advocacy roles. This study found that CTLs and ODSs often spend time participating in each other’s advisory boards (35%), helping to develop best practice documents (34%), collaborating on policy creation (31%), and working together on strategic planning (27%). These efforts reflect the perceived value in the other office as well as the effort that can be made given the time restraints involved in their day-to-day work. In the authors’ experience, this kind of advocacy work has led to the most institutional-level change around online accessibility concerns.

Challenges to Collaboration

There were a number of challenges cited by faculty developers and disability service professionals in terms of collaborating with other another on their campuses.

**Time and logistics.** More than half of the survey respondents indicated that part of the challenge of collaborating involved time and logistics. Time in particular was a challenge on a number of fronts. A lack of time to meet with staff from the other unit was a consistent theme. Both types of respondents also cited difficulties in getting faculty to find the time to attend a workshop devoted to accessibility issues and concerns.

Another challenge is the logistics associated with collaborating. For example, several respondents noted that on their campuses the two offices are not located near each other on campus. This is not too surprising given that CTLs are typically under the academic affairs umbrella and primarily serving faculty, while ODSs can be in academic or student affairs and primarily serving students. In addition to setting aside time to schedule meetings, respondents noted the challenge of meeting with one another because of not being in the same location on campus.

**Faculty-related challenges.** This study highlighted the lack of understanding that faculty have toward the daily operations of ODSs and students with disabilities. Most faculty members may only be aware of ODSs through the accommodation notifications that they receive regarding a specific student. It is often not until faculty struggle with the accommodation needs of a student, that faculty contact ODS for guidance. The results from this study provide evidence that faculty members find it difficult or unnecessary to attend informational trainings related to access or to the specific needs of students with disabilities. Moreover, the results indicate that faculty members tend to think that anything beyond providing basic accommodations to students is not their job.

Both CTLs and ODSs have also experienced difficulties getting faculty to attend an event regardless of topic. Since faculty members are quick to cite a lack of time when asked if they might attend a workshop or come to a meeting, many CTLs and ODS are working collaboratively to develop self-guided instructional materials for faculty. However, there is a perception of a greater level of effect with face-to-face meetings and trainings than stand-alone materials, which is why the respondents of this study attempt more collaborative programming when possible.
**Competing priorities.** Perhaps not surprisingly, this study also found that the desire to collaborate is tempered by the reality of day-to-day responsibilities within each office. While there is some mission overlap in terms of helping students learn, each of these offices has a different focus: CTLs work on faculty development while ODSs work on student advocacy and access. The differences between these offices extend to their reporting structures, divisions in which they are located, geographical location, day-to-day work and finally the staffing support that they have within their own offices.

As noted above, many times these offices report to different university divisions. CTLs are typically placed in the academic function under a dean or provost. ODSs can be under academic affairs, but in those cases they are more student-centered. The difference in each offices’ priorities, combined with a lack of time or staff support, can leave little motivation for collaborative “outside-the-box” conversations.

ODSs may also be located within the student affairs division with offices like Residence Life and Student Life. In those cases it may not be obvious to reach out to a CTL and propose collaboration. Because each office has a different reporting structure, the staff will have different goals and objectives to be met. This may leave little room for cross-collaborative efforts. Finally, this study frequently noted the lack of staff support or, in some cases, an actual office on campus, most common for a CTL. Not having enough support or even having a dedicated staff member to drive faculty development leaves little to no opportunity for collaboration.

**Changing the campus culture.** Of the respondents who are actively concerned with access for students with disabilities, about a quarter of them cited institutional barriers as a key challenge to effectively working together (this issue is also discussed in further detail in Linder et al. (2015)). When access issues are brought to the attention of faculty members, the response is to refer the student to disability services for an individualized response. Respondents, particularly those from ODSs, noted a lack of awareness by the campus community that by ensuring access for one student, access for additional students is also increased. The individual referral process also bypasses the faculty developer offices and puts the onus of accessibility strictly on the disability services office. This decreases opportunities for collaboration if the CTLs are unaware of access issues.

**Funding and limited resources.** Importantly, a lack of financial resources was not a deterrent for collaboration between CTLs and ODSs. This study indicated that faculty developers and disability service professionals are willing to discuss accessibility concerns regardless of the resources that each office has. Resource limitations that were cited included a lack of staff to assist with programming and one-on-one consultations with faculty.

The primary area, regarding the issue of faculty incentives, mentioned a lack of financial resources. There is a notion that in order to get faculty to participate in workshops and trainings to design an accessibility course they must be compensated. Most institutions of higher education in this study do not have the resources to do that for faculty. Many respondents assumed that the lack of funding was causally related to poor attendance and buy-in to accessible online courses.

**Conclusion**

This research study finds that while there is a diverse range of collaborations between Centers for Teaching and Excellence and Offices of Disability Services, these collaborations are also fraught with many challenges. CTLs and ODSs are providing programming around new faculty orientations, overviews of the needs of students with disabilities, and assisting each other with one-on-one consults as needed. However, there is also quite a bit of room to grow in terms of collaborative work around equal access to courses for students with disabilities. A lack of awareness regarding the work of ODSs and CTLs can prevent staff from both offices from effectively responding to accessible issues and concerns.

The data from this study suggested five areas that present challenges to collaborations between CTLs and ODSs: (1) time and logistics, (2) faculty-related challenges, (3) competing priorities, (4) changing the campus culture, and (5) funding and limited resources. Despite these challenges this study did find examples of institutions of higher education that have successfully navigated each of these challenges. Through grass root efforts, CTLs and ODSs have created innovative programming and stand-alone materials for faculty to access. The lack of institutional awareness and support for collaborations between these two offices is perhaps the most troubling challenge found in this study. If an institution created supports for collab-
orations around accessibility initiatives, there might be a reduction of the other challenges cited.

Van Note Chism (2011) argued that “members of campus communities who can help with identification of issues, ideas for strategic approaches, research skills, and skills for facilitating communication and collaboration are sorely needed” (p. 53). This research project offers some preliminary findings regarding the collaborative efforts of Centers for Teaching and Learning and Offices of Disability Services related to accessibility initiatives in the United States. As the diversity of our students, both in terms of their identities and learning preferences, continues to increase, universities should expect to see institutions of higher education take additional steps to ensure access. Continuing to explore the collaborative relationships within institutions of higher education regarding accessibility issues and concerns will be a fundamental component to successfully developing resources, structures, and policies that help all students learn. Further research, including case studies of successful campuses, is also crucial to the success of higher education accessibility initiatives.

References


About the Authors

Kirsten Behling is the Director of Student Accessibility Services at Tufts University and an adjunct professor in the NEAG School of Education at the University of Connecticut. Prior to working at Tufts, Kirsten developed and managed the Office of Disability Services at Suffolk University. While at Suffolk she worked to ensure that while students were accommodated and the university was also proactively addressing the access needs of diverse learners. She helped to develop the Graduate Certificate Program in Postsecondary Disability Services at the University of Connecticut. Kirsten is also heavily involved in New England AHEAD, a regional affiliate of AHEAD. Her research interests include, campus-wide buy-in to access needs, access in online learning, teaching the diverse learner, and educating current and future disability service professionals. She can be reached by email at: kirsten.behling@tufts.edu.

Kathryn E. Linder received her B.A. degree in English Literature and Creative Writing from Whitworth University and her M.A. and Ph.D. in Women’s and Gender Studies from The Ohio State University. Her experience includes working as the director of the Center for Teaching and Scholarly Excellence at Suffolk University in Boston. She is currently the research director for Extended Campus at Oregon State University. Her research interests include blended and online teaching and learning, online accessibility, and faculty development. She can be reached by email at: kathryn.linder@oregonstate.edu.

Acknowledgement

The authors would like to acknowledge the financial support from the Professional and Organizational Development (POD) Network Research Grant that funded this study.
### Table 1

**Theme Categories and KAPPA Coefficient Scores for Each Theme (Challenges)**

<table>
<thead>
<tr>
<th>Theme Category</th>
<th>KAPPA Coefficient Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time and Logistics (104 references)</td>
<td>.6634 (Fair to Good Agreement)</td>
</tr>
<tr>
<td>Faculty-related (84 references)</td>
<td>.6666 (Fair to Good Agreement)</td>
</tr>
<tr>
<td>Competing Priorities (75 references)</td>
<td>.5859 (Fair to Good Agreement)</td>
</tr>
<tr>
<td>Changing the Campus Culture (65 references)</td>
<td>.4137 (Fair to Good Agreement)</td>
</tr>
<tr>
<td>Funding and Limited Resources (29 references)</td>
<td>.7539 (Excellent Agreement)</td>
</tr>
<tr>
<td>No Challenges or Unaware of Challenges (8 references)</td>
<td>.8263 (Excellent Agreement)</td>
</tr>
</tbody>
</table>

### Table 2

**Joint Programs and Services Offered Between CTLs and ODSs (N = 190)**

<table>
<thead>
<tr>
<th>Service or Program</th>
<th>Number of Respondents</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Consultations</td>
<td>141</td>
<td>74.2%</td>
</tr>
<tr>
<td>Workshops</td>
<td>127</td>
<td>66.8%</td>
</tr>
<tr>
<td>Group Consultations</td>
<td>114</td>
<td>60.0%</td>
</tr>
<tr>
<td>Online Content or Resources</td>
<td>71</td>
<td>37.4%</td>
</tr>
<tr>
<td>Online Training</td>
<td>49</td>
<td>25.8%</td>
</tr>
<tr>
<td>Book or Video Lending Library</td>
<td>29</td>
<td>15.3%</td>
</tr>
<tr>
<td>Other</td>
<td>21</td>
<td>11.1%</td>
</tr>
<tr>
<td>Multi-day Trainings</td>
<td>15</td>
<td>7.9%</td>
</tr>
</tbody>
</table>
### Table 3

*Programs Jointly Offered by CTLs and ODSs in the Previous Year (N = 170)*

<table>
<thead>
<tr>
<th>Number of Programs</th>
<th>Number of Respondents</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>31</td>
<td>18.2%</td>
</tr>
<tr>
<td>1-5</td>
<td>122</td>
<td>71.8%</td>
</tr>
<tr>
<td>6-10</td>
<td>10</td>
<td>5.9%</td>
</tr>
<tr>
<td>11-15</td>
<td>4</td>
<td>2.4%</td>
</tr>
<tr>
<td>16-20</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>21-25</td>
<td>1</td>
<td>0.5%</td>
</tr>
<tr>
<td>26 or more</td>
<td>1</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

### Table 4

*Additional Collaborations Between CTLs and ODSs (N = 188)*

<table>
<thead>
<tr>
<th>Collaboration Activity</th>
<th>Number of Respondents</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Faculty Orientation</td>
<td>120</td>
<td>63.8%</td>
</tr>
<tr>
<td>Advisory boards</td>
<td>66</td>
<td>35.1%</td>
</tr>
<tr>
<td>Developing best practice documents</td>
<td>64</td>
<td>34.0%</td>
</tr>
<tr>
<td>Policy creation</td>
<td>59</td>
<td>31.4%</td>
</tr>
<tr>
<td>Programming</td>
<td>54</td>
<td>28.7%</td>
</tr>
<tr>
<td>Increasing institutional support for initiatives</td>
<td>51</td>
<td>27.1%</td>
</tr>
<tr>
<td>Strategic planning</td>
<td>51</td>
<td>27.1%</td>
</tr>
<tr>
<td>Trading/sharing resources (books, websites, journals, conferences, etc.)</td>
<td>50</td>
<td>26.6%</td>
</tr>
<tr>
<td>None of the above</td>
<td>28</td>
<td>14.9%</td>
</tr>
<tr>
<td>Sharing programming costs</td>
<td>21</td>
<td>11.2%</td>
</tr>
<tr>
<td>Sharing space</td>
<td>16</td>
<td>8.5%</td>
</tr>
<tr>
<td>Grant writing</td>
<td>14</td>
<td>7.5%</td>
</tr>
<tr>
<td>Sharing staff</td>
<td>12</td>
<td>6.4%</td>
</tr>
<tr>
<td>Sharing administrative tasks</td>
<td>8</td>
<td>4.3%</td>
</tr>
<tr>
<td>Other</td>
<td>7</td>
<td>3.7%</td>
</tr>
</tbody>
</table>
Exceptional Faculty Members Who Responsively Teach Students with Autism Spectrum Disorders

Kimberly S. Austin¹
Edlyn Vallejo Peña²

Abstract
The number of students with autism spectrum disorders (ASD) seeking admission into college is rising. Little research exists on how to meet the unique learning needs of this student population in higher education classrooms. The purpose of this qualitative research study was to document the ways in which supportive faculty members responsively approach students with ASD in their teaching roles. The findings of this study suggest that faculty members who were nominated as exceptional teachers and advisors to students with ASD drew from experiences of prior connections with individuals with disabilities, a belief in student abilities, setting high expectations for students, the development of caring relationships with students with ASD, an authentic passion for teaching, and a commitment to social justice. The pedagogical approaches entailed structured scaffolding, differentiated instruction, comprehensive accommodations, and collaborative institutional support. The outcomes of this study contribute new information to a paucity of research investigating faculty contributions to the success of students with ASD in higher education. This study pinpoints practical ways in which faculty members seek to help their students. Implications for practice and future research are discussed.

Keywords: Autism, disability, higher education, faculty, teaching

The growing enrollment of college students with disabilities over the past three decades has created a demand for educators to develop deeper and nuanced understandings of students with different disabilities. Even though students with disabilities now comprise at least 11% of college students (U. S. Government Accountability Office, 2009), understanding and meeting the needs of college students with disabilities is a civil rights and social justice issue to which journals of higher education have paid little attention (Peña, 2014). Further, the majority of research in higher education journals aggregates students with disabilities into a seemingly uniform group, ignoring the fact that students with specific disabilities have unique and complex social and academic needs. The numbers of individuals in the United States diagnosed with autism spectrum disorders (ASD), in particular, has risen dramatically in the last decade to 1 in 68 individuals (Centers for Disease Control, 2014). The prevalence of ASD in school-aged children has increased to an astonishing 1 in 50 children between the ages of 6 and 17 (Blumberg, Bramlett, Kogan, Schieve, Jones, & Lu, 2013). Following the overall increase in the population of individuals affected with ASD, the number of students with ASD seeking admission into college is rising as well (Geller & Greenberg, 2010; Smith, 2007). The increase in enrollment is largely attributed to a combination of factors: children receiving diagnoses earlier in life, increasing comprehensive and early interventions, and a growing number of supports to prepare ASD students for academic and life pursuits beyond high school (Adreon & Durocher, 2007; Smith, 2007). In addition to typical college pressures, students with ASD have to confront substantial added challenges in their pursuit of postsecondary education (Adreon & Durocher, 2007).

While students with ASD oftentimes develop academic strengths and skills, they typically experience restricted interests, challenges in communication, and difficulty processing social information, which includes difficulties in understanding behaviors and intentions of others and within themselves (Boutot & Myles, 2011). In addition to sensory and executive

¹ Moorpark College; ² California Lutheran University
functioning challenges, individuals with ASD may have extreme difficulties with the pragmatics of language, so that the meaning and understanding of the social rules of communication are lost or misinterpreted. The significant difficulties in social interactions, including initiating conversations, lead to challenges in developing and maintaining meaningful relationships (Geller & Greenberg, 2010). While the aforementioned issues are typical across individuals with ASD, there is a wide range of severity and expression of these specific symptoms in each individual, thus the use of the term spectrum (Adreon & Durocher, 2007).

A critical aspect of the postsecondary experiences for students with ASD is that they can experience difficulty navigating classroom environments and interacting with faculty members (Peña & Kocur, 2013). Students with ASD are therefore more likely to need support from responsive and understanding faculty members to thrive in postsecondary settings. Faculty members who are especially supportive of the unique needs of students with ASD are crucial to the academic and social success of this student population. Unfortunately, very little research has directly focused on the interactions between college faculty and students with ASD. As such, the purpose of this qualitative research study is to explore and document the ways in which supportive faculty members responsibly approach students with ASD in their teaching roles.

**Literature Review**

Developing a cadre of faculty members who are supportive of students with ASD is essential, not only as a legal and moral imperative, but because student perceptions of faculty support greatly influence their learning and academic success (Hong, Haefner, & Slekar, 2011; Muller, 2006; Murray, Lombardi, Wren & Keys, 2009). Harris, Ho, Markle, and Wessel (2011) suggested that the interaction between students with disabilities and faculty is so crucial that, “students who interact with faculty members get better grades, are more satisfied with their education, and are more likely to stay in school” (p. 27). However, students with disabilities become reluctant to request accommodations and suffer the consequences when faculty members seem unwilling or unapproachable. Students’ inclination to seek out help decreases when they perceive prior or current faculty as having negative attitudes toward or a reluctance to work with students with disabilities (Humphrey, Woods, & Huglin, 2011; Muller, 2006; Murray et al., 2009).

Studies have examined the attitudes of faculty members towards students with disabilities, with differing results across several factors, such as faculty awareness of disabilities, legal requirements, and faculty department affiliation (Muller, 2006; Murray et al., 2009). For students with ASD, a successful college experience may hinge on whether faculty members are aware of their needs, and further, if faculty members are truly invested in helping them. In countries such as the United States and United Kingdom, faculty members are required by federal law to provide “reasonable accommodations” to college students registered with the campus disability office. This means that each institution individually interprets what is reasonable—for example, extended test time or a scribe—to provide to students with disabilities, including the growing population of students with ASD (National Center for Learning Disabilities [NCLD], 2009). Though reasonable accommodations are legally mandated, the willingness of the faculty and how they choose to implement these directives can vary and have great impact on the student. Vogel, Leyser, Burgstahler, Sligar, and Zecker (2006) found that faculty members are generally interested in increasing their understanding of appropriate accommodations for students with disabilities and acquiring skills to implement these strategies. Even minimal participation in disability-focused training has a positive effect on faculty willingness to provide accommodations for the students (Murray et al., 2009). Faculty members are more likely to support students with disabilities when they have been given some training on at least the general needs of these students.

While many faculty members are often well-intentioned, interactions with students on the spectrum can be challenging because of a lack of awareness of what ASD is and how to respond to the individual needs of these students. In a 2-year case study of students with ASD in a higher education institution in the United Kingdom, Taylor (2005) concluded that faculty and staff needed to know more about the needs of students with ASD to successfully support them. Taylor (2005) stated, “Although most of the population may be aware of disabilities such as blindness and deafness, few may be aware of the nature of autistic spectrum disorders” (p. 489). This can especially be difficult when ASD can fall into the “invisible disabilities” category, making the condition difficult
to identify, accept, and respond to. As faculty become aware of the needs of students with ASD, particularly in light of increasing enrollments, they can learn to adapt their pedagogical methods to accommodate and include students in productive and equitable ways.

While information and strategies for working with students with ASD are slowly developing within disabilities offices and on college campuses overall, there is almost no research that suggests that dissemination of this information is consistently and effectively informing the pedagogical practices of faculty members—the very institutional constituents who have daily interactions with students in and out of the classroom. Only two journal articles were found that focused specifically on faculty experiences and strategies with students with ASD. In their review of typical challenges experienced by students with ASD, Shmulsky & Gobbo (2013) outlined three kinds of strategies for community college instructors to more successfully interact with and support their students with ASD. These included strategies to support critical thinking instruction, improve executive function, and minimize classroom anxiety. In the other article, Gobbo & Shmulsky (2014) presented focus group data on faculty members’ observations of strengths, challenges, and teaching strategies from their interactions with students with ASD. Faculty members described providing structure and attending to the emotional climate and anxiety of students with ASD as promising instructional practices. Although the review of instructional strategies in both articles suggested potential ways that faculty can support students with ASD, they should be viewed as general guidelines because they were not elicited as promising approaches from the students with ASD themselves or from faculty recognized as successful in their interactions. In order to enhance practices and suggest development of additional support in higher education for faculty who instruct students with ASD, this study investigated the ways in which exemplary faculty members approached teaching students to support their academic success.

Method

The question that guided the research design of this study was: In what ways do supportive faculty members responsively approach students with ASD in their teaching? In order to answer this research question, we engaged in a qualitative research study of nine faculty members at two- and four-year institutions of higher education. A call for nominations was developed and distributed through various media: listservs, social media, word-of-mouth, email, and directors of disability service offices. As a result, college students with ASD and directors of college disability offices nominated all nine faculty participants as being exceptionally supportive in their teaching of students with ASD. A qualitative approach was appropriate because, as Merriam (2009) described, we “are interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world” (p. 13). We were in search of a complex and rich understanding of a phenomenon—effectively teaching college students with ASD—that is not yet well understood. Grounded in both constructivist and social justice lenses, the written findings from this study are a representation of knowledge that was co-constructed between the faculty members’ stories and ourselves as researchers who aim to create socially just and inclusive environments for students with disabilities.

Participants

All nine faculty members participated in the study by way of purposeful sampling. College students with ASD and directors of college disability support offices in the southwestern United States nominated faculty members who they identified as exceptional or particularly successful in their interactions with college students on the spectrum. Initially, 12 faculty members were nominated and nine of those 12 agreed to participate. Faculty from both two- and four-year institutions were represented in the sample. Table 1 presents demographic information for each participant.

Data Collection

To gather in-depth responses, we developed a semi-structured interview protocol that aimed to elicit rich descriptions and stories of teaching experiences. As suggested by Yin (2014), the questions were developed to guide the participants to share their experiences openly, instead of being shaped with the intention of getting structured and rigid responses. Questions focused on faculty members’ experiences and perceptions about teaching and interacting with students with ASD. Each interview lasted approximately one hour in length. The interviews were conducted at locations that faculty participants chose.
informed consent from each participant, the inter-
views were audio recorded and transcribed.

Data Analysis

We analyzed the interview data by using the quali-

tative data analysis software, Saturate App. We
began with open coding by identifying significant
statements in the transcripts that described the experi-
ences of faculty teaching students with ASD. In other
words, we developed and assigned codes to words,
terms, or statements that were relevant to answering
the research question. In the next phase of analysis,
we transformed codes into themes. Creswell (2012)
stated that themes “are broad units of information that
consist of several codes aggregated to form a com-
mon idea” (p. 186). We grouped coded quotes with
shared or related meanings into clusters of themes
that emerged across participants’ experiences related
to perceptions and experiences about teaching stu-
dents with ASD.

Researchers’ Positionality and Trustworthiness

Our interest in supporting students with ASD at
all educational levels is both personal and profession-
al. In our combined years of professional experience,
we have taught and developed close relationships
to numerous students with ASD. Rooted in a social
justice perspective, we view faculty members as hav-
ing a responsibility to support students who require
accommodations. We offer our candid disclosure of
assumptions about faculty and ASD to provide trans-
parency and trustworthiness in our interpretation of
the data (Merriam, 2009). Further, “the account made
through extensive time spent in the field, the detailed
thick description, and the closeness of the researchers
to the participants in the study all add to the value
or accuracy of a study” (Creswell, 2012, p. 250). In
our interrogation of perceptions and experiences of
responsive faculty members, we aspire to encourage
educators to re-examine their own conceptions about
teaching the increasing number of students with ASD.

Limitations

Caution should be exercised in making general-
izations outside of the context of this study. The find-
ings are only reflective of the experiences of the nine
faculty participants. We did not explore each one’s
organizational culture in depth, which could provide
contextual information about faculty members’ abili-
ty to support students with ASD. Further, the individ-
ualistic nature of ASD in the expression of symptoms
could be viewed as a limitation for the interpretation of
this study’s findings. For example, the experiences of
the faculty members with the students with ASD whom
they taught might not be representative of all students
with ASD. Therefore, the nature of ASD itself may be
seen as an unavoidable limitation to making general
statements about how to support the whole population
of students with ASD in higher education.

Findings

The findings of the study resulted in a model of
responsive teaching approaches that enable faculty
members to support students with ASD (Figure 1).
Six themes formed the foundational beliefs and ex-
periences that informed and guided four pedagogical
approaches to meeting the needs of college students
with ASD.

Foundational Beliefs and Experiences to Responsive
Teaching

Personal connections to disability. One of the
major foundational experiences common among ex-
emplary faculty members was the development of
prior personal connections to people with disabilities.
Faculty drew from past interactions and relationships
with students with disabilities, contributing to their
willingness and ability to responsively teach students
with ASD. Six out of the nine faculty members shared
that they had a family member with ASD or a sim-
ilar disorder, or that they had a close friend with a
child with ASD. Cathy astutely noted, “It seems like
a good percentage of the faculty that are really sup-
portive have friends with kids with autism. Or maybe
have had some personal kind of interaction. I think it
is helpful if they’ve experienced it.” Several faculty
members, like Kurt, expressed that being personally
affected by the disorder caused him to be more aware
and sensitive to the students’ needs. Kurt shared, “I
have a child who has issues, not with autism howev-
er, but with other cognitive issues, which have made
me] more aware of these issues than I probably
would have otherwise been.” Stephen described how
finding out his close friend’s son had ASD was a mo-
tivating factor in his own exploration of the disorder:

One of my colleague’s sons was the same age as
my son . . . They went to preschool together . . .
and in that environment they discovered that he
was autistic. And so I really followed her and her husband’s struggles with living with the son and trying to find solutions. So through that, I read more things about it and in my conversations with her I think was more educated, and then began realizing [more about] my students.

Overall, the majority of the faculty in this study had professional and life experiences of knowing and working with students with disabilities that became a turning point for them to be more responsive to their students with ASD.

**Belief in students’ abilities.** The foundation to being a responsive faculty member to students with ASD was also formed by an overriding and authentic belief in students’ capabilities and potential for educational growth. Faculty members discussed their beliefs in the potential of the students with ASD, in spite of social and communication challenges, for academic and future career success. James explained:

> When I came to campus, part of my outreach efforts included those historically underrepresented individuals. And what I found was, there’s so much potential academically, prevocational . . . And then I saw so much success for some of the, not just Asperger’s students, but some students that would be typically, with just a little bit of guidance, be able to put up with the rigor and the faculty.

The entire faculty in the study felt that the students with ASD had the potential to learn and grow during their time in college. Kurt discussed his enjoyment in watching the growth of his students with ASD:

> I really like seeing people change for the better. That they begin to understand those things and they become different students. And that really is one of the things I most enjoy is having a student come up to me and tell me, ‘That really worked for me. I really understand this now.’

Faculty members not only believed in students’ potential, but they were committed to being a part of that growth. This sense of ownership over student development and learning encouraged faculty to be active participants in the educational lives of students with ASD. Kurt poignantly shared:

> We should strive for student success and we should strive for the success of all students. And even if we feel overwhelmed by the hurdles that, that person faces, that doesn’t mean that we can’t help that student in whatever way we can help that student. And that requires us to work at it. It requires our patience. And it requires our effort.

**High expectations.** Because faculty members presumed competence in students with ASD, they placed high expectations on them to meet course learning goals. More than half of the faculty described having high expectations for their students with ASD, provided that these students were given appropriate support services. James believed that setting high bars for success helped to establish a positive working relationship with the students since the expectations were clear:

> I feel it’s very important to start with a foundation of rigor, expectations, and building an emotional component to the learning environment very early on, set that tone. And if you have that from the beginning whether it’s a semester long or multi-years you have a rapport with each student, and then you’re able to carve out a path that’s going to be individualized and successful built on that foundation.

Further, Kurt described his belief that, although he was extremely willing to allow for appropriate accommodations for students with learning differences, he placed the responsibility to request those accommodations on the students themselves, as part of the learning process. As illustrated by James’ and Kurt’s stories, faculty were willing to provide support to their students, but in return, held these students to high standards of learning and personal responsibility.

**Ethic of care.** Faculty believed that developing trust and meaningful relationships with their students was the vehicle to enable students to achieve their potential. Some faculty members used terms such as “nurturing,” “trust,” and even “love” in their stories of interactions with specific students with ASD that they had taught and mentored. An ethic of care prevailed in the faculty stories, one which revealed a genuine desire to understand the needs of their students with ASD through establishing meaningful connections with them. Anna stated, “Things that I’ve seen that work over time is a general sense of care for
the students, an investment in trying to get to know them.” Cynthia commented, “I enjoy that kind of really deep connection that can happen, doesn’t happen every semester, it certainly doesn’t happen with every student. But it’s an amazing feeling.” The entire faculty agreed that getting to know the students was especially important to positively interact with students with ASD. Stephen mentioned that it was a necessity in order to find out what he could do to help: “The primary advice that I have is just get to know the student and get to know what his or her struggles are.”

Faculty members believed that their students, especially those with ASD, responded more positively to their feedback and guidance once the students felt comfortable and safe. Put another way, establishing relationships with students often resulted in stronger supports for the student. James stated, “Some students don’t see themselves at a college level, so they need a lot of emotional support to get over that initial fear.” Jacqueline described how students trusted her and allowed her to ask more of them once they established that she would help them through the learning process. She said, “I think the approach is often nurturing—nurturing people who have talent, and then pushing them further to get them to the next level where they want to be.”

Passion for teaching and students. Not only did the faculty members speak about their passion for the students, they also spoke candidly about their love for teaching and for their individual subject areas. Kurt clearly described his personal experience and feelings about being a community college faculty member:

One has to want to work with people. One has to want to help people . . . One feels passionate about the field that you’re doing. You feel passionate about inculcating people into that field and understanding it, and wanting to do it. And one feels passionate about student’s success, especially in a community college.

All the faculty members spoke emphatically about the many things that they enjoyed about teaching and in their current positions. James spoke directly about how one of his favorite parts of teaching students with ASD is those transformational experiences where he learns along with the students:

I love those moments, those ah-ha moments when you see a student break down a barrier, overcome an obstacle that is perceived or real, and you witness that. You know? For them it’s a miracle that they’ve never been able to read or they’ve never been able to access an e-mail or connect with another individual physically and or virtually. And so seeing those moments are what keeps me coming back.

When asked what prompted his decision to become a college faculty member, Paul simply but powerfully stated, “I enjoy teaching and I believe that I can make difference.” Overall, the faculty participants clearly shared their passion for their students and the profession in their stories.

Commitment to social justice. Four of the faculty members spoke thoughtfully and candidly about how they connected their personal desire to help the students with ASD to issues of social justice. They saw their role as helping “underserved” students, whose voices are often not heard, gain access to opportunities that might be seemingly unattainable without people willing to support their needs. The faculty members had, as Anna stated, “a consciousness around differences, and supporting differences, and how success can still be achieved amidst differences.” Shannon expressed her commitment to the student-centered mission of the community college, in which she encouraged students to have a voice:

I think that that’s what the community college does, the system does for us is, I think it protects democracy. I think it provides social mobility. I think it gives voice to people who often don’t have a voice. And I think that that’s good for all of us. I was committed to that, to the diversity we used to have in the system.

Further, several faculty members mentioned that they felt strongly that giving accommodations to students with ASD and other disabilities was a way to make sure that the students received equitable opportunities to participate in college. Kurt spoke about how providing these tools to the students should not be thought of as a burden from the perspective of the faculty, but as a necessary part of one’s job responsibilities.

It’s not something that is nice to do. It’s not something that we do because we have the time or patience to do. It’s something we have to do. And
we have to have the patience. And we have to have the time to be able to do this. We are required to do it and as educators we should want to do it. Because we should want to see these students succeed.

Faculty participants who were committed to social justice held the worldview that students with ASD, as a historically marginalized group, deserved the right to inclusion in higher education. Social justice, in combination with the other foundational beliefs and experiences to responsive teaching, contributed to the willingness of the faculty members to become institutional agents for students with ASD.

**Pedagogical Approaches to Responsive Teaching**

The foundational beliefs and experiences related to students with ASD described in the prior section served as a guiding framework for faculty members’ pedagogical approaches. The pedagogical approaches reported by faculty included structured scaffolding, differentiated instruction, comprehensive accommodations, and developing collaborative institutional support.

**Structured scaffolding.** To begin, several faculty members spoke of breaking down larger assignments into smaller tasks or components so that expectations were clearly structured and communicated. Faculty members observed that scaffolding assignments in this way was especially helpful to students with ASD. Shannon detailed her method of scaffolding as a way to provide access to the material that she taught in her English classes. She started with “these big things” like poetry or a paragraph and taught the students by “breaking it down, seeing sort of the components of it and how it works.” She started off in a structured way by explaining to students, “Here’s how you write a paragraph. Do this, this, this.” As the learning exercise evolved, Shannon allowed the student to take on more ownership of the learning. She explained, “real learning is sort of amorphous . . . It’s sort of a journey. And I see the long road . . . [It involves] breaking it down for them and then providing a lot of different ways for them to show what they know.”

Five additional faculty members described their techniques of dividing larger projects and assignments into manageable parts. Most of these faculty members observed that the process of making costumes in her costume design course could be overwhelming for students with ASD. As a result, she had students work in small steps, from the initial stages of imagining the design, to the execution of creating the garment. Jacqueline explained her rationale: “Breaking down steps to make a garment [is] the same philosophy where sometimes you have to break down steps conceptually for people so that they can wrap their heads around [it].”

**Differentiated instruction.** Another component of the faculty’s responsive pedagogical approaches was teaching content material via multiple methods in order to reach students with varying learning needs. The multiple methods included approaches using technology, lecture style discussions, small group projects, and interactive activities to reinforce the material. Faculty described their styles as “experimental,” “experiential,” and “hands-on,” in contrast to more traditional lecture-based methods of delivering content that is still widely used in higher education. Most of the faculty spoke about a personal teaching style that catered to multiple learning needs and styles, described as “multidimensional”, and “super diverse.” Although a majority of the faculty admitted that they did not have a strong understanding of ASD, the style that these faculty members used could be particularly beneficial to students with ASD in the classroom, due to the individualized expression typical of ASD. James shared his “individualized for each individual” approach that he believed worked well for his students with ASD. He explained, “With that richness of diversity you have to be able to relate to where they’re going. Find that individual path, tap into their learning style and look at a universal design for learning and integrate everybody as you go.”

While the faculty all agreed that their responsibility was to teach the content material to their students, most relayed different ways in which to accomplish this goal. Stephen stated that he had high expectations that his students learned the necessary material, but that it was his job to help find a way in which the students understood best:

[I] provide a variety of ways of communicating, too, so not just the oral communication, but have it written down, have it in several different places and in several different ways, of communicating the same thing. But even there my teaching style
mixes activity with content material and involves a lot of student work and project work. I use technology quite extensively.

**Comprehensive accommodations.** Beyond offering differentiated instruction, all but one faculty member reported providing accommodations to students who experienced challenges in their classroom well beyond what was required or mandated by the campus disability office. The philosophy of faculty participants to provide accommodations was grounded in the idea of leveling the educational playing field for students with ASD. Kurt explained,

The way I see it is that people who have special needs have hurdles that other people don’t have ... By giving the accommodations, is [to] try to level the playing field. To try and put down some of those hurdles. So it’s not a question of an unfair accommodation; rather it’s to make it fairer for those people who have these extra hurdles that these other people don’t have.

Faculty participants attempted to make adjustments and accommodations in order to support the strengths of the students with ASD, instead of focusing on the challenges and what the student could not do. Put another way, faculty participants spoke about finding out what the student could do well to determine how to accommodate the assignment to the students’ learning needs. They tailored assignments so that the individual student felt a sense of accomplishment, without compromising the rigor or learning goals of the assignment. The goal was to make the assignments accessible to students who have a different set of strengths.

**Collaborative institutional support.** A majority of the faculty participants spoke of working closely with their disabilities offices and other individuals on campus to support the success of students with ASD. Seeking out this kind of institutional support enabled faculty members to better meet the needs of their students in the classroom to access the curriculum. Kurt described his approach to working collaboratively with his campus disability office personnel to identify and support students on the spectrum:

What I know about autism is when I’ve talked to the [disabilities office] group here, I happened to sit with them. And I would talk to them about various students of mine. And try and understand what those, the challenges some of those students face. So I have a better idea about the kinds of things that I should be doing to help those students.

Kurt, like many of the other faculty, proactively sought help to support the students’ individual learning needs. Disability office personnel provided faculty members with guidance and a set of accommodations, mandated by law, to allow students to access the curriculum.

Although a significant amount of the guidance was offered by the disability office, faculty members found additional means of collaborative support. Five faculty participants reported seeking support from their colleagues, specifically those faculty members who had direct experience with the same students with ASD. Anna took the initiative to speak to her students with ASD about their positive interactions with faculty, and then sought out those faculty members for advice and guidance. She described:

The second thing I would say is utilize your colleagues. When I extended myself to a colleague in my own department, like this is a student in our major. There are other people who have had experience with him. So for me to go for a strengths-based approach, and say [to the student], ‘Well what teachers do you feel like you really had a good connection with?’ And then ask the faculty.

No matter where the additional support came from, most of the faculty in this study initiated contact with others to help them most successfully work with the students with ASD.

**Discussion**

It is the direct relationship between the student with ASD and the instructor which will determine the academic success in a particular course, and therefore positively or negatively affect that student’s chance for success in their pursuit of higher education. The findings of this study highlight significant belief systems and experiences, as well as pedagogical approaches, that college faculty enact to support the academic success of students with ASD. The outcomes of this study contribute new information to a paucity of research investigating faculty contributions to the
success of students with ASD in higher education. Much of the growing literature on needs and existing accommodations for these students focuses on the general challenges that students with ASD face, and the overall experiences of the students in their post-secondary educational pursuits (Hastwell, Martin, Baron-Cohen, & Harding, 2012). The critical piece that is greatly missing is the perspectives of faculty who are able, willing, and actively offering assistance to the students with ASD, specifically from faculty who have been recognized as exceptionally responsive to students with ASD.

Guiding Beliefs and Experiences of Responsive Faculty Members

Six foundational beliefs and experiences empowered faculty members to support students with ASD: prior personal connections and relationships to people with disabilities, a belief in students’ abilities, high expectations for academic performance, an ethic of care, a passion for teaching and the students themselves, and a commitment to social justice. Of these six, prior connections to people with disabilities, the ethic of care, and a passion for teaching their subject matter and the students themselves emerged as significant core values and experiences to being responsive to students with ASD in the majority of the faculty.

Prior connections to people with disabilities. Almost all faculty members in the study had experienced interactions and relationships to people with disabilities prior to teaching students with ASD and other disabilities. These rich experiences enabled faculty members to develop funds of knowledge about students with disabilities that informed their beliefs and practices in the classroom. The sociocultural concept of funds of knowledge is defined as, “historically accumulated and culturally developed bodies of knowledge and skills” (Moll, Amanti, Neff, & Gonzalez, 1992, p. 133). In the educational context of higher education, these funds of knowledge and skills are developed as faculty members interact with and teach students with disabilities. The richer the funds of knowledge, the more experiences and skills a faculty member has to draw from when encountering new situations with students in the classroom. The result is that faculty members become more responsive practitioners when they have richer funds of knowledge to draw from (Bensimon, 2007). Faculty members in this study were able to empathize and have more meaningful interactions with their students with ASD because they had gained knowledge and skills related to the obstacles that their students faced from their own past experiences and relationships with people with disabilities.

Ethic of care. The faculty in this study showed a strong ethic of care, evidenced by the reported caring and nurturing interactions with their students with ASD. This ethic of care is consistent with research on qualities of caring teachers, and the positive impact they have on students, specifically on students with disabilities such as ASD. Noddings’ (1992) seminal work on the need for caring in education described a significant need for a connection between the student and the teacher in order to inspire a desire to learn and participate fully in the learning process. Since Noddings’ study, significant literature has emerged on the powerful impact of caring teachers, more recently as it relates to faculty in higher education (Jenkins & Speck, 2007; Slate, LaPrairie, Schulte, & Onwegbuzie, 2011; Wang, Gibson, & Slate, 2007). Thayer-Bacon & Bacon (1996) presented a model of caring based on their exploration of college professors who were identified as caring. The model depicted forms of caring, including a desire to be approachable, creating supportive classroom environments, and an overall attitude of acceptance and trust. The professors’ reflections in Acker’s (2003) study of outstanding college teachers further discussed how caring and commitment were significant attributes of their recollections of their favorite teachers. Similar to the personal qualities of the faculty in the current study, Acker (2003) identified a genuine desire to help and a willingness to spend time in developing relationships from the excerpts of the recognized exemplary college teachers. Research indicates that care-centered approaches are particularly effective for students with significant obstacles (O’Brien, 2010; Orr & Hamig, 2009; Park, Roberts & Stodden, 2012). Apparent in faculty participants’ comments in the current study, the development of trusting and caring relationships was a crucial component in the academic success of the students with ASD.

It is important to note that four of the eight members developed an ethic of care that was driven by a need to effect social change on a broader scale. Both Kurt and Shannon involved themselves in issues of diversity, access, and student equity on a daily basis. James and Shannon spoke in detail about their desire to increase awareness for “invisible disabilities” such as ASD, and to help find more ways to support this deserving population of students.
Passion for teaching students and subject matter. Faculty members in this study described their passion for their subject areas, for the profession, and for their students. Previous research reveals that effective teachers are ones that can convey their passion to their students (Acker, 2003; Slate et al., 2011). In addition, students feel connected to and appreciate faculty members who clearly show their enthusiasm and commitment to their students. In research by Slate et al., students identified faculty members’ knowledge and passion about their subject as the highest priority in their definition of exemplary teachers. Similarly, faculty members in the current study spoke of truly loving what they teach, and all but one of the nine participants had more than eight years of teaching experience in higher education. Therefore, the faculty participants had time to acquire considerable knowledge in their subject areas, as well as continued enthusiasm for the content. Acker offered support for the role of passion in responsive teaching, from the perspective of both college faculty members who were recognized as exemplary and from current faculty members reflecting on their own experiences with outstanding college teachers. The reflections included vivid descriptions of how the faculty showed their excitement during class sessions, and in many cases, showed passion for causes more substantial than the content of the course.

Promising Pedagogical Approaches

Willingness to accommodate. Many students with ASD require accommodations in order to be successful in their postsecondary pursuits (Hewitt, 2011). The faculty participants in the current study all revealed an overwhelming willingness to provide necessary accommodations, often times above and beyond the traditional academic accommodations, such as extended time on exams and note taking services. Several faculty described examples in which they found ways to accommodate the various learning styles of their students, yet they all agreed that these adjustments did not alter the goals nor the rigor of the assignments. Although the faculty in the study showed a commitment to supporting their students with ASD, a few spoke about their concern that not all of their colleagues felt the same way. Prior research has indicated numerous accounts of faculty members who are unwilling to provide even the baseline of the legal requirement of “reasonable accommodations”, including emerging studies from the experiences of students with ASD in higher education (Cawthon & Cole, 2010). Studies have shown that some faculty believe that certain accommodations provide an unfair advantage to the students with disabilities (Cook, Hennessey, Cook & Rumrill, 2007). Baker, Boland & Nowik (2012) found that almost 30% of the students with disabilities in the study reported that their professors were not willing to make reasonable accommodations. On the contrary, Kurt and others spoke passionately about their view that accommodations help to make the learning environment more equitable for the students with disabilities.

Instructional methods. Just as faculty participants in the study did not feel burdened by accommodating students, they also did not hesitate to scaffold their instruction by breaking down assignments into manageable tasks or differentiate by varying instructional approaches to enable students to access the curriculum. In their study examining the qualities of award-winning university professors, Jenkins and Speck (2007) found that the professors commonly used structured learning and scaffolding as techniques to successfully reach and teach their students. The professors in the study felt that these methods enabled them to communicate clear expectations, and to show their students how to successfully approach learning the concepts. Researchers have documented that students with ASD in particular benefit from clear expectations, and from larger assignments which are broken down or scaffolded (Boutot & Myles, 2011; Gobbo & Shmulsky, 2014). These strategies, according to Gobbo and Shmulsky (2014), can lower the anxiety of students with ASD and play to their strengths of thriving in structured environments.

Institutional collaboration. Although the faculty members in the current study were individually recognized as particularly responsive to their students with ASD, most of these faculty members described how their ability to support students was enhanced by collaborating with others within their institutions, fostering a climate amenable to supporting students with disabilities. Faculty members actively sought out guidance from their campus disabilities offices on how to support their students with ASD. In addition, faculty received advice about teaching strategies from their colleagues and even the students themselves. In their study on improving engagement for college students with ASD, McKeon, Alpern & Zager (2013) found that students were best supported when accommodations were provided as part of a collabo-
rative effort among the faculty member, student, and disability service providers. Additional research has shown how faculty can work together with disability centers, administrators, and fellow faculty members to form comprehensive networks of support for the students with ASD (Humphrey, et al., 2011). While the faculty may be the direct contact to the student with ASD in the classroom setting, the current study indicates that the faculty member does not work alone in developing responsive teaching practices. What is clearly evident is that the faculty members in this study were effective in gathering pedagogical tools and implementing them for the benefit of their students with ASD.

Implications for Policy and Practice

In spite of being nominated as exemplary faculty, faculty members in the current study not only spoke of having inadequate awareness of the needs of their students with ASD, but also expressed a desire for professional development opportunities in order to enhance their supportive practices. What can be done to influence more faculty members to engage in responsive teaching practices that enhance the learning experiences of students with ASD and other students who experience learning differences? How can faculty members who have not had close interactions with family members or others with ASD cultivate these crucial funds of knowledge for responsive teaching of students with disabilities? This section explores implications for meaningful institutional policy and practice.

Meaningful Faculty Development

Peña’s (2012) research suggests that intensive, sustained faculty development that is supported by institutional leadership can promote the exposure and self-reflection necessary to help encourage more responsive teaching practices to under-served students. In Peña’s study, faculty members engaged in an intensive 20-month professional development program that involved: (1) structured interactions with the target student population (in this case, underrepresented minority students); and (2) structured faculty meetings to reflect on knowledge and experiences of these student interactions. The faculty participants in the study who previously had very little experience with engaging in responsive teaching practices with the students in question changed the most. In particular, faculty experienced “ah-ha” moments about race, privilege, and taking responsibility for student success. In turn, they developed critically conscious teaching and advising practices.

We suggest that postsecondary institutions who commit to a similar professional development format can create meaningful changes in faculty members’ interactions with and teaching of students with ASD. With increasing numbers of students with ASD who will enroll in colleges and universities, we recommend mandated faculty development opportunities in order to (a) increase awareness of ASD for faculty and other campus constituents who are in direct contact with them, and (b) provide practical pedagogical approaches that have been shown to be successful teaching strategies with students with ASD. This study pinpoints concrete ways in which the faculty members seek to help their students, such as developing trust through caring interactions, offering appropriate and comprehensive accommodations, and designing their classrooms and lessons with attention to differentiated ways of learning. The recommendation is that these faculty development trainings offer a chance to first, assist faculty in building critical knowledge (funds of knowledge) to better inform their beliefs by structuring interactions with students on the spectrum. Then, through extensive structured training and reflection, faculty can develop practical tools, at least partly directed by responsive faculty members as models of successful teaching strategies. Exemplary faculty members recognized as skilled and supportive of students with ASD at each campus should serve in the long-term as mentors and resources for faculty members who have specific questions as they encounter more students with ASD in their classrooms. Incorporating these components into professional development opportunities will significantly inform the growing number of faculty members who will encounter, teach, and advise college students with ASD.

Universal Design

The faculty members in this study showed an overwhelming commitment to offering accommodations, differentiating their instruction, and using a student-centered approach to teaching. These efforts are congruent with universal design, “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (Center for Universal Design, 2011, para. (1)). Under the premise that all stu-
Students learn in diverse ways, instructors recognize the need to develop strategies and approaches to develop an accessible learning environment. Scott, McGuire, and Foley (2003), developed the nine principles guiding Universal Design for Instruction specifically for college classrooms: equitable use, flexibility in use, simple and intuitive, perceptible information, tolerance for error, low physical effort, size and space for approach, a community of learners, and instructional climate. In the current study, Anna described how she constructed her unique classroom each semester with direct input from her students by simply asking them what would help. She told the students,

I’m interested in what would make a difference for you. So I want you to review this [evaluation] and then come up with three to five things on an index card that would help you as far as what I can do as the professor to create a conducive learning environment. It’s an awesome exercise.

Students with ASD can greatly benefit from interactions with faculty who practice universal design. James spoke of his use of universal design in his classroom, where he combined kinesthetic components and hands-on learning as much as possible to create inclusive learning spaces for the individualized needs of his students with ASD. He also expressed his desire to see the universal design application more widely accepted at the college level.

For college faculty members, “specific barriers [exist that] hinder the implementation of Universal Design features at their institution to a moderate or major extent” (Raue & Lewis, 2011). These barriers included:

- lack of incentives for faculty to change their instructional practices, limited staff resources to provide faculty and staff with training on accessibility issues, and limited availability or interest on the part of faculty to participate in training opportunities related to accessibility issues. (pp. 16-18)

In one study, only one-third of faculty in private institutions and half of faculty in public institutions received training on universal design (Raue & Lewis, 2011). College leaders must commit to professional development that not only involves structured interactions with students and reflection with fellow faculty, as described above, but also incorporates principals of Universal Design. Universal design should be encouraged for the benefit of all students, not just those students with ASD. Higher education institutions need to convince and support faculty in moving toward this goal.

**Future Research Recommendations**

Although this study indicates multiple factors related to beliefs and pedagogical approaches among the faculty participants who are considered responsive to students with ASD, it is unclear whether it is the total combination of the factors that students with ASD find helpful or a few factors that are more significant to the students. Do certain factors carry more weight than others? A quantitative study may be able to tease out the significance of certain factors over others. Future research should also involve direct feedback from college students with ASD to shed light on the qualities they identify in responsive teaching in higher education.

This study examined the qualities of college faculty who responsively taught students with ASD by collecting faculty members’ stories and accounts in interviews. Future research should include direct observations of the faculty-student interactions. Observations would allow researchers to document more detailed accounts of the kinds of interactions, relationships, and practices that best support students with ASD. These observations would serve as a method of validation to the findings from the current study, and shed new light on approaches that did not emerge in this study’s faculty interviews. Again, adding interviews of college students with ASD themselves would contribute the most invaluable perspective to understand which approaches and strategies in teaching students with ASD are effective. Students with ASD are the experts in this topic, and they should be given a central voice in the research.

While the faculty members in this study had rich funds of knowledge from which to draw to approach students with ASD in responsive ways, faculty members outside of this study may not have been exposed to experiences and relationships with people with disabilities. What about faculty members who do not have family members with ASD or who have not had the chance to develop ways in which to interact with students to develop these crucial funds of knowledge? Can training opportunities enhance the potential of faculty to learn more deeply about their students and
become more culturally and socially sensitive in their ways of thinking and knowing? More research must be conducted on the kinds of faculty development opportunities that make meaningful and long-lasting changes by adding to faculty members’ funds of knowledge, and enabling them to develop effective pedagogical approaches with students with ASD.

References


Cawthorn, S. W., & Cole, E. V. (2010). Postsecondary students who have a learning disability: student perspectives on accommodations access and obstacles. *Journal of Postsecondary Education and Disability, 23,* 112-128.


About the Authors

Kimberly Austin received her B.S. degree in Aquatic Biology from University of California, Santa Barbara, M.S. in Physiology and Behavioral Biology from San Francisco State University, and Ed.D. in Higher Education Leadership from California Lutheran University. Kimberly is currently an Adjunct Professor of Biology at Moorpark College. Her research interests focus on the holistic support of college students with autism, including faculty support and best practices for teaching students with autism. She can be reached by email at: kaustin@vcccd.edu.

Edlyn Vallejo Peña received her B.A. degree in Psychology from University of California, Santa Cruz and M.Ed. and Ph.D. from University of Southern California. Edlyn is currently an Associate Professor and Director of Doctoral Studies in the Higher Education Leadership program at California Lutheran University. Her research interests focus on supporting the access and persistence of college students with autism. She can be reached by email at: epena@callutheran.edu.

Figure 1. Responsive Teaching Model to Support College Students with ASD
Table 1

Participant Demographics

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Gender</th>
<th>Discipline</th>
<th>Institution Type</th>
<th>Years at Current Institution</th>
<th>Total Years Teaching</th>
<th>Training ASD</th>
<th>Nominated by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shannon</td>
<td>F</td>
<td>English</td>
<td>2 yr. public</td>
<td>23</td>
<td>35</td>
<td>no</td>
<td>Disabilities Director</td>
</tr>
<tr>
<td>James</td>
<td>M</td>
<td>Assisted Technology</td>
<td>2 yr. public</td>
<td>13</td>
<td>13</td>
<td>yes</td>
<td>Student</td>
</tr>
<tr>
<td>Kurt</td>
<td>M</td>
<td>Computer Science</td>
<td>2 yr. public</td>
<td>13</td>
<td>15</td>
<td>no</td>
<td>Student</td>
</tr>
<tr>
<td>Stephan</td>
<td>M</td>
<td>Theater Arts</td>
<td>4 yr. private</td>
<td>31</td>
<td>45</td>
<td>no</td>
<td>Student</td>
</tr>
<tr>
<td>Jacqueline</td>
<td>F</td>
<td>Theater Arts</td>
<td>4 yr. private</td>
<td>3</td>
<td>3</td>
<td>no</td>
<td>Student</td>
</tr>
<tr>
<td>Anna</td>
<td>F</td>
<td>Recreation &amp; Tourism</td>
<td>4 yr. public</td>
<td>6</td>
<td>7</td>
<td>yes</td>
<td>Disabilities Director</td>
</tr>
<tr>
<td>Cathy</td>
<td>F</td>
<td>Education</td>
<td>4 yr. public</td>
<td>23</td>
<td>23</td>
<td>yes</td>
<td>Student</td>
</tr>
<tr>
<td>Cynthia</td>
<td>F</td>
<td>Sociology</td>
<td>4 yr. public</td>
<td>8</td>
<td>30</td>
<td>no</td>
<td>Disabilities Director</td>
</tr>
<tr>
<td>Paul</td>
<td>M</td>
<td>Sociology</td>
<td>4 yr. public</td>
<td>7</td>
<td>15</td>
<td>no</td>
<td>Disabilities Director</td>
</tr>
</tbody>
</table>
Embracing Diversity and Accessibility: A Mixed Methods Study of the Impact of an Online Disability Awareness Program

Shelli A. Wynants¹
Jessica M. Dennis²

Abstract

Despite the critical role that faculty play in the success of students with disabilities in higher education, professional development for promoting the understanding of these students’ needs and the employment of inclusive instructional strategies to enhance their success has been limited. To better assess the potential of the online environment as a context for professional development, this mixed methods study investigated the impact of an online disability awareness program designed to introduce college faculty to Universal Design for Instruction (UDI) principles. The study followed a sequential design consisting of two phases. In the first phase, 43 faculty members completed pre- and post-program surveys measuring attitudes toward and knowledge of students with disabilities. In the second phase, we conducted a thematic analysis of interviews with 10 faculty participants who completed the program one semester earlier. The quantitative and qualitative phases resulted in three convergent findings: participating in online professional development led to increased faculty knowledge, improved faculty attitudes, and the emergence of faculty confidence in applying UDI principles for better accessibility of course materials and content presentation. The results indicate that professional development programs in an online context are a promising means for providing faculty the support they need to enhance their teaching practices and promote inclusive learning environments.

Keywords: Higher education, online faculty professional development, students with disabilities, Universal Design for Instruction (UDI)

People with disabilities represent a major and growing segment of the general population (Brault, 2012). Postsecondary institutions have experienced a dramatic escalation in the admission of students with disabilities from 2.3% in 1978 to the most recent estimate of 11.3% of undergraduates reporting some type of disability (National Center for Education Statistics, 1999, 2008). About one third of young people with disabilities have taken at least some postsecondary classes within the first two years after they leave high school (Wagner, Newman, Cameto, Garza, & Levine, 2005). Alarmingly, these students still have a low rate of college persistence and completion; only 6% of Americans with disabilities ages 21 to 64 have earned a bachelor’s degree (National Council on Disability, 2008). Postsecondary education provides a critical pathway for Americans to achieve upward mobility, and for individuals with disabilities a college education provides the means to achieve economic self-sufficiency and independence (Stodden & Dowrick, 2000).

With these facts in mind, members of the academic community must look for ways to reduce barriers to college success for this at-risk group. Although there are legal mandates for providing accommodations in higher education for students with disabilities (e.g., American Disabilities Act, Section 504 of the Rehabilitation Act), there is no universal policy regarding inclusion that all postsecondary institutions must enforce (Scott, McGuire, & Shaw, 2003). Explanations regarding the cause of the low retention and graduation rates for students with disabilities have often cited student deficiencies such as lack of self-determination as the main contributing factors; however, institutions must also consider the extent to which an unsupportive campus climate and poor instruction play a role (Katsiyannis, Zhang, Landmark, & Reber, 2009).

¹ California State University, Fullerton; ² California State University, Los Angeles
Higher education can better enable faculty to effectively teach diverse students and provide an inclusive learning environment; however, this is especially challenging when faculty in higher education are rarely trained in pedagogy and are not required to receive professional development on instructional strategies for working with students with disabilities or other at-risk populations (Scott et al., 2003). Yet, a lack of understanding and cooperation from faculty has been identified as one of the most common institutional barriers encountered by students with disabilities in higher education (Barnard, Stevens, Siwatu, & Lan, 2008). Although faculty interactions play a pivotal role in the success of students with disabilities, many instructors lack an understanding of the needs of students with disabilities and of inclusive instructional strategies to enhance their success (Burgstahler & Moore, 2009; Vasek, 2005).

The purpose of the current study is to examine the effectiveness of an online disability awareness program for college faculty. This study examines how faculty knowledge and attitudes toward students with disabilities changed as a result of the program, and how faculty participants intended to apply their program learning to their teaching and interactions with students. To create a more welcoming and productive learning environment for all students, especially those with disabilities, professional development activities for faculty may be critical, yet there is limited research investigating this (Getzel & Finn, 2005). Such research can help to guide institutions in the creation and enhancement of faculty development programs with the goal to ultimately improve the success rates of at-risk student populations, such as those with disabilities.

Faculty Attitudes toward and Knowledge of Students with Disabilities

One of the major impediments to students with disabilities’ success in higher education is faculty attitudes towards these students (Rao, 2004). Students with disabilities specifically identify negative encounters and lower academic expectations from college faculty as obstacles to their successful inclusion and involvement in higher education (Hong, 2015). Ginsberg and Schulte (2008) specifically identified a link between the type of attitude faculty had about disabilities and their respective instructional methods. Instructors who viewed a disability from a social constructivist point of view reported using more inclusive teaching practices than those who viewed students with disabilities as defective learners. A social constructivist viewpoint acknowledges that students with disabilities experience challenges that change with alterations in tasks, environments, and instructional methods and accepts that such students’ needs are within the continuum of needs shared by all learners. Other research has also indicated that attitudes toward disability play an important role in faculty willingness to provide accommodations (Bourke, Strehorn, & Silver, 2000).

Lack of knowledge about disabilities or of inclusive teaching strategies may unduly influence faculty perceptions and result in stereotyping or fear of lowering academic quality standards. In particular, faculty have been found to have more negative attitudes toward psychiatric and attention disabilities than physical disabilities, which may be the result of less understanding of these specific disabilities (Hindes & Mather, 2007). Interestingly, Barnard et al. (2008) indicated that more positive diversity attitudes of faculty were associated with less positive attitudes toward persons with disabilities. Their findings suggest that faculty may not consider college students with disabilities a type of diversity, and, therefore, providing professional development which helps faculty to add disabilities into their concepts of diversity is important to encourage more inclusive attitudes.

Clearly, knowledge of disabilities is a critical factor to consider because students with disabilities may face negative attitudes and resistance to classroom accommodations from faculty who know little about disabilities (Zhang et al., 2010). Investigation of faculty knowledge has focused mostly on knowledge of legal requirements pertaining to students with disabilities in higher education, and some studies suggest that faculty in higher education have limited knowledge of disability laws (Vasek, 2005; Vogel, Holt, Sligar, & Leake, 2008). Studies examining the areas needed for professional development at higher education institutions have routinely indicated that faculty and staff need more opportunities to gain knowledge about disability and the best ways to create a more inclusive institutional environment. Indeed, lack of knowledge was the category most frequently cited as a problem in focus groups with student service personnel and students (Burgstahler & Moore, 2009). Similarly, research has found that faculty give high ratings to the importance of program content aimed at increasing knowledge of the needs of students with
disabilities and education on disability law and accommodations (Debrand & Salzberg, 2005), as well as topics on universal design instructional techniques (Cook, Hennessey, Cook, & Rumrill, 2007; Cook, Rumrill, & Tankersley, 2009). In sum, consensus indicates that programs designed to improve attitudes towards students with disabilities should increase knowledge of laws, student needs, and resources available, and should give practical ideas and applications for accommodative teaching strategies, such as universal design.

Universal Design for Instruction (UDI)

National research data identifies that approximately three out of four students with disabilities do not disclose their disabilities to their college’s disability support office and consequently receive no support services or classroom accommodations (Newman et al., 2011). This means that instructors are probably unaware of the many students in their classes who struggle with learning issues. Valuing students’ differences by using an inclusive teaching approach honors equity and fairness so that all students will benefit from an optimal learning environment, whether or not they have self-disclosed a disability. One paradigm for higher education instruction that offers a proactive approach to designing an inclusive classroom environment that accommodates the diversity of student learners without compromising academic standards and expectations is Universal Design for Instruction (UDI) (Scott & McGuire, 2005; Scott et al., 2003).

The traditional approach to meet the needs of students with disabilities in higher education has centered on meeting the legal mandates for nondiscrimination and typically relies on retrofitting classroom instruction and assessment after students have provided documentation of their disability. Although this common approach eventually permits equitable access and ensures legal mandates of reasonable accommodations are met, these after-the-fact changes may conflict with instructors’ normal pedagogy, creating frustration and concern over lowering of academic standards and providing unfair advantages to some students over others.

UDI traces its historical roots to the 1970s and 1980s when the concept of universal design appeared in the design of buildings and products that focused on making them usable by all people to the greatest extent possible (McGuire & Scott, 2006). UDI is an adaptation of the broader universal design principles originally used in architecture. UDI is defined as an approach to instruction that anticipates diversity in learners as the norm and operates on the premise that the planning and delivery of instruction as well as the evaluation of learning can incorporate attributes that embrace heterogeneity of learners without compromising academic standards. (p. 22)

A variety of terms have been used in the literature to describe universal design principles including Universal Instructional Design (UID), Universal Design for Learning (UDL), and Universal Design for Instruction (UDI). For the purpose of clarity, the term UDI is used in this article to represent the main concepts from all three terms (UID, UDL, UDI).

UDI provides one of the most promising areas for professional faculty development because it promotes inclusive teaching practices by designing flexible learning materials and activities that recognize the differing skills of diverse learners (McGuire & Scott, 2006; Scott & McGuire, 2005; Scott et al., 2003). Incorporating UDI training into disability-focused professional development allows higher education not only to meet legal mandates for providing equal educational access for students with disabilities, but also to improve the learning environment for the growing number of diverse learners in higher education.

Faculty Professional Development

In a review of promising practices for improving the quality of higher education for students with disabilities, Izzo, Hertzfeld, Simmons-Reed, and Aaron (2001) noted the importance of providing on-site professional development for faculty, administrators, and staff to raise awareness of students with disabilities’ needs and to increase the use of appropriate teaching strategies that benefit the success of all students, including those with and without disabilities. Several studies in the last decade have found that in-person, disability-awareness professional development sessions improve college professionals’ attitudes, knowledge, and inclusiveness of students with disabilities (Cook et al., 2006; Murray, Lombardi, Wren, & Keys, 2009a; Murray Wren, Stevens, & Keys, 2009b; Rohlant et al., 2003). Some researchers have chosen to provide such instruction in an on-line format (Burstahler, 2007; Izzo, Murray, & Novak, 2008; Junco & Salter, 2004) with similar success in the improvement of participants’ attitudes and/or knowledge.
A recent literature review examining empirically based research on UDI in postsecondary education acknowledged the need for more UDI studies that provide evidence-based effectiveness of college instructors’ value and useful application of UDI professional development for promoting student success (Roberts, Park, Brown, & Cook, 2011). Two studies, not included in the review, have responded to the need for empirical evidence of UDI’s beneficial effects on student learning (Davies, Schelly, & Spooner, 2013; Schelly, Davies, & Spooner, 2011). Both studies found that faculty who received professional development (five, one-hour training sessions) significantly increased their frequency of UDI application across the semester in all major areas (e.g., presenting material in multiple formats, making course materials more accessible).

**Gaps in the Literature**

Overall, the studies reviewed in the last section provided evidence that in-person faculty development programs can have positive associations with self-reported confidence in interacting with students with disabilities, increased self-report of knowledge on laws, types of disabilities, accommodations, and UDI, as well as increased positive attitudes toward students with disabilities. All of these studies have the advantage of providing lengthy, in-depth professional development covering a variety of important topics relating to students with disabilities (Cook et al., 2006; Murray et al., 2009a; Murray et al., 2009b; Rohland et al., 2003). Although in-person programs can be an effective way to convey such information, relying on in-person workshops can be very time consuming and costly to staff and may limit the number of faculty who can participate at any one given time or in a particular location. If online professional development could effectively produce positive outcomes, this may reduce costs and increase the opportunities for more faculty to participate. Only a few online faculty programs have addressed similar disability topics (Burgstahler, 2007; Izzo et al., 2008; Junco & Salter, 2004). Furthermore, the evaluation of knowledge in both in-person and online faculty development programs are limited by self-report, and to date, to the best of our knowledge, no published studies evaluating the effectiveness of a professional development program have employed a factual knowledge assessment.

A recent literature review on empirically based UDI research in postsecondary education expressed the necessity for more experimental designs and mixed methods approaches to assess the effectiveness of UDI training on college faculty (Roberts et al., 2011). Most studies focused on disability awareness for faculty in higher education have only investigated knowledge and attitude changes or measured student perceived changes to instructor teaching methods. Therefore, mixed methods research that has a qualitative component following up with faculty after program completion can provide essential information about the application of changes to teaching and better understand how faculty are impacted by professional development. In the current study, we attempted to fill these gaps by evaluating the impact of a disability awareness program on college faculty in an online context, using a factual measure of knowledge, and employing a mixed methods design to address application.

**Research Questions**

This study explored the following three research questions: (1) Does the online program improve faculty attitudes toward students with disabilities? (2) Does the online program increase faculty knowledge of students with disabilities and UDI principles? (3) Does the online program promote faculty confidence and willingness to apply UDI principles to their teaching?

**Method**

**Study Design**

This study was conducted using a sequential mixed methods research design, with a quantitative phase first and a subsequent qualitative phase. The quantitative phase was essential to provide numeric data to compare differences between participant attitudes and knowledge before and after program completion. The study then delved more deeply into this objective reality by exploring the subjective perspectives of the faculty members’ lived experiences with their program learning in terms of how the program impacted their teaching practices and interactions with students. Thus, the breadth and depth of a mixed method design allowed for more holistic inferences and an opportunity for triangulation, context, and illustration through mutually corroborated findings (Teddlie & Tashakkori, 2009).
Sample
For the quantitative first phase of the study, all full- and part-time faculty at a public four-year institution in the western region of the U.S. were invited via email to participate. The institution has approximately 2,000 full-time and part-time faculty members, of which about half are female and about 30% identify as a minority ethnic group. The participant sample consisted of the 43 self-selected faculty members who completed the online program during the 2014-2015 academic year. The group’s demographic characteristics were somewhat diverse in age, academic rank, and teaching experience (see Table 1). Additionally, 28 (65%) of the participants reported having at least one to two students with disabilities in their courses every semester and only 11 (26%) had taken any prior disability-related professional development. A purposive sample of 10 participants who completed the online program during the fall 2014 semester was chosen for qualitative interviewing (see Table 2). These 10 were selected to represent maximum variation in demographic characteristics of the first phase sample. Interviewees were randomly assigned a state pseudonym so as to protect confidentiality; however, each faculty member gave permission for disclosing his/her college discipline.

Program
The online disability awareness program was designed by the college’s disABILITY Task Force to assist faculty in understanding the needs of students with disabilities and applying the principles of UDI to course materials and activities to enhance their teaching. The task force members represented a collaboration of faculty and staff experts from a variety of disciplines (primarily education, nursing, and psychology), the faculty development center, and the disability support services office. The online program was housed on the college’s learning management system and consisted of three modules, each made up of text-, audio-, and video-based materials that faculty had continued access to as resources. Each module took approximately one to two hours to complete. Module 1 addressed an introduction to higher education disability laws, campus services, accommodation policies, and characteristics of disabilities. The primary objective of the first module was to help increase faculty awareness and understanding of the wide array of disabilities represented within the campus student body, as well as the related laws and accommodations that guide faculty support of these students. This module also contained videos of students with disabilities describing their experiences at the university. Module 2 covered UDI principles and provided examples of teaching strategies and activities that encouraged multiple methods of presenting course material, engaging students, and assessing course outcomes. This module included video content of faculty from various colleges describing and presenting UDI techniques within the classroom. Module 3 provided information on how to create accessible instructional materials, such as syllabi, lecture presentations, and PDF documents. The third module incorporated videos displaying how to create accessible documents for both PC and Mac platforms.

Quantitative Measures
The two outcome variables in this study were faculty attitudes toward students with disabilities and faculty knowledge of students with disabilities. Faculty attitudes were measured using the Interaction with Disabled Persons Scale (Gething & Wheeler, 1992), which has been validated in numerous other research studies. For the current sample, the Cronbach’s alpha was .77 for the pretest and .74 for the posttest.

Faculty knowledge in this study was defined as a faculty member’s factual, fundamental knowledge of disability laws, disability characteristics, accommodation policies, universal design for instruction, and accessibility of electronic materials, as addressed in the online program. A 40-item objective knowledge instrument was developed to assess participants’ knowledge of the specific content taught in all three modules of the online disability awareness program. It was given twice, once before program completion (pretest) and once after program completion (posttest). Content validity of the knowledge instrument was established by having several college faculty and staff experts from the special education department, the faculty development center, and the disability support services office review its items for clarity, relevance, and comprehensiveness. Internal consistency reliability was determined after pretest administration of the survey. Cronbach’s alpha at pretest was .89, indicating good homogeneity among the items (Teddlie & Tashakkori, 2009).

On the pretest, demographic information was also collected about the participants. On the posttest, par-
participants were asked to provide a self-rating of their confidence in their understanding and ability to apply the eight major areas addressed by the online program: disability laws, legal definition of disability, UDI, faculty responsibilities, making adequate accommodations, creating accessible documents, types of campus services available, and finding additional support. For each item, participants indicated their level of confidence on a 5-point Likert scale from strongly agree to strongly disagree.

Qualitative Analysis Procedure
This study’s qualitative data analysis phase was guided by Braun and Clarke’s (2006) six-step approach for analyzing qualitative data using a thematic analysis method. As recommended by Ryan and Bernard (2003), the entire process was completed in collaboration by the two researchers in order to achieve triangulation and increased confidence that developed themes are valid. In the first step, the researchers familiarized themselves with the data by reading interview transcripts, making notes, and jotting down initial ideas for coding. Secondly, a deductive-inductive category construction approach was used, developing some initial codes directly from the interview questions related to the overall research questions, and also developing some codes inductively by reading over the transcripts, looking for reoccurring and interesting ideas that could form potential themes. Once thematic categories were created and defined, the researchers independently coded the excerpts and interrater reliability was calculated. Cohen’s kappa was then calculated for each of the four major coding categories: .79 (motivation), .80 (program impact), .91 (barriers), and .92 (faculty responsibility), indicating satisfactory reliability (Burla et al., 2008). Any discrepancies in agreement between coders were resolved through consensus, after reviewing the code definition and the individual excerpt. The latter steps of the text analysis encompassed refining themes, which resulted in collapsing some coded material and integrating some categories together.

Results
Both quantitative and qualitative methods were used to address each of three research questions. Qualitative themes emerged relating to each question. With regard to quantitative analyses, the first two research questions addressed changes in attitudes and knowledge from pretest to posttest using paired sample t-tests along with Cohen’s d effect size to determine significant differences and estimate the effect of the online program. For the third research question, descriptive statistics were used to summarize faculty confidence in applying program learning. Results for each research question are presented below.

Research Question 1: Does the program improve faculty attitudes toward students with disabilities?
Among the 43 faculty participants completing the Online Disability Awareness Program, there was a statistically significant difference between the two mean attitude scores, pretest attitude ($M = 3.06, SD = .54$) and posttest attitude ($M = 2.82, SD = .47$), $t(42) = 3.90, p < .01, d = .47$. The results indicated that participants reported less discomfort interacting with people with disabilities after completing the program compared to before the program. Further, Cohen’s value of .47 suggested a moderate effect.

The thematic analysis of the qualitative interview data identified an attitudes theme of better awareness of diverse student perspectives and learning needs. This theme included faculty reflecting on their interpersonal interactions with students. All 10 faculty members interviewed expressed an awareness of being more sensitive, respectful, and observant of students with disabilities and the necessity of responding thoughtfully to diverse student needs. For example, Professor Colorado, a part-time instructor in the College of Arts with more than twenty-one years of teaching experience, communicated a strong belief that faculty need to be cognizant and vigilant of the diversity of students in the classroom:

I think college professors need to be aware of who their students are, and I think that we do have a responsibility to teach everyone to their capacity, to their ability. It’s hard in big classes to be able to discern and know what people need. But I have come across a lot of students that I thought really needed to be evaluated. They were not doing well in my class, and to not do well in my class is really hard because I feel like I really set up the parameters for them to succeed. And then I do try and approach those students.

Professor Hawai, a tenured professor with more than twenty-one years of teaching experience, shared a similar sentiment of being aware of diverse student
needs. He said “Instructors should monitor their teaching approach and strategies to allow for all students to achieve to the best of their ability. And cut them a little slack when they need it.”

Several faculty mentioned that the videos in which students with disabilities shared their experiences prompted them examine their own exchanges with students. Professor Kansas, a tenured faculty in Education, stated:

I don’t have students that have identified as having any disabilities, and there are none that have physical disabilities that I can readily identify. The videos, I think what they demonstrate is there were some students sort of speaking at the subtleties of the differences in interactions, and that to me made me more aware, or made me think about what sorts of interactions I have with individuals that may be impacted by a disability that I don’t know about.

Finally, about half of the faculty reported that the program increased their awareness of campus resources for students with disabilities and facilitated their ability to more proactively connect students to these resources than they had in the past. For example, Professor Louisiana stated, “I had never consulted with somebody at DSS [Disability Support Services office] before in regards to a student. This is first semester I had so that may have been in the background for me, like, oh, I can consult with them.”

Research Question 2: Does the program increase faculty knowledge of students with disabilities and UDL principles?

For the knowledge survey, a total score was calculated by summing the number of items correctly answered out of 40. Participants’ total knowledge score was found to significantly increase from the pretest ($M = 22.51, SD = 7.48$) to the posttest administration ($M = 36.09, SD = 2.42$), $t(43) = -12.19, p < .01, d = 2.44$. This same significant pattern of increased knowledge was also found for all three modules individually (see Table 3). The effect sizes for all knowledge mean differences (total and each of the three modules) suggest large effects ($d > .80$).

The thematic analysis of the qualitative interview data identified a knowledge theme of enhanced learning. All 10 of the faculty members interviewed reported learning new terminology and concepts and filling in gaps in their knowledge. For example, when Professor Alaska, a tenured faculty with many years of teaching and administrative experiences, was asked to identify any significant concepts or skills she learned from the program, she responded:

Video two, the disability classifications and descriptions, I found that very powerful. Now some of that I kind of knew, so it just filled in gaps for me. I actually often do professional development presentations to international audiences on the categories of disabilities, but this just really filled it in. I love module two from an instructional perspective, and the universal design for instruction, oddly enough, I wasn’t familiar with it at all. So it was new, and of course, what I was happy about was that I was naturally doing many of the UDI things.

Another experienced professor with many years of teaching, Professor Nevada, described enriching his knowledge and also reinforcing some of the things he currently does that he never realized were universal design teaching strategies. He shared:

It solidified some ideas -- I’ve been doing some things and didn’t know what they were. …I’d been using a lot of them so it wasn’t new. Yeah, the multimodal presentation. The term “graphic organizers,” I was not familiar with that terminology even though I was using them all over the place.

Research Question 3: Does the program promote faculty confidence and willingness to apply UDI principles to their teaching?

Participants rated their confidence as a result of their learning in the program for eight areas. Overall, a majority of participants reported being confident or very confident in their learning for all eight major areas addressed in the program (> 86% agreed or strongly agreed for all items). The highest learning confidence area was in locating needed support; 79% of the participants strongly agreed that they “can find additional support at this university when students with disabilities are having difficulties in [their] course.” None of the participants indicated a lack of confidence (disagree or strongly disagree rating) for any of the topics.
Two themes emerged in regard to the impact of the program on educational practices. The first was application and appreciation of UDI strategies and the second was identification of barriers to implementing UDI.

**Application and appreciation of UDI.** All faculty recognized the usefulness of UDI strategies and how the application of those strategies enhances the effectiveness of their teaching and promotes increased student learning. As Alaska stated, “what’s good for a student who has a disability is good for any student.” Faculty described that UDI practices are beneficial for all students, particularly those with different learning styles or different ability levels, or who are English second-language learners (ESL). For example, Professor Delaware, a full-time lecturer in the College of Health and Human Development, noted the importance of adding captions to her videos and recorded lectures, as they can be “replayed over and over again” for the benefit of student learning and are valuable for ESL students because they “learn the text-based stuff first, maybe even before the language piece.” Professor Louisiana, another full-time lecturer in the same college, also observed the benefits of UDI:

To everyone really, to students, to faculty. I feel like it really enriches the classroom experience when you have diversity, and so being able to have, you know, that Universal Design where you get these different perspectives. And in our classes there’s a lot of discussion and personal sharing and reflections, so students really do get to hear from each other and learn from each other, so I think it really benefits the whole class.

The program inspired a majority of the interviewed faculty to reflect upon their pedagogy in terms of what UDI strategies they were already using and what was working well or could be improved. This reflection led to ideas for changes to be made in their current classes. Professor Louisiana, a full-time lecturer with over ten years of experience, illustrated this when she said:

I’m trying to look at my other classes. I do try to mix things up. I can see in my development class that maybe I could do more of that in that class. In that class there’s just a lot of information, it’s a very content, heavy class, so I do weave in little vignettes and little discussion and reflecting on your own experience and remembering your own development and trying to be creative, but it is a lot of lecture and discussion. So that class maybe I could think about different ways to engage the class and present information.

Others identified exciting new activities they planned to try as a result of learning about UDI. Professor Idaho, a part-time instructor, was motivated to consider a new course activity:

I’ve been wanting to play with something new, especially for my multi-cultural women class, [by] having the students create their stories and offering them digitally. But I hadn’t really thought of it as applied to promoting, like greater accessibility in the classroom and targeting different kinds of learners, and so that was really, really nice.

An even more significant realization occurred with Professor Kansas, a tenure-track faculty, who modified a classroom activity to offer alternative methods of expression:

I have students write letters to each other every week and that’s a way for me to understand how they’re understanding the material. And the purpose of the letters, I ask them to reflect with each other, to have a dialogue, how their readings apply to their professional practice. And last term I felt like it really didn’t work really well; people really weren’t being very reflective. You know here’s a student who doesn’t speak up in class and I’ve had conversations with him in speaking up in class, and mostly because what I read here, I want him to say out loud -- I think he knows he has something important, I think he just can’t really [express it aloud] -- I’m glad that I gave him an alternative route to express himself and it also gives me an alternative way to assess his understanding, whereas if I didn’t have this assignment, I would say he was disengaged.

Notably, seven out of the 10 faculty made actual changes to their course materials to make them accessible, such as increasing the font size of their PowerPoint slides to be more readable by a larger audience, ensuring their syllabi met accessibility standards, and adding alternative text to pictures and figures. Professor Florida shared that the online program has “totally changed the ways I use Microsoft Word. I use
headings now for everything, and they make everything so much easier for me and for other people, let alone students with disabilities.”

Although appreciation of UDI strategies translated into action for the majority of interviewed faculty, some had not yet implemented planned changes into their courses and materials. Professor Florida, a new tenure-track faculty, noted, “It’s still a reflection piece.” She further shared that although she added a kinesthetic component to her library instruction sessions to ensure different modes of presentation, she still intended to put captions on videos, add notes to posted Power-Point slides, and check accessibility on materials.

**Barriers to implementing UDI strategies.** This theme encompassed three types of barriers that faculty anticipated or encountered with regard to implementing UDI principles. One of the major obstacles reported was lack of time and resources. Many faculty identified that they haven’t had time to implement all the changes they wanted to make to their teaching practices or course materials. For instance, Professor Michigan expressed concern over time and access to transcription services for captioning lengthy recorded lectures, especially in regard to the desire to constantly keep course materials current, “It’s a little tricky because some of those slides are being updated all the time.” Furthermore, seasoned faculty member Professor Hawaii shared that specific UDI teaching strategies and examples from the program’s videos had given him ideas for things to try in class; however, he hadn’t implemented them yet due to his huge workload and university leadership roles.

Concerns and confusion with implementation was another identified barrier. Several faculty acknowledged they had concerns over equity, course redesign issues, or confusion with technology that resulted in an obstacle to implementing some UDI strategies. Professor Michigan shared his concern about equity when he said:

> I think it’s like anything, you just have to be a sensitive instructor and it’s not just students with disabilities, it’s with all the life circumstances that our students present, and trying to be accommodating, obviously within reason; you don’t want to go to the other extreme, which may be perceived as unfair by other students. So that’s sometimes a balance, but I think professors can do this without running into those kinds of fairness or equity issues from the other end of it.

Professor Nevada worried whether UDI activities might take time away from course content and how to effectively implement UDI strategies in large size classes:

> But time away from content is a huge concern for me. This is my super ego yelling at me. I’d have to cut out content, and I’m so torn, there isn’t enough time to present what I want to. What am I going to cut out? But I’m increasingly seeing the value in this.

Also, two faculty expressed confusion as an obstacle to implementation of all they wanted to do. For example, Professor Colorado shared that she was still unclear about how to insert alternative text for figures or pictures. Even though uncertainty could be an obstacle to making immediate changes, it was evident that faculty members felt confident that they could overcome this if given support and more time to reflect.

The last barrier was faculty resistance to UDI implementation. A few faculty members admitted that they weren’t likely to be motivated to make changes until they experienced an immediate need from students with disabilities in their courses. Professor Hawaii illustrated this issue when he explained that he hadn’t made his course syllabus accessible yet as there hadn’t been a specific request or need for it by students in his class; however, he had downloaded many of the program resources to revisit at another time. When Professor Louisiana was asked if there had been any changes to her teaching as a result of her program learning, she replied:

> Not yet. I think I’m in the early stages of thinking about that and what I can do differently. I don’t know if I’m sort of more reactive about it when I have a student in the class who has a disability, then am I more conscious of, okay, what do I need to do differently and how do I need to do this to make sure that student is getting what they need, that they’re not missing anything that the other students are getting.

Additionally, Professor Alaska noted that some faculty may be resistant to UDI based on their cultural perspectives:

> Well, in international faculty audiences, they don’t do as much. They don’t care as much about
issues of students with special needs, so I would say that’s been one of the barriers. They don’t necessarily expect students who have disabilities to come to college. Even in Japan, which is a first world country, they don’t attend to the needs of their students with disabilities in the K-12 environment like we do. So that is the biggest barrier.

Discussion

Overall, the quantitative and qualitative results demonstrated convergent findings for our three research questions. The first convergent finding supported that the online program improved faculty attitudes toward students with disabilities, and this increase is in line with past research on the effectiveness of professional development programs for changing faculty attitudes (Junco & Salter, 2004; Murray et al., 2009a; Murray et al., 2009b). The fact that the attitude scores were fairly positive at the beginning may be indicative of the self-selected sample of faculty who were willing to take part in the program. However, the significant positive increase in attitudes is encouraging given that the program was online and fairly brief. The positive change found in this study was comparable in degree of change in attitudes to that seen in intensive week-long programs (e.g., Cook et al., 2006).

Furthermore, the qualitative results greatly elaborated upon the ways in which faculty attitudes were impacted by their program learning, beyond the quantitative change in attitude scores. Consistent with a social constructivist point of view, all 10 faculty members interviewed confirmed being more aware of student perspectives and the vital importance of being proactive and observant of student needs as a result of the program. This is especially important given that approximately 75% of students with disabilities choose not to self-disclose their disability to their higher education institution and consequently receive no support services or classroom accommodations (Newman et al., 2011). Additionally, interviewed faculty members recognized the richness that students with disabilities can add to the classroom learning environment by having them share their experiences and unique strengths, bringing better awareness of the assets that every individual brings to the classroom. The adoption of social constructivist attitudes by faculty would facilitate UDI practices of creating an inclusive instructional climate and community of learners. Faculty members’ better awareness of the student perspective and sensitivity toward diversity enhances their ability to make personal connections with students and build a classroom atmosphere in which students feel respected, engaged, and motivated to make contributions to their own learning experience.

A second convergent finding supported that the online program increased faculty knowledge. The pretest knowledge results from Module 1 indicated that faculty were fairly familiar with their legal responsibilities and campus resources in serving students with disabilities, since participants answered 73% of these items correctly on average. Despite this, faculty knowledge significantly increased from pretest to posttest for each of the three module content areas and total knowledge scores. Additionally, the effect sizes for these knowledge changes were very large, supporting a strong, positive impact of the program for increasing faculty knowledge on disability characteristics, legal issues, campus support services, UDI strategies, and making course materials accessible. The improvement of faculty knowledge in areas of UDI strategies and accessibility should equip them with the skill base to make changes in their classroom that facilitate an optimal learning environment for all students.

Finally, our third convergent finding related to the impact of the online program on faculty confidence and application. This study found that disability-focused professional development led to high confidence scale scores, with 86% or more of the faculty rating themselves as confident in all eight topics addressed. Moreover, the qualitative findings indicated that this confidence translated into changes in faculty teaching strategies and materials. Seven out of 10 faculty made actual changes to their course materials to make them accessible and faculty emphasized how the program helped them to make tangible changes to their teaching to incorporate UDI principles, such as presenting their course concepts in multiple modalities, adding assignments that gave students alternative ways of expressing themselves, and trying new methods of classroom engagement. Application changes to teaching have primarily been investigated following more intensive, in-person programs (Davies et al., 2013; Schelly et al., 2011). The fact that many faculty had already made changes to their teaching after completing this relatively brief program provides encouraging evidence for the powerful impact of online professional development experiences for improving education.
Although faculty interviewed reported making many actual changes to their teaching and course materials only one semester after completing the online program, they also indicated many potential changes they still wanted to make. A majority expressed that the program prompted them to engage in meaningful reflection on their practices and to consider their own areas of strengths and weaknesses in teaching. Unfortunately, some indicated barriers that affected the immediate implementation of changes to their practices including a lack of time and resources, confusion with technology, and concerns about losing content coverage in their courses if new activities were added. These barriers have been echoed by faculty in other research on professional development (Taylor & Znajda, 2015). Nevertheless, the faculty participants expressed confidence that these obstacles could be overcome if given more time. Additionally, those implementing professional development on UDI are cautioned to keep in mind that faculty resistance was indicated as a barrier to implementation of change. Some faculty may be unmotivated to adopt UDI principles or may be reluctant to make changes until this is a need or a request by a student with a disability. Such attitudes may reflect a conventional deficit perspective that UDI is attempting to overcome (Ginsberg & Schulte, 2008). To potentially reduce such attitudes, it is important for programs to help faculty understand how UDI can enhance their personal effectiveness as a teacher and help them recognize the important role they can have in improving student success outcomes.

Limitations and Future Research

Findings from this study must be interpreted within the context of the small, self-selected sample of faculty who completed the program. Future research should attempt to include a larger representation of faculty in the college campus in terms of departments, gender, ethnicity, etc. to achieve more generalizable results. Additionally, it is recommended that future research expand beyond the context of one campus because every campus has its own unique student population and faculty culture, and program effectiveness may differ by institution. In general, there is a need for assessment of professional development effectiveness (Cook et al., 2006; Davies et al, 2013; Schelly et al., 2011). More studies should continue to measure changes in actual knowledge instead of just self-report of learning and conduct qualitative research to better understand how faculty incorporate their professional development learning into their teaching practices and interactions with students. However, next steps for assessing application of knowledge should include longitudinal studies that track changes to teaching practices over time, as many faculty in this study expressed time as a barrier to implementing immediate changes and proposed future changes they would be making. In order to more comprehensively assess how UDI changes impact students’ learning and experiences, observation of classroom teaching and student reports of their perceptions of faculty before and after program participation would provide triangulation of the program’s effects. Researchers could also collect products such as syllabi, assignments, and student performance measures (e.g., number of students who finish the course, grades) as further evidence of the impact of program learning on faculty and students. The inclusion of a control or comparison group in this research would further increase the confidence that the effects found are due to professional development participation rather than other extraneous factors (Davies et al., 2013).

Conclusion

Despite the significant growth of students with disabilities in higher education, these students continue to experience low rates of persistence, retention, and graduation. A lack of understanding and cooperation from college faculty has been identified as one of the most common institutional barriers to the success of students with disabilities. Universal design for instruction (UDI) has been proposed as a model for good teaching and for guiding faculty in being responsive to the needs of diverse learners. This study demonstrates that four to six hours of online professional development can lead to improvements in attitudes toward students with disabilities, as well as increased knowledge and application of UDI strategies and accessibility techniques. Meaningful faculty development that is well-designed and convenient is beneficial to improving instructor effectiveness and must be part of the student success equation as faculty are integral to the college’s mission of student learning and development. An institution’s commitment to an equitable, inclusive, and just learning environment is strengthened when faculty have the knowledge and skills to facilitate integration and success of all students, especially those with disabilities or other diverse learning needs.
References


Debrand, C. C., & Salzberg, C. L. (2005). A validated curriculum to provide training to faculty regarding students with disabilities in higher education. *Journal of Postsecondary Education and Disability, 18*, 49-62.


About the Authors

Dr. Shelli A. Wynants received her B.A. and M.A. degrees in psychology and her Ed.D. in educational leadership from California State University, Fullerton. She is currently a professor in the Department of Child and Adolescent Studies at California State University, Fullerton where she also serves as the Co-Chair for the university’s disABILITY Task Force. Her research interests focus on universal design for instruction and professional development for college faculty to promote student success. She can be reached by email at swynants@fullerton.edu

Dr. Jessica M. Dennis received her B.A. degree in psychology and Ph.D. in developmental psychology from the University of California, Riverside. She is currently a professor in the Department of Psychology at California State University, Los Angeles where she also serves as director of the M.A. in Psychology program. Her research interests focus on issues relating to the educational success and psychosocial adjustment of ethnic minority college students. She can be reached by email at: jdennis@calstatela.edu
Table 1

**Faculty Participant Demographic Characteristics (N = 43) in Quantitative Phase**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>37</td>
<td>86.0</td>
</tr>
<tr>
<td>Male</td>
<td>6</td>
<td>14.0</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>2</td>
<td>4.7</td>
</tr>
<tr>
<td>Black/African American</td>
<td>2</td>
<td>4.7</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>11</td>
<td>25.5</td>
</tr>
<tr>
<td>White/European American</td>
<td>28</td>
<td>65.1</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>4</td>
<td>9.3</td>
</tr>
<tr>
<td>30-39</td>
<td>11</td>
<td>25.5</td>
</tr>
<tr>
<td>40-49</td>
<td>13</td>
<td>30.3</td>
</tr>
<tr>
<td>50-59</td>
<td>8</td>
<td>18.6</td>
</tr>
<tr>
<td>60-69</td>
<td>4</td>
<td>9.3</td>
</tr>
<tr>
<td>70+</td>
<td>3</td>
<td>7.0</td>
</tr>
<tr>
<td><strong>Academic Rank</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-time lecturer</td>
<td>14</td>
<td>32.6</td>
</tr>
<tr>
<td>Full-time lecturer</td>
<td>9</td>
<td>20.9</td>
</tr>
<tr>
<td>Tenure-track professor</td>
<td>8</td>
<td>18.6</td>
</tr>
<tr>
<td>Tenured professor</td>
<td>12</td>
<td>27.9</td>
</tr>
<tr>
<td><strong>College Affiliation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>2</td>
<td>4.7</td>
</tr>
<tr>
<td>Education</td>
<td>10</td>
<td>23.2</td>
</tr>
<tr>
<td>Health and Human Development</td>
<td>21</td>
<td>48.8</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>7</td>
<td>16.3</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>7.0</td>
</tr>
<tr>
<td><strong>Years Teaching</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>12</td>
<td>27.9</td>
</tr>
<tr>
<td>6-10</td>
<td>12</td>
<td>27.9</td>
</tr>
<tr>
<td>11-15</td>
<td>10</td>
<td>23.2</td>
</tr>
<tr>
<td>16-20</td>
<td>3</td>
<td>7.0</td>
</tr>
<tr>
<td>21+</td>
<td>6</td>
<td>14.0</td>
</tr>
</tbody>
</table>
Table 2

*Interview Participant Demographics (N = 10)*

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Age</th>
<th>College</th>
<th>Academic Rank</th>
<th>Years Teaching</th>
<th>Disability Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alaska</td>
<td>F</td>
<td>White</td>
<td>50-59</td>
<td>Educ</td>
<td>T</td>
<td>21+</td>
<td>S, T</td>
</tr>
<tr>
<td>Colorado</td>
<td>F</td>
<td>White</td>
<td>50-59</td>
<td>Arts</td>
<td>PT</td>
<td>21+</td>
<td>S</td>
</tr>
<tr>
<td>Delaware</td>
<td>F</td>
<td>White</td>
<td>60-69</td>
<td>HHD</td>
<td>FT</td>
<td>11-15</td>
<td>T</td>
</tr>
<tr>
<td>Florida</td>
<td>F</td>
<td>White</td>
<td>30-39</td>
<td>Library</td>
<td>TT</td>
<td>1-5</td>
<td>None</td>
</tr>
<tr>
<td>Hawaii</td>
<td>M</td>
<td>White</td>
<td>70+</td>
<td>Educ</td>
<td>T</td>
<td>21+</td>
<td>S</td>
</tr>
<tr>
<td>Idaho</td>
<td>F</td>
<td>Latina</td>
<td>40-49</td>
<td>HSS</td>
<td>PT</td>
<td>11-15</td>
<td>S</td>
</tr>
<tr>
<td>Kansas</td>
<td>F</td>
<td>Latina</td>
<td>40-49</td>
<td>Educ</td>
<td>TT</td>
<td>6-10</td>
<td>None</td>
</tr>
<tr>
<td>Louisiana</td>
<td>F</td>
<td>Asian/PI</td>
<td>40-49</td>
<td>HHD</td>
<td>FT</td>
<td>11-15</td>
<td>S</td>
</tr>
<tr>
<td>Michigan</td>
<td>M</td>
<td>White</td>
<td>40-49</td>
<td>HHD</td>
<td>T</td>
<td>6-10</td>
<td>S</td>
</tr>
<tr>
<td>Nevada</td>
<td>M</td>
<td>White</td>
<td>50-59</td>
<td>HSS</td>
<td>PT</td>
<td>21+</td>
<td>S</td>
</tr>
</tbody>
</table>

*Note.* Educ = College of Education; Arts = College of the Arts; HHD = College of Health and Human Development; HSS = College of Humanities and Social Sciences; T = tenured; TT = tenure-track; FT = full-time lecturer; PT = part-time lecturer; S = regularly has students with disabilities in courses; T = prior training/professional development related to students with disabilities.

Table 3

*Pretest and Posttest Differences in Knowledge Scores*

<table>
<thead>
<tr>
<th></th>
<th>Pretest</th>
<th>Posttest</th>
<th>t-test</th>
<th>Cohen d</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Total Knowledge</td>
<td>22.51</td>
<td>7.48</td>
<td>36.09</td>
<td>2.42</td>
</tr>
<tr>
<td>Module 1 (19 items)</td>
<td>13.70</td>
<td>3.22</td>
<td>17.86</td>
<td>1.06</td>
</tr>
<tr>
<td>Module 2 (11 items)</td>
<td>5.00</td>
<td>3.03</td>
<td>9.77</td>
<td>1.21</td>
</tr>
<tr>
<td>Module 3 (10 items)</td>
<td>3.81</td>
<td>2.72</td>
<td>8.47</td>
<td>1.12</td>
</tr>
</tbody>
</table>

*Note.* *Significant at the p < .01 level.
Abstract
The Research in Disabilities Education Synthesis Project (RDE-SP), a four-year mixed methods research project, assessed a decade of funded projects (2001-2011) under the National Science Foundation’s Research in Disabilities Education program which is aimed at increasing participation and retention of students with disabilities (SWD) in Science, Technology, Engineering, and Mathematics (STEM) education and careers. One of the primary goals of the project was to create a collection of challenges, lessons learned, and suggested practices for SWD and those working with SWD in STEM education and STEM fields. This paper presents those findings, which lend first-hand experience to the challenges and successes of working with students with disabilities in postsecondary STEM education programs. The authors relate the findings to current literature in the field.

Keywords: Disabilities, postsecondary education, STEM, retention

Sustaining the country’s global leadership in science, technology, engineering, and mathematics (STEM) remains a top priority for policymakers in the United States. Since its inception in 1950, the National Science Foundation (NSF) has played a significant role in maintaining U.S. preeminence in STEM research and innovation. Integral to the success NSF’s goal is the improvement of STEM education of all Americans and accessing previously untapped sources of science and engineering talent. The National Science Foundation report on Women, Minorities, and Persons with Disabilities in Science and Engineering (2013) stated:

Women, persons with disabilities, and three racial/ethnic groups – blacks, Hispanics, and American Indians – are considered underrepresented in science and engineering because they constitute smaller percentages of science and engineering degree recipients and of employed scientists and engineers than they do of the population. (p. 2)

Federal laws and regulations enacted over the past four decades have increased access to postsecondary education for individuals with disabilities (Strange, 2000; Vogel, Holt, Sligar, & Leake, 2008). Thus, it is likely this legislation has contributed to the increase in the numbers of students identified with a disability in both two- and four-year postsecondary settings in the last three decades (National Center for Education Statistics [NCES], 2007) and nearly doubling since 1990 from 3.5% to 6.2% in 2009 (Samuels, 2011). Other factors include broadening the definition of disability and availability of the post-9/11 GI Bill.

Individuals with disabilities enter postsecondary education and enroll in science and engineering fields at about the same percentage in which they are represented in the general population. The Disability Status Report of 2014 (Erickson, Lee, & von Schrader, 2014) indicated that the prevalence rate for disabilities in the U.S. non-institutionalized population is 12% for all ages, and 10.4% for ages 21-64. In 2012, 11% of undergraduate students, with one in four undergraduates with a disability, enrolled in a science and engineering field (23.2% of all undergraduate students with a dis-
ability). This is the same enrollment rate as students without a disability (24.7% of all undergraduate students without a disability) (NCES, 2007). Graduation rates and numbers who go to graduate school and enter the science and engineering workforce, however, are less representative of the population.

High rates of students with disabilities leave college without earning a degree (Vogel, Holt, Sligar, & Leake, 2008). In a cohort of postsecondary students beginning in 1989-90, 53% of students with disabilities versus 64% of students without disabilities had completed a degree, vocational certificate or were still enrolled in 1994, and 16% versus 27% had earned a bachelor’s degree (U.S. Department of Education, 1999).

In 2012, the percent of enrollment in graduate science and engineering fields by students with disabilities was lower than enrollment data for undergraduate students with disabilities. Seven percent of graduate students in science and engineering reported a disability in 2012. While 20.8% of all graduate enrollments are students with disabilities, 19.2% of that group is enrolled in science and engineering fields (NSF, 2013).

U.S. citizens and permanent residents with disabilities earned science and engineering doctorates, with the number slowly rising from 281 in 1999 to 349 in 2009 (NSF, 2013). Since 2008, they have earned more doctorates in science and engineering fields than in non-science and engineering fields. However, the percentage of students in science and engineering graduate programs and obtaining doctoral degrees is not representative of the population as a whole. For example, in 2005, only 307 individuals (27,989 total degrees science and engineering degrees awarded) who graduated with a doctoral degree in a science and engineering field were registered as a student with a disability (NSF, 2009). The estimated disability prevalence in 2005 was 16.5% for individuals aged 21-64 (U.S. Census Bureau, 2010). Undergraduate prevalence was 11% and graduate prevalence was 7% in 2004 (NSF, 2009).

In 2010, scientists and engineers with disabilities were more likely than their peers without disabilities to be unemployed or out of the workforce. The employment rate for individuals without disabilities was 83.3%, while the employment rate for scientists and engineers with disabilities was 64.1% (NSF, 2013).

For the most part, data are seriously limited on people with disabilities who study and work in science and engineering (NSF, 2013). Primary data sources are the National Center for Science and Engineering statistics (NCSES) at the National Science Foundation and the Department of Education’s National Center for Education Statistics (NCES). Data limitations are due to operational definitions of disability that vary across states, institutions, and data collection organizations. Also, most data are self-reported and these reports utilize various formats for collecting disability data. Despite these problems with data about disability status in postsecondary and workplace settings, it is clear that individuals with disabilities are underrepresented in the pool of science and engineering graduates and the workforce.

NSF’s programmatic response to promoting individuals with disabilities in science and engineering education and careers became the Research in Disabilities Education (RDE) program. Although the name of the program and the types of projects funded changed somewhat since it was established in 1991 (Scadden, 2001), in general, funding was provided for three types of projects: research; alliances (pipeline projects); and demonstration, enrichment, and dissemination projects. In the last decade of the program, the focus of the research track became more focused on postsecondary education in STEM and transition junctures in the STEM pipeline.

Research Purpose

The Research in Disabilities Education Synthesis Project (RDE-SP) at Kansas State University was funded by the National Science Foundation to investigate and synthesize the contributions and accomplishments of the agency’s Research in Disabilities Education program. The purpose of the project was to provide an overview of the 2001-2011 decade of RDE projects and to suggest lessons learned through the ten years of awards aimed at broadening the participation of SWD in STEM. Among the research questions investigated in the project are two questions related to postsecondary STEM education and students with disabilities that are discussed in this paper:

1. What are common challenges and what suggestions for solutions have come from RDE projects?
2. What are the primary lessons learned from the decade of NSF-funded projects?
This paper describes some of the findings from the project and focuses on the lessons learned that are related to the work on disabilities services professionals in higher education settings.

Methodology

The researchers utilized a mixed method approach to collect and examine a variety of information from the projects funded during the decade in question. One hundred seventeen projects and 97 Principal Investigators (PIs) were part of the study; several PIs were awarded multiple projects during the decade in question. Data sources included: (1) materials submitted by project PIs such as annual reports and evaluation reports; (2) publications by PIs and Co-PIs; (3) materials on project websites and the Disabilities, Opportunities, Internetworking, and Technology (DO-IT)/RDE site, which was funded by NSF for dissemination of information about RDE projects; and (4) data from an electronic questionnaire sent to project PIs. Data were augmented by current literature in the field.

Three individual research studies were part of the RDE Synthesis Project; they are reported in detail elsewhere (OEIE, 2015). This article utilizes some of the findings from these three studies, briefly described here, to describe barriers, promising practices, and lessons learned related to postsecondary STEM education of students with disabilities.

Portfolio Analysis Study

The research team gathered and synthesized data related to the funded projects and their products. Sources were used for this study were project reports to NSF and PI publications. The team contacted the 97 RDE PIs by email with a request that they share copies of the NSF reports for each of their projects funded from 2001 to 2011. The researchers received reports for 43 of the 97 RDE PIs; the reports corresponded to 51 of the 117 RDE projects. The team reviewed these reports and coded their content for themes related to contributions to the knowledge base of working with SWDs, products, impacts, and challenges. The publication list came from two sources: the publications reported by PIs to NSF and published on the NSF award page for each of the 117 projects; and publications collected in the same manner as those collected for the citation analysis study (the next study described), with an updated list of publications from the two years (2013-2015) post the decade in question for this project. The portfolio study provided an accounting of: the funded projects categorized by type and geographic location; PI publications sorted by author and topic; and products produced by topic, category, and project.

Principal Investigator Survey

As part of the research project, the team developed an online survey to administer to the Principal Investigators of the projects funded through the RDE program during the timeframe of interest. The purpose of the survey was to gain data to supplement other data collection efforts, to create a more complete picture of the RDE project portfolio, and to gather quantitative and qualitative data from PIs about the impact and contributions of their projects. In developing the survey, the team used quantitative, multiple choice formats whenever possible, to reduce the burden on the participants. The team incorporated the themes coded from the PI reports as response options for many multiple choice items, which allowed for a significant reduction in the number of qualitative items on the survey. The sections of the survey were (1) activities and outputs; (2) outcomes and impacts; (3) goals; (4) evaluation and dissemination; (5) suggestions and best practices; and (6) demographics. The participant population for the survey consisted of 87 RDE PIs of projects funded between 2001 and 2011. The response rate for the survey was 67%. The researchers analyzed the multiple choice and scaled items, producing frequencies and percentages on these items, as well as means and standard deviations for the scaled items. The team calculated sums of the participants’ responses on each “select all that apply” item to allow examination of the total number of selections. Open-ended questions were examined for themes.

Citation Analysis Study

The citation research utilized the published works of PIs of projects funded during 2001-2011. The purpose of the citation research was to collect data that could be analyzed to identify the collective influence or reach of these RDE PIs in the field by using the number of times their published work had been cited as evidence. The citation analysis utilized bibliometric methods, which seek to analyze academic literature, such as books, journals, and resource materials. As described by Greenseid and Lawrenz (2011), citation analysis “consists of tracking the number of citations to published works typically using a citation
database and then analyzing the data using statistical, content, or network analyses” (p. 393). As such, these analyses document dissemination efforts and track their influence on other researchers’ work. Citation analysis can be used to identify the contributions of people (e.g., researchers, grant partners) individually or collectively, and it may prove useful to apply within a single project or across multiple projects. In the case of the current study, the research team gathered information related to the RDE PIs’ publications collectively, across all of their RDE projects, as a way to assess the influence of a decade’s worth of the RDE program’s work on the broader research field. The citation research and analysis supplemented other data collection efforts, allowing a more complete picture of the RDE project portfolio.

Findings

Common Challenges

As part of the survey (OEIE, 2015), RDE PIs were asked about challenges they had experienced in their projects, with one explaining (anonymous quote):

We faced a surprising amount of discrimination because of the population that we were studying. We treated disability status as a status group that may face discrimination or differential treatment. Our previous work was on other status groups, including women in STEM fields, high performing students of color, and children of immigrants. We have never been marginalized in the scientific arena before this study of students with learning disabilities. The general population and the scientific community did not appear to understand that students with learning disabilities are capable of high levels of achievement if given the opportunity. (p. 84)

An examination of the current literature and data from this research suggest several challenges to successfully including students with disabilities in STEM postsecondary education and, to a lesser extent, conducting research at the postsecondary level with students with disabilities. These challenges include:

- Underprepared students. In general, RDE PI’s found that some SWD were not prepared for postsecondary coursework. Research about low expectations and insufficient access to challenging academic curricula in science and math for students in special education in middle school and high school backs up this challenge faced by PIs (Bouck, Kulkarni, & Johnson, 2011; Moorehead & Grillo, 2013). Relatedly, PIs and other researchers found that students had limited self-advocacy skills (Hart & Brehm, 2013; Walker & Test, 2011).

- Lack of understanding and cooperation. PIs reported lack of understanding and cooperation from administrators, faculty, and staff and this challenge is reflected in other research findings (Demirel, Baydas, Yilmaz, & Goktas, 2013; Vogel, et al., 2008). Some PI’s reported challenges with the program operations within the university; 36% of the PI’s reported administrative and staffing challenges. This challenge may reflect the work of Cheatham, Smith, Elliott, & Friedline (2013) who found a general lack of understanding and acceptance of students with disabilities in postsecondary settings.

- Unavailability of adaptive aids, inaccessible buildings and grounds, and lack of other accommodations. Most of the PIs were STEM faculty, and they found lack of access and accommodations at college and universities to be surprising. Their reports are supported by other findings (e.g., Lowe, Newcombe, & Stumpers, 2012; Supalo, Isaacson, & Lombardi, 2014).

- Knowledge and skills of faculty and staff. PIs reported that their students expressed concern that staff and tutors in academic resource centers knew little about disabilities and were unable to assist or communicate effectively. PIs described these challenges in their annual reports, publications and survey responses. Other researchers (e.g., Aaberg, 2012; Kurth & Mellard, 2006; Lehmann, Daview, & Laurin, 2000; Shigaki, Anderson, Howald, Henson, & Gregg, 2012) have also found lack of faculty knowledge and skills for accommodating and working with students with disabilities.

- Recruiting. Twenty percent of all PIs surveyed reported challenges with recruiting participants for their special programs that serve SWD in STEM and in recruiting SWD STEM students for their research. This is related to identification of SWD, which is the next item.
PIs speculated that because of confidentiality issues, having access to known SWDs to promote their STEM programs was difficult.

- Measurement. Program evaluation and tracking participants were challenges that involved identifying students with disabilities, measuring program impact, and tracking for long-term follow up. These challenges were reported by 41% of the PIs in the survey and were mentioned in many of their publications. They cited significant issues related to identification and tracking at the program or university level due to confidentiality and due to low self-disclosure rates of SWD. Obtaining data relevant to students with disabilities at the institutional level was extremely difficult because: (1) institutional data do not include disability, or (2) institutional data could not be linked with data regarding students with disabilities which was housed in Disabilities Services Offices / Access Centers; or (3) institutions would not allow such linking because of confidentiality concerns. Students who receive services at the postsecondary level are ALL self-identified. In addition, 92% of Access Centers require verification, such as an IEP from high school or results from a battery of tests. That means faculty will have many students with impairments in their classes who are not recognized as such.

Solutions to Common Challenges/Successful Practices

Practices or strategies to solve or prevent common challenges were reported by PIs and suggested in their reports, publications, and survey responses all of which were analyzed in the three studies of the RDE-SP described above. General, summarized suggestions and practices were sorted into three categories listed in Figure 1.

Successful Practices

Other findings from the research included PI reports of practices that successfully addressed the problems identified in the literature and in their own work with their research and alliance projects. These successful practices have been described by many of the project PIs. These practices relate to the STEM faculty and other personnel who work with STEM education students who have disabilities.

1. Engage campus disability services. All campuses have services for SWD (“it’s the law; it’s the right thing to do”). Of course, this varies greatly – from a one-person shop that also deals with non-traditional students, veterans, and affirmative action issues, to Access Centers with specialists in various forms of impairments and various academic content areas. The NCES report found that 92% of all institutions did one-to-one work to assist faculty and staff make accommodations for SWD (NCES, 2007). Types of accommodations NCES reported were: additional exam time (93%), provision of classroom note takers (77%); faculty-provided written course notes or assignments (72%), help with learning strategies or study skills (72%), alternative exam formats (71%), and adaptive equipment and technology (70%). These campus centers have many names, such as Disabled Student Services or Student Access Center. Faculty and researchers in STEM higher education may need information about these centers to understand their roles and ways they can assist students and other faculty.

2. Use existing resources; do not develop new ones. PIs reported that project staff often initiated programs, such as tutoring, help with assistive technology, and career advisement, when they discovered the need through working with STEM majors. Later project staff learned of existing campus and community resources that had more experience and history in meeting specific student needs. When faculty and staff in STEM fields knew about and utilized existing resources, they had more time to work with students on specific STEM content and professional competencies.

3. Use multi-faceted interventions/programs. RDE-funded pipeline programs found the multi-element approach successful for SWD in STEM postsecondary education. The common strategies PIs reported using included: STEM peer tutoring, learning communities, lab internships, mentored tutoring, stipends, advocacy and self-advocacy training, support of faculty, industry externships, job shadowing, undergraduate research experiences, and transition support. These are described in the reports, publications, and materials on the
Alliance website and the RDE dissemination website by DO-IT. In addition, PIs reported providing a variety of academic and social supports for their students after they were recruited into postsecondary institutions. Although the types of relationships between students and project staff varied, personal connections with students was a common practice. In some cases, students met as needed with staff in person to discuss problems and concerns. Others facilitated more intensive in-person contact with staff, developing close supportive relationships. Staff provided students with intensive help, support, and advice on how to deal with academic problems and also encouraged students who had not registered with the Disability Services Office to do so.

4. Use a variety of recruitment strategies. Alliances also used a range of strategies to recruit postsecondary students with disabilities. These strategies included referrals from Disability Services Offices, STEM faculty, and students. Materials on the DO-IT RDE Dissemination website indicate that students were recruited to NSF-funded projects through newsletters; presentations at community colleges and high schools; advertisement and recruitment efforts at college fairs, career fairs, and science fairs; and distributing informational brochures to STEM departments and classes. Most PIs reported that personal connections and relationships with school personnel and others were the most successful means of recruiting students to STEM programs. The Ohio Alliance found student learning communities to be a successful recruitment strategy (Izzo, Murray, Priest, & McArrell, 2011).

5. Develop or adopt quality mentoring programs. Several funded alliance PIs have written about mentoring and attested to the success of personalized STEM mentoring (e.g., Leake, Burgstahler, & Izzo, 2011; Martin et al., 2011; Stumbo et al., 2011/2010).

6. Provide self-advocacy training for students. One of the PI’s discussed the importance of training students in self-advocacy. Understanding their own disability, learning style, and STEM interests and strengths is imperative. One Alliance team wrote about self-efficacy among students with disabilities attending STEM courses in their article, published in the Journal of Postsecondary Education and Disability (Jenson, Petri, Day, Truman, & Duffy, 2011).

7. Provide professional development and support in Universal Design for Learning (UDL). This is one of the most frequent topics for PI publications and presentations. Universal design is an approach that integrates accessibility features into the overall design of products and environments – it means that all products and environments are as usable as possible by as many people as possibility regardless of age, ability, or situation. The approach began with architecture and was parent to a philosophy and set of principles of UDL. UDL strives to remove barriers from the learning environment. The goal is to build a model for teaching and learning that is inclusive, equitable, and guides the creation of accessible course materials. In postsecondary institutions, faculty find that UDL helps guide the selection of teaching strategies and the design of course materials that support the diverse learning needs of students (Burgstahler, 2008). According to David Rose (Council for Exceptional Children, 2011), one of UDL’s founders, “UDL puts the tag ‘disabled’ where it belongs – on the curriculum, not the learner. The curriculum is disabled when it does not meet the needs of diverse learner.” Universal Design is based on the socio-cultural theory of disability. The premise of Universal Design recognizes barriers to access can be imposed/increased, by the environment. PIs have written about specific Universal Design applications for STEM (e.g., Burgstahler, 2008; Thompson, 2008).

Lessons Learned

A synthesis of findings from the PI survey and the analysis of project publications indicate an array of lessons learned from a decade of NSF funding for projects related to students with disabilities in postsecondary STEM education. Seven of these lessons are described below.

1. Identifying students for special programs or for research is generally problematic. At the
postsecondary level, identification of students with disabilities was a surprising challenge for many PIs. This relates to the discussion earlier in this chapter about identification, self-disclosure, and confidentiality of university records.

2. Faculty and staff may have stereotypes about the capacity of students with disabilities to do STEM work. There seems to be work to be done at institutions to improve faculty and staff understanding of students with disabilities, improve instructional skills, and create a welcoming climate. RDE projects developed resources and strategies that were somewhat successful in overcoming these challenges. The use of UDL concepts and instructional strategies was a common practice in RDE alliances.

3. In general, there is a paucity of resources for students with disabilities. PIs looked to Disability Services or Access Centers for collaboration in providing needed services to their students; however, many Centers were understaffed and underfunded. Such partnerships were not always successful.

4. Willingness and commitment of staff and faculty to “change their ways”. An unexpected outcome for several projects was the ability of faculty to adapt to working with SWDs. After observing that some project participants had intensive needs and lacked study skills, time management skills, and needed additional academic supports, project staff and faculty changed their foci, made adaptations, solicited assistance, and made changes in their regular practices.

5. Providing the necessary environment and supports for SWDs takes considerable collaboration and teamwork. As one PI said, “it takes a village” to reduce barriers and provide supports such as adaptive equipment, UDL classroom strategies, and follow-up with students to assure success. For example, another PI noted that they had “discovered the importance of professional development and consistent use of proven strategies,” while another discussed the importance in the “development of faculty learning communities” and others focused on self-advocacy training and mentoring for SWDs in the event of an environment lacking in support.

6. Collecting data in research projects and for project evaluation requires knowledge about disabilities and the types of prompts and responses that are needed to collect valid data. The NFS-funded project BeyondRigor.com provides examples of the kinds of measures and data collection protocols that may be needed for SWD. For example, students with ADHD may not have the capacity to sit through long interviews or take lengthy tests.

7. Success is possible. And success is both possible and likely when best practices, collaborations, and multiple program elements are in place for faculty and students.

In addition to these practices and lessons, the RDE projects’ studies have contributed significantly to the resources available for faculty and practitioners in postsecondary education. Publications were primarily in the form of articles, proceedings, theses and books, but also included reports and book chapters. The researchers identified 1,095 publications for the projects funded during the decade studied. PIs reported the development of 162 products, most of which were teaching aids, equipment, software, and training materials. Because the account of products developed was based on PI report, with not all PIs reporting, the authors believe this total is underestimated.

Summary and Discussion

This description of the findings from the RDE-SP is based on two of the questions addressed in the project:

1. What are common challenges and what suggestions for solutions have come from RDE projects?
2. What are the primary lessons learned from the decade of NSF-funded projects?

In answering question one, the authors found that PIs confronted six problems or issues during the process of their research on SWDs. These problems were: SWDs were unprepared for undergraduate level coursework coming out of high school; uncooperative partners (administrators, faculty, and staff) especially in secondary and postsecondary education environments; lack of accommodations ranging from accessible buildings to adaptations allowing lab participation; faculty and staff were unaware of the
needs and strengths of SWDs; difficulty identifying and recruiting SWDs; and difficulty accurately tracking and measuring program impacts. In general, the difficulties that the PIs faced were not uncommon to those who educate, support, and conduct research with SWDs on a regular basis, however it was useful to identify the list of primary problems and to investigate the solutions that PIs were able to use to overcome or address these problems.

Answering question two provided some general lessons that will be beneficial to researchers, faculty, and staff at postsecondary institutions. The general lessons (positive, neutral, and negative) included: identification of SWDs is problematic for numerous reasons; faculty may have negative stereotypes regarding SWDs that affects the quality of education and interaction; resources are limited for SWDs; faculty and staff are often willing to modify their approaches to promote successful education and interaction with SWDs; faculty and staff collaboration is essential; data collection is difficult as many measures are not validated on SWDs; and success is possible for all parties involved with an open line of communication and respect.

Underlying most of the challenges identified by PIs in their work with SWD in postsecondary education are, as in society in general, an understanding of disability beyond history, language, and stereotype. This will take a cultural shift. Faculty and staff in postsecondary STEM programs need to understand that disability is a socio-cultural concept. Sullivan (2009) looked at it this way; a person may have a cognitive, emotional or physical impairment (e.g., hearing loss, visual impairment, learning disability, and orthopedic impairment). But he said, disability is a negative social response to an individual with impairment. Therefore, this perspective is that a disability is not something a person has, but the exclusion imposed on impaired people is societies designed for and by able-bodied and able-minded individuals. Disability is not the inevitable outcome of physical, sensory, or cognitive impairments (Barnes, 2009).

Many individuals, from university presidents to parents of young children in special education, understand disability from the medical model – if a person has an impairment the solution is to fix the person. Our education system and many services for individuals with disabilities are based on the medical model. However, this is not a universal concept. For example in UK, disability is cast as social oppression (Sullivan, 2009). The social model sees barriers to normal life and life patterns as a product of social attitudes. So individuals with impairments don’t need to be fixed by an expert; they need social barriers / attitudes fixed. It should be noted that psychiatric services recipients are still more on the medical model than other impairments.

This perspective of disabilities is espoused in the publications of the RDE PIs and is exemplified in the book by Ruta Sevo that was commissioned by the Georgia RDE Alliance project. The book Basics About Disabilities and Science and Engineering Education, (Sevo, 2011) contains materials, a slide show, and activities that were developed to facilitate the cultural shift necessary for success of SWD in STEM postsecondary programs.

In general, PIs had several suggestions for facilitating a cultural shift among faculty and staff in their projects. These included:

- Adopting the socio-cultural model of disability.
- Providing faculty development.
- Adopting Universal Design.
- Using “PR” campaigns about the strengths of students with disabilities.

Limitations

Limitations for the RDE-SP study were associated with how data were reported and the participation of the principal investigators for the PI survey. Data reported by PIs in NSF reports and publications could not be readily compared because of the identification and measurement issues discussed earlier, although the PIs seemed to be conscientious about the accuracy of their reporting. Issues related to identification and tracking were limiting factors. The primary limitation effecter for this study is data from the PI Survey. The response rate for the PI Survey was 66.7%, which meant that only 58 of 87 PIs were represented with their personal insight and commentary. An additional 15 PIs did not participate in the survey, but they submitted reports and project materials that aided in other analyses that contributed to the findings.

Conclusions

Many students with disabilities could succeed in science, technology, engineering, and mathematics programs and careers if barriers associated with including individuals with disabilities could be over-
come. The RDE-SP has shown that over the last decade our understanding of factors related to the STEM education of students with disabilities has increased; however, the ideal postsecondary education for students with disabilities who are interested in and have the capacity for a STEM degree and career has yet to be realized. A decade of RDE-funded projects has brought us closer. As a result of NSF-funded projects, there are more disability services practitioners who know more about STEM education and careers. There are more STEM postsecondary faculty members to have experience with and better understand SWD and UDL strategies. There are more universities and STEM programs that are providing welcoming environments and quality programming for SWD. There is more research about effective practices, technological tools, student characteristics, and collaborative efforts related to SWD and STEM education and careers. There are more resources for faculty, staff, students, parents and advocates.

Ultimately, the suggested practices based on the lessons learned from a decade of NSF funding will be useful general life lessons: respectfully communicate with people, challenge your preconceptions, collaborate with your community, and be adaptable and creative in order to overcome challenges or obstacles encountered along the way.

References


Sevo, R. (2011). *Basics about disabilities and science and engineering education.* CATEA at Georgia Institute of Technology: Atlanta, GA.


About the Authors

Linda P. Thurston serves as professor of special education and associate dean for research and graduate studies in the College of Education at Kansas State University. She also holds the Lydia E. Skeen Endowed Chair in Education. She earned a B.S. degree in elementary education from Baker University, an M.S. in clinical psychology from the University of Texas El Paso, and a Ph.D. in behavioral science from the University of Kansas. Her research interests of social justice and equity in education and evaluation are reflected in her work as a principal investigator on several federal grants related to gender, disability, and marginalized populations. Her email is lpt@ksu.edu.

Cynthia Shuman received her B.S. degree in Bakery Science from Kansas State University and Ph.D. in Adult and Continuing Education, also from Kansas State University. Her experience includes training and development, instructional design, and program evaluation. She currently serves as Acting Director for the Office of Educational Innovation and Evaluation at K-State. Her research interests include adult learning, staff and professional development, and program evaluation and research methodologies. She can be reached by email at: cshuman@ksu.edu.

B. Jan Middendorf received her B.S. degree in Business Administration from University of Rhode Island and Ph.D. from Kansas State University. Her experience includes developing, implementing, and supervising project evaluations for the Office of Educational Innovation and Evaluation (OEIE). She is currently a Program Director for Project and Program Evaluation in the Education and Human Resources Directorate for the National Science Foundation. Her research interests include national and international institutional and program improvement through strategic planning, change management, and evaluation. She can be reached by email at: jmiddend@ksu.edu.

Acknowledgement

This material is based upon work supported by the National Science Foundation under Grant No. HRD-1145541. Any opinions, findings, conclusions, or recommendations expressed in this material are those of the author.
Figure 1. Reported Practices and Strategies to Overcome Obstacles. cited in RDE PI publications, reports to NSF, and the PI survey. Cited in RDE PI publications, reports to NSF, and the PI survey.
Disability and Career Services Provision for Students with Disabilities at Institutions of Higher Education in Japan: An Overview of Key Legislation, Policies, and Practices

Heike Boeltzig-Brown

Abstract

In 2013, the Japanese government passed antidiscrimination legislation that, starting in April 2016, requires all national and public institutions of higher education (IHEs) to accommodate students with disabilities. The legislative mandate to ensure that higher education is accessible to students with disabilities, coupled with growth in the number of students with disabilities attending university or college, increases pressure on Japanese policymakers to build the capacity of their higher education system. The paper provides an overview of key legislation and policies in disability and higher education in Japan, followed by a description of the current state of cross-disability services provision at Japanese IHEs. Included is a focus on career development and employment (career services provision), as these are critical aspects of comprehensive supports for students with disabilities in higher education. The paper is based on a review of current literature and secondary survey data, as well as key informant interviews with Japanese government officials, disability and career services personnel, and faculty directly involved in disability and career services provision at Japanese IHEs. It concludes with potential areas for Japan-United States learning and information sharing.

Keywords: Disability, reasonable accommodations, disability services, career services, higher education, Japan

Over the past decade many countries, including Japan, have recognized the importance of higher education as a stepping-stone to competitive employment and community membership for persons with disabilities. To this end, numerous legislations and policies have been implemented nationally and internationally, including the Convention on the Rights of Persons with Disabilities (CRPD). Adopted by the United Nations General Assembly in 2006, Article 24 of the CRPD requires States Parties [to] recognize the right of persons with disabilities to education. With a view to realizing this right without discrimination and on the basis of equal opportunity,...[to] ensure an inclusive education system at all levels and life long learning directed to...enabling persons with disabilities to participate effectively in a free society. (United Nations, 2006)

The article mandates nations to provide reasonable accommodations to individuals with disabilities so that they can exercise their right. Japan is one of 157 countries that have ratified the convention (United Nations Enable, n.d.).

Starting April 1, 2016, all national and public institutions of higher education (IHEs) in Japan must accommodate students with disabilities in accordance with the Act on the Elimination of Disability Discrimination (Law No. 65) that was passed by the Japanese Diet prior to the ratification of the CRPD, on June 19, 2013. The Act also encourages (but does not mandate) private IHEs to provide disability accommodations.

The concept of “reasonable accommodation” is emerging in Japan. It is broadly defined in the Act, and policymakers are currently in the process of making regulations to guide universities and colleges in the provision of reasonable accommodations and the development of processes and procedures for students

1 University of Massachusetts Boston
who feel that their request for reasonable accommodations was unreasonably denied. Although the concept of reasonable accommodation in Japan is recent, data from an annual national survey of Japanese IHEs suggest that about 60% of institutions support students with disabilities in some way, and that institutions vary widely in terms of the number of students with disabilities they support (Japan Student Services Organization [JASSO], 2015a).

The infrastructure to address the needs of students with disabilities in higher education in Japan is underdeveloped. Only about 10% of IHEs have a disability services department, office, or center, and about 18% have policies and procedures that guide the provision of disability services (JASSO, 2015a). Despite the lack of infrastructure, the number of students with disabilities, particularly those with developmental disabilities, entering university or college has been increasing (although the percent as a total of all students entering IHEs is low).

The legislative mandate to ensure that higher education is accessible to students with disabilities, coupled with growth in the number of students with disabilities attending university or college, increases pressure on Japanese policymakers to build the capacity of their higher education system, providing an important opportunity for both Japan and the United States to learn from each other’s experiences. Building higher education’s disability capacity is also critical for Japan’s businesses, which subject to a mandatory disability employment quota, are facing significant challenges in recruiting qualified employees with disabilities.

This paper provides an overview of key legislation and policies in disability, higher education, and employment in Japan, and then describes the current state of cross-disability services provision at Japanese IHEs. Included is a focus on career development and employment (career services provision), as these are critical aspects of comprehensive supports for students with disabilities in higher education. The paper concludes with potential areas for Japan-United States learning and information sharing.

The information presented in this paper is based on a review of current literature and secondary survey data, as well as key informant interviews conducted between April 2014 and July 2015 in Japan. Key informants included Mr. Yusuke Shoji, unit chief of the Student Support and Exchange Division, Higher Education Bureau, Ministry of Education, Culture, Sports, Science, and Technology (MEXT); Mr. Soichiro Yamada, executive director of the Student Services Department, JASSO (JASSO is a semi-governmental agency under MEXT); Ms. Mieko Watanabe, PhD, professor emeritus of Tsukuba University and head of the Committee for Career Services Development, JASSO; Takeo Kondo, PhD, associate professor at the Tokyo University Research Center for Advanced Science and Technology, founding member/administrative staff of the Association on Higher Education and Disability (AHEAD) Japan, and member of an expert committee convened by MEXT in April 2015 to provide guidance on the implementation of the new disability antidiscrimination legislation in higher education; and Mr. Masaru Kubota, head of the Division of Career Services, Department of Student Affairs, Tsukuba University.

Additionally, the author co-facilitated three study group meetings with eight Japanese individuals who were selected based on their expertise in disability, higher education, and employment. The purpose of these expert meetings was to inform the development of a project to train disability and career services personnel from Japanese IHEs in the US on how to better serve students with disabilities. The Nippon Foundation of Japan sponsored this activity (and the resulting project), with meetings held between January and April 2015. Results from these expert meetings also informed the development of this paper.

Key Legislation and Policies Related to Disability, Higher Education, and Employment

The Constitution of Japan stipulates that all people, including those with disabilities, have “a right to receive an equal education according to their ability” (Article 26). Article 4 of the 1947 Basic Law on Education, as amended in December 2006 (Law No. 120), specifically mentions people with disabilities, mandating “national and local governments [to] provide support in education to persons with disabilities, to ensure that they are given adequate education in accordance with their condition.”

On June 19, 2013, the Japanese Diet passed the Act on the Elimination of Disability Discrimination (Law No. 65), which protects people with disabilities from being discriminated against in higher education settings. The law defines persons with disabilities in the same way as the 1970 Basic Law for Persons with Disabilities, as amended in June 2013 (Law No. 65), as “individuals who have physical, intellectual or mental
impairments (including developmental disability) and whose daily life or social life is substantially and continuously limited due to their impairments and various social barriers” (Chapter 1, Article 2).

Starting April 1, 2016, all national and public IHEs in Japan must accommodate students with disabilities in accordance with the new disability antidiscrimination law (Article 7). They must also create procedures and processes for students with disabilities to file a complaint if their request for reasonable accommodations has been denied or insufficiently addressed (Article 7). The law encourages, but does not mandate, private IHEs to follow these provisions.

As of December 2014, there were 86 national universities, 92 public universities, and 603 private universities in Japan (MEXT, 2014a). Japanese national universities were until March 2004 directly operated by MEXT. On April 1, 2004, these universities obtained legal status by becoming “national university corporations,” an effort that was part of a wider government reform of Japanese IHEs (Oba, 2006). MEXT provides grants to both national and private universities to cover operational expenses. In contrast to national and private universities, public universities are operated by local governments, either prefectural or municipal, and are largely funded with local taxpayer monies. (A prefecture is the equivalent of a state in the US. There are a total of 47 prefectures in Japan.) Similar to national universities, public universities were allowed to incorporate starting on April 1, 2004 (MEXT, 2009).

Prior to the passing of the new disability antidiscrimination legislation, the 2011 amendment to the Basic Law for Persons with Disabilities (Law No. 90), for the first time, introduced the concept of reasonable accommodation into Japanese legislation (Japanese Cabinet Office, 2012). Article 4.2 of the amendment recognizes that failure to provide disability accommodations constitutes an act of discrimination, a stipulation that came without any legal enforcement in general.

The concept of “reasonable accommodation” is emerging in Japan. There continues to be a need to raise awareness among educators and those that support students with disabilities about this concept, and how it can be effectively translated into disability services policy and practice. To this end, the MEXT Higher Education Bureau convened a committee of 15 experts in 2012 and tasked them with developing a future framework for higher education disabili-

ty services provision in Japan (MEXT, 2012a). The committee was asked to develop a working definition of reasonable accommodation for higher education; to define the target, types, and scope of reasonable accommodations to be provided at Japanese IHEs; and to identify short-term, medium-term, and long-term challenges to translating some of these ideas into practice, involving key stakeholders (government agencies, professional organizations, IHEs, etc.) in this process.

The committee summarized the results of its work in a final report (MEXT, 2012a). The report defines reasonable academic accommodations as:

Any necessary and appropriate changes / adjustments which universities and other similar institutions make in order to ensure that persons with disabilities can enjoy and exercise the right to receive education equally as others. These adjustments or changes are made in consideration of the individual situation of each student with disabilities and are made in response to their needs for receiving education in the university or other similar institutions...Reasonable accommodations are not meant to place unbalanced or excessive burden on the universities or similar institutions either structurally or financially. (MEXT, 2012a, section 4, para. 8)

In February 2015, the Japanese government passed a “Basic Policy on the Promotion of Elimination of Disability Discrimination” to guide the implementation of the new law in all relevant fields, including education, employment, health, and public transportation (Japanese Cabinet Office, 2015). The policy defines key terms (such as persons with disabilities and private-sector employers), explains concepts (such as unfair discriminatory treatment, reasonable accommodations, and undue burden), and provides examples of unfair discriminatory treatment and examples of reasonable accommodations. The policy further outlines broad measures that national and local government agencies and private-sector employers should incorporate as they develop their own implementation guidelines. (Private-sector employers are mandated not to discriminate on the grounds of disability; however, they are not obliged to provide reasonable accommodations.) Measures include developing barrier-free environments, creating systems for dispute resolution and consultation, and con-
ducting professional development activities (such as staff training, information dissemination, and awareness-raising). National and local government agencies and private-sector employers must develop their own guidelines by April 1, 2016.

To this end, MEXT convened a second expert committee in April 2015 to provide input on the development of guidelines for implementing the new law in all of the sectors that MEXT oversees, including higher education. Published in December 2015, the MEXT guidelines document outlines disability discrimination (Article 2) and the provision of reasonable accommodations (Article 3). Article 4 addresses the main responsibilities of personnel in charge of promoting disability antidiscrimination, including: (a) providing guidance and awareness-raising, (b) dealing with complaints, and (c) overseeing the provision of reasonable accommodations. Article 5 is about taking disciplinary action against personnel who commit acts of disability discrimination or fail to provide reasonable accommodations to persons with disabilities. Article 6 outlines the development of a consultation system for persons with disabilities and other stakeholders, and Article 7 recommends the provision of training and awareness-raising to all personnel (MEXT, 2015a).

Additionally, MEXT has tasked the Japan Association of National Universities (JANU) with developing model policies and procedures for disability services provision at national universities. In 2015, JANU published a guidelines template for national universities to promote disability antidiscrimination on university campuses (JANU, 2015). The guidelines template is very similar to the MEXT guidelines, and provides additional detail. Article 4 is about the development of a personnel system to address disability discrimination, and the roles and responsibilities of personnel, including university leadership, department heads, and personnel in charge of disability antidiscrimination. Articles 8 and 9 outline the development of a consultation system and a dispute resolution system for students with disabilities, their families, and other stakeholders. JANU sent the guidelines template along with a cover letter and reference materials (lists of examples of discriminatory treatment and of reasonable accommodations) to all national universities, with a request to use this template for developing their own guidelines.

By mandating equal access to higher education, the new disability antidiscrimination law is expected to increase the number of university students with disabilities in Japan, thereby expanding the labor pool of individuals with disabilities. This is particularly relevant for companies that must meet the mandatory disability employment quota (explained below). Private-sector companies in particular have found it difficult to fill their quota of jobs with qualified individuals with disabilities, partly because of the small number of students with disabilities graduating with university degrees.

Established under the 1960 Disabled Persons Employment Promotion Law, as amended in June 2014 (Law No. 69), the quota-levy system requires public-sector and private-sector employers to fill a certain percentage of their positions with people with disabilities. Private-sector employers who fail to meet the quota must pay a penalty or “levy.” In April 2013, the Japanese government raised the quota for private-sector employers from 1.8% to 2.0%, and for public-sector employers from 2.1% to 2.3% (Ministry of Health, Labour, and Welfare [MHLW], 2012a). The quota for prefectural and municipal boards of education was also raised, from 2.0% to 2.2%. The quota has helped to increase employment opportunities for people with disabilities (MHLW, 2012b), although the rate has not reached the stipulated 2.0% in the private sector, with less than half of private-sector employers meeting the quota (Japan Organization for Employment of the Elderly, Persons with Disabilities, and Job Seekers [JEED], 2011; MHLW, 2012c).

Disability and the Higher Education System

Funding for disability services and supports. The Japanese government subsidizes national and private universities; subsidies also cover disability-related services and supports. National and private universities differ with respect to how the subsidies are paid. In Fiscal Year (FY) 2015, MEXT’s general budget for education, culture, sports, science, and technology was ¥5,338 billion (about $43 billion) (MEXT, 2015b). The operating budget for national universities was ¥1,101 billion (about $9 billion), or 20.6% of the MEXT’s general budget. The operating budget for national universities includes several categories, one being “special operating budget,” from which universities can draw funds to cover disability-related services and supports. Although figures are available on the amount of funding each national university receives from the government, information on how these funds are used, particularly with respect
to disability, are hard to come by. According to key informant sources, national universities are not required to report on the use of funds for disability services and supports, which limits the government’s ability to ensure that funds are used effectively, efficiently, and appropriately.

Since 2013, MEXT has made available additional funding for national universities to build their disability services capacity in response to a recommendation made by the first MEXT expert committee (2012a) that IHEs should set up a disability services office (S. Yusuke, MEXT, personal communication, July 15, 2015). All national universities can apply for this funding; successful institutions are selected on a competitive basis and receive approximately ¥9,000,000 (about $73,000) per institution. As of July 2015, 25 out of the 86 national universities received this special funding: six were funded in 2013, 12 in 2014, and seven in 2015. National universities typically use the funding to establish (part-time) disability services coordinator positions for which they recruit existing faculty who are involved in disability services provision (S. Yusuke, MEXT, personal communication, July 15, 2015).

The Japanese government not only subsidizes national but also private universities; subsidies are paid through a so-called “Promotion and Mutual Aid Corporation for Private Schools in Japan” out of MEXT’s general budget. In FY2015, subsidies for private universities amounted to ¥315 billion (about $2.5 billion) and included disability-related supports and services (MEXT, 2015b).

There are three major disability subsidies (Promotion and Mutual Aid Corporation for Private Schools in Japan, 2015), described briefly below. These subsidies are calculated through a complex process; the discussion that follows offers only a basic overview.

The first subsidy type is intended to cover individual-level, academic supports for students with qualifying disabilities. Those disabilities include visual impairments, hearing impairments, physical disabilities, developmental disabilities, and other types of disabilities for which students receive accommodations. The subsidy amount is ¥1,600,000 (about $13,000) per student for one academic year.

The second type of subsidy is for institutional-level disability supports. There are eight types of supports, each receiving ¥400,000 (about $3,300). These include, for example, counselor staffing / allocation, classroom supports, improvements to facilities and equipment / assistive technology, accommodations for the application / admissions process, activities to educate faculty and staff about accommodations and supports for students with disabilities, and activities to build the capacity of disability services personnel and other support providers.

The third type of subsidy covers the costs for information and communication technology (ICT) and related supports used for teaching, research, and other, similar activities. ¥200,000 (about $1,600) is earmarked for each type of technology-related support. Types of technology include learning management systems and distance education; the subsidy can also be used to improve academic content delivered via ICT. Details on how institutions use the subsidies are difficult to access.

Disability-Related government structures for students in higher education. The Japan Student Services Organization (JASSO) is a semi-governmental agency under the MEXT Higher Education Bureau, Student Support and Exchange Division, that specifically focuses on student support. JASSO administers several MEXT programs, including a scholarship loan program, support programs for international students, and other student support programs, including supports for students with disabilities (JASSO, 2014-2015).

Within JASSO, the Student Services Department, Support for Students with Disabilities Division disseminates disability-related information, such as guides for supporting students with disabilities targeted at faculty and staff involved in disability services provision (e.g., JASSO, 2014). This division also maintains an online database of practice cases related to student disability supports by type of disability (JASSO, 2015b). Additionally, JASSO arranges training and professional development opportunities for IHE personnel involved in the provision of student disability services, student career services, and student counseling and mental health services. JASSO surveys all four-year universities, two-year colleges, and technical colleges in Japan annually about disability and related issues and makes the survey results available on its website.

Training and professional development for faculty and staff involved in disability services provision at Japanese IHEs is centralized through JASSO. Following is a brief description of JASSO’s training and professional development activities. In FY2014, JASSO in collaboration with Tohoku University and
Hokkaido University, provided two seminars on how to develop a system for student disability services at IHEs (JASSO, n.d.). These seminars were primarily targeted at managers and staff in charge of disability services provision, with a total of 286 individuals attending these events.

Seven more specialized seminars, targeting the same audience, addressed topics such as providing reasonable accommodations in higher education; building disability services capacity; promoting self-awareness and social participation among students with developmental disabilities; supporting students with disabilities in career development; partnering with agencies, organizations, and employers to support the employment of students with developmental disabilities; and promoting accessible design and resource sharing to support students with disabilities (JASSO, n.d.). These seminars were provided in conjunction with other universities. They were held across Japan, with an average of 100 individuals participating in each seminar.

In addition to these seminars, JASSO provides basic and advanced training to faculty and staff directly involved in disability services provision (JASSO, n.d.). Each training is provided twice a year in Tokyo and Osaka (a total of four times), lasts two days, and consists of lectures and follow-up exercises for participants to deepen their understanding of the issues addressed in the lectures. Participation is limited to 200 individuals per basic training session and 80 participants per advanced training session. The number of applications for basic training has consistently been exceeding the number of training placements, indicating a high demand for this type of training (S. Yamada, JASSO, personal communication, July 16, 2015).

Basic and advanced training is complemented by more hands-on workshops. For example, in FY2014, JASSO provided one workshop on supporting students with developmental disabilities, which was held in Tokyo and attended by 161 individuals (JASSO, n.d.). In addition to disability support, JASSO has been incorporating a disability focus into training and professional development for student career services personnel. For example, the “National Career and Job Placement Guidance Meeting” held in 2014 included a session dedicated to career and job placement support for students with disabilities (JASSO, n.d.).

In addition to disability-related training and professional development, JASSO administers a regional network of universities called the “Learning Support Network for Students with Disabilities” that are to function as centers of disability expertise, providing training and consultation to other IHEs in their region. Established in 2006, the network consists of nine regional centers and three affiliated partners. The nine regional centers are all based at national and private universities: Sapporo Gakuin University, Miyagi University of Education, University of Tsukuba, University of Toyama, Nihon Fukushi University, Doshisha University, Kwansei Gakuin University, Hiroshima University, and Fukuoka University. The three affiliated partners include the National Tsukuba University of Technology (NTUT), the National Institute of Special Needs Education (NISE, a semi-governmental agency under MEXT), and the National Rehabilitation Center for Persons with Disabilities, which is part of the National Institute of Vocational Rehabilitation (NIVR, a semi-governmental agency under MHLW).

Regional centers vary greatly in their ability to provide training and consultation, in part, because JASSO does not provide funding to conduct these activities. Training and consultation typically take the form of center faculty serving as instructors for JASSO seminars and workshops. In the past, JASSO has commissioned regional centers to conduct research on specific issues in disability and higher education; however, there is currently limited funding to support these types of activities (S. Yamada, JASSO, personal communication, July 16, 2015). The overall lack of financial support for regional centers has been an impediment to supporting IHEs regionally and to building the overall capacity of the Learning Support Network to influence disability policy and practice in higher education.

Since 2014, MEXT has been promoting internships with industry as a way to improve employment skills and opportunities for university students, including students with disabilities (MEXT, 2014b). The goal is to develop a system of higher education that meets current and future industry labor needs. This effort is part of the “Japan Revitalization Strategy JAPAN IS BACK” that the Japanese government announced in June 2013 and that consists of a set of structural reforms (including university reforms) to improve economic growth and the competitiveness of the Japanese economy.

To this end, JASSO is implementing a range of efforts (JASSO, 2014–2015); it set up a special com-
mittee for the promotion of internships that consists of representatives from universities, major economic organizations, and experts in the field. The committee is tasked with evaluating and advising so-called “Regional Internship Promotion Organizations.” These are regional networks of universities, local governments, economic and non-profit organizations, and other entities that strategically promote and facilitate student internship initiatives in their region. As of FY2014, there were 11 collaborations involving 113 universities.

In addition to the special committee, JASSO provides training to university faculty and staff involved in internship efforts. It also conducts surveys on internship initiatives run by universities, and on the number of students, including students with disabilities, who participate in these internships.

Representation of Students with Disabilities in Higher Education

As is the case in the US, people with disabilities access higher education in Japan at significantly lower rates compared to those without disabilities. In 2014, students with disabilities made up 0.44% (or 14,127) of all students in higher education (JASSO, 2015a). Figures are based on a national survey of IHEs conducted annually by JASSO. A total of 1,185 IHEs responded to the 2014 survey (100% response rate), including 780 four-year universities, 348 two-year colleges, and 57 technical colleges. The number of students with disabilities enrolled in IHEs, particularly those with mental health disabilities and autism, has almost trebled since 2006, when it was 4,937 (JASSO, 2007). Kondo, Takahashi, and Shirasawa (2015) suggest that:

the increased enrollment of students with ‘invisible disabilities’ may mean simply that social awareness of such disabilities, which has progressed across recent years, has helped in detecting the presence of these students through various student services (e.g., counseling and health services). In other words, this population might have already been on campus, and thus may not have actually increased. (p. 423)

Even if the number of students with disabilities at universities has held steady over time, the increase in disclosure and acknowledgement of invisible disabilities is a trend that will continue to build.

Universities and colleges use a variety of sources for collecting student disability information, which they then report in aggregated format to JASSO (M. Enomoto, JASSO, personal communication, August 10, 2015). Sources include requests made by students or their guardians for accommodations (for entrance examinations, courses, etc.), medical examination of students at entrance to university or college, student consultations with the university or college health center, students reporting a disability on their university or college application, and reports by teaching staff on students’ disabilities. Generally, students do not have to report to the university or college that they have a disability unless they need accommodations. If they do need support, then they have to provide documented evidence of their disability in the form of a disability certificate, medical records, etc.

JASSO data also indicate that universities and colleges vary greatly with respect to the number of students with disabilities enrolled, from no students (352 out of 1,185 institutions) to more than 21 students enrolled (173 institutions; JASSO, 2015a). Table 1 provides a summary of the data. About 70% of all surveyed IHEs (833) reported having at least one student with a disability. The largest number of IHEs (222) reported between two and five students with disabilities.

In terms of type of disability, about 39% of all students with disabilities enrolled in IHEs in 2014 had health issues or physical disabilities, decreasing from about 53% percent in 2006 (JASSO, 2015a, 2007). Table 2 provides a summary of the data. Students with “other” disabilities / diseases, including those with mental health disabilities, are a growing population, almost tripling between 2006 and 2014. In fact, students with mental health disabilities accounted for about 20% of all students with disabilities in 2014, making it the second largest group of students with disabilities. Students with developmental disabilities increased in representation more than seven times between 2006 and 2014. Of those, students with autism accounted for about 14% of all students with disabilities in 2014, increasing from about 2% in 2006. Students with hearing and speech impairments, and those with visual impairments, represented about 12% and 5%, respectively, of all students with disabilities in 2014.

Although the number of students with disabilities has almost trebled since 2006, people with disabilities continue to experience substantial barriers to access-
ing higher education. In 2012, the Tokyo Foundation published a report on disability in higher education in Japan. The report identified three systemic barriers to accessing higher education for individuals with disabilities: (1) lack of information on the types of supports available at IHEs, (2) lack of coordination between higher education institutions on one side and high schools and potential employers on the other side, and (3) reluctance on the part of IHEs to shoulder the costs of accommodating students with disabilities (Tokyo Foundation, 2012).

Kondo (2015) suggests that support for students with disabilities at Japanese IHEs with dedicated disability services offices has improved over the last years, that faculty and staff involved in disability services provision at these institutions are becoming more knowledgeable about and adept in supporting students with different types of disabilities, and that efforts are made to provide students with information and guidance to help them access disability supports at their institution. The latter effort in particular, Kondo argues, is an indication of the existence [of] broadly accumulated know-how for supporting students with disabilities at Japanese IHEs …[but this] know-how has not been based on the concepts of reasonable accommodation which should be offered in all institutions from the viewpoint of antidiscrimination and therefore based on good practices in some advanced universities.” (section 3.4., para. 1 and 2)

**IHE Infrastructure and Capacity for Disability and Career Services Provision for Students with Disabilities**

**Disability services.** JASSO data suggest that disability services tend to be provided by administrative, teaching, and counseling staff who work part-time, in addition to students, and that most IHEs do not have any policies and procedures that guide disability services provision (JASSO, 2015a). This situation is compounded by a lack of training and qualifications for personnel who provide disability services (Aoki, 2007; PEPNet-Japan, 2012).

As summarized in Table 3, a majority of IHEs (80% or 943 out of 1,185) assign the responsibility for disability services provision to existing university and college departments such as student affairs (JASSO, 2015a). Only about 10% (120 institutions) have a department, center, or office dedicated to disability services provision, and about 18% (219 institutions) have policies and procedures that guide the provision of student disability services.

A 2011 JASSO survey of 914 IHEs provides more detail on the types of departments or structures that IHEs use for disability services provision (JASSO, 2012). The most frequently reported structure was generic administrative offices (reported by 51.4%, or 470 out of 914 IHEs), followed by offices for student services (24.9% or 228), health care centers (17.4% or 159), special committees for supporting students with disabilities (7.4% or 68), and disability services offices (5.9% or 54).

These results are consistent with Kondo’s observations (2015) that “the need for dedicated disability services offices has not been well recognized by Japanese IHEs” (section 2, para. 3). Indeed, the percentage of universities and colleges with dedicated student disability services departments, centers, or offices has not significantly increased since the report by the MEXT Committee (2012a), which recommended that IHEs create such structures and also make public their numbers of students with disabilities.

In terms of staffing for disability services provision, a majority of IHEs (84%, or 995 out of 1,185) only use part-time staff to provide supports to students with disabilities (JASSO, 2015a). About 11% (125 institutions) use a combination of full-time and part-time staff. Table 4 provides a summary of the data. In addition to internal staff, about 42% (493 institutions) also involve external staff, mostly counselors, doctors, and technology specialists, in some aspect of disability services provision at their institution. The use of students (“peer tutors”) to assist with the provision of disability services and supports is addressed in the paper later.

A little less than two thirds of the IHEs surveyed by JASSO (775 out of 1,185) reported implementing one or more activities to build institutional capacity to support students with disabilities, or assisting other institutions in this effort (JASSO, 2015a). Table 5 provides a summary of the data. The most frequently reported activities were consultations and round-table meetings for students with disabilities and support staff, provision of career services and related support to students with disabilities, and provision of training on disability issues to faculty and staff at other universities and colleges.

Little is known about the professional backgrounds and expertise of the faculty and staff involved...
in student disability services provision. Japan only recently (October 2014) established a professional organization dedicated to cross-disability issues and higher education. This organization is called “Association on Higher Education and Disability (AHEAD JAPAN)” (http://ahead-japan.org/), a partner organization of AHEAD in the US.

AHEAD JAPAN’s mission is to improve supports for students with disabilities by organizing conferences that address disability service delivery practice and research; providing information, resources, training, and professional development on disability issues; promoting and facilitating shared learning and collaboration among Japanese IHEs related to disability services provision; and promoting, conducting, and publishing research that can inform disability service delivery practice. Fifty-two universities have joined AHEAD JAPAN; the organization held its first annual conference in June 2015.

In addition to AHEAD JAPAN, PEPNet-Japan (http://www.pepnet-j.org) is a collaboration of 22 universities and nine colleges to support students with hearing impairments, as well as faculty and staff including disability services personnel, by providing training, consultation, and resources. The organization was established in October 2004 and is modeled after PEPNet in the US (http://www.pepnet.org). In 2013, PEPNet-Japan received the “Prime Minister Award” from the Japanese government for its dedicated efforts to promote “barrier-free” and “universal design” practices in Japanese society (Japanese Cabinet Office, 2014).

Career services. In contrast to the low number of IHEs with dedicated disability services offices, JASSO data suggest that a majority of institutions in Japan (92.2%, or 843 out of 914) have a career services office (JASSO, 2012). Figures are based on a national survey of IHEs conducted by JASSO in 2011 that addressed disability and employment supports for students with disabilities. A total of 914 out of 1,202 institutions responded to the survey (76%), including 589 universities, 273 colleges, and 52 technical colleges. A more recent MEXT report estimates the percent of IHEs that have a career services office to be 97% (MEXT, 2013).

JASSO data indicate that most of these career centers assume the responsibility for career development and employment support for students with disabilities, and that some also involve their disability services office. Of the 843 IHEs that had a career services office, 807 (95.7%) reported providing employment support to students with disabilities (JASSO, 2012). Eighty-one of those 807 institutions (10.0%) had career services staff specifically dedicated to students with disabilities. 112 out of 843 institutions (13.3%) collaborated with their disability services office, and more than half (428 or 50.8%) used faculty advisors to assist students with disabilities to prepare for careers. Only a small number of IHEs (65 or 7.7%) reported that employment support for students with disabilities was the sole responsibility of the disability services office.

In addition to internal resources, about 40% of universities and colleges (378 out of 914) reported collaborating with external agencies and organizations regarding career and employment support for students with disabilities, such as public employment services centers (the equivalent of One-Stop Career Centers in the US; 331 institutions), local vocational centers for persons with disabilities (the equivalent of state vocational rehabilitation agencies in the US; 67 institutions), support centers for persons with developmental disabilities (45); support centers for persons with sensory (visual or hearing) impairments (13), vocational training centers (4), and other entities (85).

Furthermore, IHEs provide a range of employment-related services and supports to students, including students with disabilities, as summarized in Table 6. However, less than a quarter of institutions (17.0%, or 155 out of 914) reported that students with disabilities participate in internships, which is surprising given MEXT’s increasing emphasis on this type of work experience. Even fewer institutions (9.7%, or 89 out of 914) reported that they follow up with graduates with disabilities who have found jobs through personal meetings, site visits, or similar methods (JASSO, 2012).

Universities and colleges continue to face barriers to assisting students with disabilities in finding jobs, as detailed in Table 7. These challenges mostly relate to lack of staff capacity, but also include issues that concern the students themselves. The top three challenges were lack of staff knowledge and experience related to employment support for students with disabilities, lack of methods for employment support appropriate for students with particular disabilities, and lack of ability on the part of students to take action (JASSO, 2012).
Provision of Accommodations at IHEs

JASSO data show that more than half of all students with disabilities (7,482 out of 14,127) enrolled in higher education in Japan in 2014 had requested accommodations and received them (JASSO, 2015a). Little is known about the situation of the remaining 6,645 students with disabilities, for example, their needs for support (if any), efforts to request such support, and success in receiving support.

Japanese IHEs vary greatly with respect to the number of students with disabilities they accommodate, from no students (40.9%, or 485 out of 1,185 institutions) to more than 21 students (6.8% or 81 institutions). Table 8 provides a summary of the data. About 60% of all surveyed IHEs (700) reported accommodating at least one student with a disability. The largest number of institutions (411) reported between one and five students with disabilities receiving accommodations.

The types of accommodations that institutions provide generally fall into three categories: test-taking accommodations (such as extended time, readers, assistive technology); classroom accommodations (such as note-taking assistance, audio-recorded lectures, alternate format texts, communication services, preferential seating, enlarged font study materials); and other types of accommodations (such as guides, tutors / teaching assistance).

Japanese IHEs use a combination of faculty, students, and external staff to provide these accommodations. Students with physical disabilities and those with hearing and speech impairments most commonly receive supports from their peers; in the case of students with visual impairment, it is mostly faculty who provide accommodations (JASSO, 2015a).

The use of students (“peer tutors”) to provide disability services by some IHEs is an interesting feature of their service structure. About 10% of institutions (89 out of 914) reported having a peer tutor system in 2010, and 80 of those had a training program for their peer tutors (JASSO, 2012). Students can volunteer to become a peer tutor. Peer tutors assist in many different ways: preparing teaching materials in alternative formats; providing reading and note-taking assistance, speech-to-text transcription, and sign language interpretation; and serving as walking guides. Note that in Japan, personal assistance is sometimes considered to be part of academic accommodations. Japanese universities may provide personal services to students with disabilities (such as assistance with eating, toileting, moving about, etc.) in cases where local government does not provide this kind of assistance (Kondo, Takahashi, & Shirasawa, 2015).

Tutors are often part of the support team created for individual students with disabilities; students with disabilities are encouraged to manage their teams and supports, and to also help train peer tutors. Peer students are usually trained prior to starting work as a tutor, and are paid for their work by the university. Little is known about the disability status of peer tutors.

At the University of Tsukuba’s Office for Students with Disabilities (OSD), peer tutors are a key feature of disability services provision (University of Tsukuba, 2015). The office developed a peer tutor curriculum that is offered in the form of regular classes for which students can get credits. Advanced training and study groups are offered to more experienced peer tutors. Once students have completed the basic peer tutor training, they are assigned to one of three programs that support students with physical disabilities and chronic illnesses, students with visual impairments, or students with hearing impairments. (There is also a support program for students with developmental disabilities, but without assigned peer tutors.)

As of 2013, OSD employed a total of 260 peer tutors serving 70 students with disabilities: 50 tutors supported students with physical disabilities and chronic illnesses, 50 assisted students with visual impairments, and 160 provided supports to students with hearing impairment (University of Tsukuba, 2015). The 260 peer tutors complemented OSD staff consisting of five administrative staff (including the OSD director and assistant director); one medical doctor from the university’s health center and 13 faculty specializing in “disability science” were also affiliated with OSD. Peer tutors who have provided 15+ hours of disability support or 30+ hours of managing a support team receive a certificate.

Students with Disabilities, Rates of Graduation, and Employment Outcomes

As is the case in the US, Japanese students with disabilities graduate from university or college and find employment after graduation at lower rates compared to students without disabilities. JASSO data indicate that about three quarters (2,122) of the 2,885 students surveyed in their final year at university or college graduated in 2014 (graduation rate of 74%) (JASSO, 2015a). Students with sensory impairments (visual, hearing, and speech impairments) are more...
likely to graduate compared to students with physical disabilities and those with developmental disabilities. Little is known about the 763 students who did not complete their academic studies.

The graduation rate for the general student population was slightly higher than the rate for students with disabilities, 80% versus 74%. Of the 589,917 students without reported disabilities who enrolled in a national, public, or private university in April 2011, 471,441 graduated four years later. Figures are based on a survey of 779 IHEs, including 86 national universities, 89 public universities, and 604 private universities, that was conducted by MEXT in May 2015 (MEXT, 2015c).

In terms of employment, JASSO data show that about half of the 2,122 students with disabilities (1,061) who graduated in 2014 found full-time employment (employment rate of 50%) (JASSO, 2015a). Employment information was collected about one month after students graduated from university or college. Students with sensory impairments (visual and hearing impairments) are more likely to find employment compared to students with developmental disabilities and those with other types of disabilities. Little is known about how many of the graduates with disabilities who found employment were placed into employment quota jobs.

In comparison, the employment rate for the general population of university graduates was 71% (397,000 out of 560,000 graduates); for college graduates and technical college graduates, the rate was 76% (45,000 out of 59,000) and 56% (5,400 out of 9,600), respectively. Figures are based on a March 2014 survey of 6,250 IHE personnel from 112 institutions who reported on students’ post-graduation activities, including employment. Figures captured students’ employment status about one month after graduating from university or college. The survey is conducted quarterly by MHLW and MEXT (MHLW, 2015).

Conclusion: Areas for Japan–US Learning and Information Sharing

With the recent passing of disability antidiscrimination legislation, Japan is now at a critical stage to reform its higher education system to make it accessible to all students, including those with disabilities. Some progress has been made in terms of developing basic government policy, guidelines, and directions for implementing the new law, investing in disability services coordinator positions at national universities, and offering training and professional development for faculty and staff involved in disability services provision. The peer tutor system is an interesting feature of disability services at Japanese IHEs, and an area where the US can learn from Japan.

MEXT has developed guidelines for implementing the new law in higher education. It will be interesting to see how universities apply these guidelines, the challenges they face, and how they address those issues. At the same time, it will be useful to track the model policies and procedures for disability services provision that the Japan Association of National Universities is developing, and how these are similar to or different from approaches used in the US.

Progress is also visible in the field of student disability services, with the recent establishment of AHEAD JAPAN. It will be exciting to see the role that this organization will play in coordinating efforts across IHEs. Ideally, AHEAD JAPAN will create a shared knowledge base on disability and higher education in Japan, and will start to professionalize disability services and those that provide these supports. Given its affiliation with AHEAD US, the organization may also promote cross-national learning and information sharing related to disability and higher education.

There is a great opportunity for Japanese policymakers, educators, and practitioners to learn from the experiences and the lessons gained in the implementation of the Americans with Disabilities Act (ADA) in the US, as the disability antidiscrimination laws in the two countries are similar. The ADA as applied to US universities and colleges has resulted in a large body of research related to documentation of disability, reasonable accommodations, and effective higher education practices as it relates to implementation of the ADA.

While Japan is likely to have different experiences and use different methods of implementing its disability antidiscrimination law, it can look to lessons learned in the US for guidance. The application of Universal Design for Learning UDL principles is still in its early stages at US universities and colleges. Japanese IHEs will be able to see what is working and what is not, and use their own strategies for instructing all types of learners, including students with disabilities.

Finally, both countries share a need for practices, approaches, and models for how to integrate disabili-
ty and career services to provide comprehensive supports for students with disabilities in higher education. Japan’s strategy of creating regional partnerships that involve universities, local governments, for-profit and non-profit organizations, and other entities in the development of regional internship schemes for students, including students with disabilities, could be another potential area for cross-national learning and information sharing.

References


About the Author

Dr. Heike Boeltzig-Brown is a senior research associate and program developer at the Institute for Community Inclusion (ICI), a research and training institute in the School for Global Inclusion and Social Development at the University of Massachusetts Boston, US. She has served as the principal investigator on several national and international research projects addressing the employment and vocational rehabilitation of people with disabilities. From 2012 to 2016, Heike worked for UMass Boston remotely from Tokyo, Japan, focusing her research on access to higher education for people with disabilities and transition to employment and careers. She also directs the Duskin Disability Leadership Program, which funds Japanese individuals with disabilities, ages 18–35, to participate in a five-month, Boston-based, intensive disability leadership and advocacy training. Heike can be reached by email at heike.boeltzig@umb.edu.

Acknowledgement

The author would like to thank the key informants for their time and valuable insights into disability and higher education in Japan. I am also grateful to Kimiko Smyth and Miwa Tanabe for their excellent research assistance; Doria Pilling, Kirsten Behling, and Dr. Allison Fleming for their feedback on drafts of the paper; and Anya Weber for her editorial support.
Table 1

*Number of Students with Disabilities Enrolled in Higher Education as Reported by Higher Education Institutions (N=1,185) in 2014*

<table>
<thead>
<tr>
<th>Number of Students with Disabilities</th>
<th>Institutions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
</tr>
<tr>
<td>0</td>
<td>352</td>
<td>29.7</td>
</tr>
<tr>
<td>1</td>
<td>152</td>
<td>12.8</td>
</tr>
<tr>
<td>2 - 5</td>
<td>222</td>
<td>18.7</td>
</tr>
<tr>
<td>6 - 10</td>
<td>142</td>
<td>12.0</td>
</tr>
<tr>
<td>11 - 20</td>
<td>144</td>
<td>12.2</td>
</tr>
<tr>
<td>More than 21</td>
<td>173</td>
<td>14.6</td>
</tr>
<tr>
<td>Totals</td>
<td>1,185</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note.* Source: JASSO (2015a).
Table 2
Number and Percent of Students with Disabilities Enrolled in Higher Education by Disability Type as Reported by Higher Education Institutions in 2006 (N=703) and 2014 (N=1,185)

<table>
<thead>
<tr>
<th>Disability Type</th>
<th>Students with Disabilities</th>
<th>2006</th>
<th>2014</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Number</td>
</tr>
<tr>
<td>Health issues / poor health</td>
<td></td>
<td>877</td>
<td>17.8</td>
<td>3,037</td>
</tr>
<tr>
<td>Physical disability</td>
<td></td>
<td>1,751</td>
<td>240</td>
<td>332</td>
</tr>
<tr>
<td>Upper limb restrictions</td>
<td></td>
<td>240</td>
<td>4.9</td>
<td>920</td>
</tr>
<tr>
<td>Lower limb restrictions</td>
<td></td>
<td>322</td>
<td>9.8</td>
<td>812</td>
</tr>
<tr>
<td>Other physical disability</td>
<td></td>
<td>294</td>
<td>6.0</td>
<td>470</td>
</tr>
<tr>
<td>Other disability / disease</td>
<td></td>
<td>379</td>
<td>7.7</td>
<td>3,144</td>
</tr>
<tr>
<td>Mental health disability</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>2,826</td>
</tr>
<tr>
<td>Chronic disease</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>247</td>
</tr>
<tr>
<td>Intellectual disability</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>46</td>
</tr>
<tr>
<td>Other disability</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>25</td>
</tr>
<tr>
<td>Developmental disability</td>
<td></td>
<td>127</td>
<td>2.6</td>
<td>2,722</td>
</tr>
<tr>
<td>Learning disability</td>
<td></td>
<td>13</td>
<td>0.3</td>
<td>114</td>
</tr>
<tr>
<td>ADHD</td>
<td></td>
<td>20</td>
<td>0.4</td>
<td>363</td>
</tr>
<tr>
<td>High-functioning autism (incl. Asperger’s syndrome)</td>
<td></td>
<td>94</td>
<td>1.9</td>
<td>1,956</td>
</tr>
<tr>
<td>Multiple developmental disabilities</td>
<td></td>
<td>NA</td>
<td>NA</td>
<td>289</td>
</tr>
<tr>
<td>Hearing and speech impairment</td>
<td></td>
<td>1,200</td>
<td>24.3</td>
<td>1,654</td>
</tr>
<tr>
<td>Deafness</td>
<td></td>
<td>378</td>
<td>7.7</td>
<td>604</td>
</tr>
<tr>
<td>Hard of hearing</td>
<td></td>
<td>796</td>
<td>16.1</td>
<td>1,099</td>
</tr>
<tr>
<td>Speech impairment</td>
<td></td>
<td>26</td>
<td>0.5</td>
<td>41</td>
</tr>
<tr>
<td>Visual impairment</td>
<td></td>
<td>510</td>
<td>10.3</td>
<td>710</td>
</tr>
<tr>
<td>Blindness</td>
<td></td>
<td>176</td>
<td>3.6</td>
<td>137</td>
</tr>
<tr>
<td>Low vision</td>
<td></td>
<td>334</td>
<td>6.8</td>
<td>573</td>
</tr>
<tr>
<td>Multiple disabilities</td>
<td></td>
<td>93</td>
<td>1.9</td>
<td>326</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td>4,937</td>
<td>100</td>
<td>14,127</td>
</tr>
</tbody>
</table>

Note. Sources: JASSO (2007) and (2015a).
Table 3

Type of Structure Used for Student Disability Services Provision as Reported by Higher Education Institutions (N=1,185) in 2014

<table>
<thead>
<tr>
<th>Type of Structure</th>
<th>Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Department structure</td>
<td>1,048</td>
</tr>
<tr>
<td>General department</td>
<td>928</td>
</tr>
<tr>
<td>Department, office or center dedicated to student</td>
<td>120</td>
</tr>
<tr>
<td>disability affairs</td>
<td></td>
</tr>
<tr>
<td>Committee structure</td>
<td>889</td>
</tr>
<tr>
<td>General committee</td>
<td>652</td>
</tr>
<tr>
<td>Committee dedicated to student disability affairs</td>
<td>237</td>
</tr>
<tr>
<td>Regulations related to student disability service</td>
<td>219</td>
</tr>
</tbody>
</table>

Note. JASSO does not provide a definition or explanation of “department, office, center, or committee for student disability affairs” in its report, nor is there information about how many institutions are using a combination of department and committee structures to address disability issues and, if they do, to what extent these structures cross over in terms of disability functions and how this is handled. Source: JASSO (2015a)

Table 4

Type of Internal Staff Used for Student Disability Services Provision as Reported by Higher Education Institutions (N=1,185) in 2014

<table>
<thead>
<tr>
<th>Type of Internal Staff</th>
<th>Number of Institutions Reporting...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Employing only full-time staff or both full-time and part-time staff (N=125)</td>
</tr>
<tr>
<td>Coordinators</td>
<td>45</td>
</tr>
<tr>
<td>Counselors</td>
<td>37</td>
</tr>
<tr>
<td>Doctors</td>
<td>5</td>
</tr>
<tr>
<td>AT specialists</td>
<td>14</td>
</tr>
<tr>
<td>General staff</td>
<td>67</td>
</tr>
<tr>
<td>Teaching staff / faculty</td>
<td>31</td>
</tr>
<tr>
<td>Other staff</td>
<td>16</td>
</tr>
</tbody>
</table>

Note: Sources, JASSO (2015a).
| Type of Disability Capacity-Building Activity as Reported by Higher Education Institutions (N=775) in 2014 |
|---------------------------------------------------------------|--------------------------------------------------|
| Institutions                                                   | Number   | Percent* |
| a. Holding consultations and round-table meetings, etc. for students with disabilities and support staff (incl. peer students) | 543      | 70.1     |
| b. Providing career services and related support to students with disabilities | 404      | 52.1     |
| c. Having internal teaching staff provide training on disability and related issues to other universities | 283      | 36.5     |
| d. Providing information about student disability services at in-school events (such as the university entrance ceremony) | 230      | 29.7     |
| e. Publicizing student disability services on the university website | 218      | 28.1     |
| f. Creating and distributing manuals, pamphlets, etc. related to student disability services and support | 207      | 26.7     |
| g. Giving lectures on student disability services and supports and related matters (such as volunteering) | 185      | 23.9     |
| h. Providing faculty and staff development opportunities related to student disability services | 160      | 20.6     |
| i. Training students in providing student disability services and support (such as note-taker training, etc.) | 129      | 16.6     |
| j. Holding various disability awareness-raising events (such as lectures etc.) | 64       | 8.3      |

* Percentages do not add up to 100% because an institution could implement more than one type of activity.

Source: JASSO (2015a).
Table 6

Type of Student Employment Support Provided as Reported by Higher Education Institutions (N=914) in 2011

<table>
<thead>
<tr>
<th>Type of Employment Support</th>
<th>Institutions</th>
<th>Institutions that Provided Disability Accommodations</th>
<th>Institutions that Provided Specialized Support for Students with Disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent (out of 914)*</td>
<td>Number</td>
</tr>
<tr>
<td>Provide job vacancy information</td>
<td>865</td>
<td>94.6</td>
<td>503</td>
</tr>
<tr>
<td>Distribute guides on job-hunting</td>
<td>768</td>
<td>84.0</td>
<td>351</td>
</tr>
<tr>
<td>Hold career guidance seminars</td>
<td>823</td>
<td>90.0</td>
<td>298</td>
</tr>
<tr>
<td>Hold company orientation sessions</td>
<td>672</td>
<td>73.5</td>
<td>234</td>
</tr>
<tr>
<td>Offer individual career consultations</td>
<td>823</td>
<td>90.0</td>
<td>495</td>
</tr>
<tr>
<td>Offer individual job search consultations</td>
<td>821</td>
<td>89.8</td>
<td>452</td>
</tr>
<tr>
<td>Help identify internships, work experiences</td>
<td>700</td>
<td>76.6</td>
<td>235</td>
</tr>
<tr>
<td>Compile career information database</td>
<td>646</td>
<td>70.7</td>
<td>231</td>
</tr>
<tr>
<td>Help identify job opportunities</td>
<td>703</td>
<td>76.9</td>
<td>256</td>
</tr>
<tr>
<td>Help obtain disability certification in order to gain a (quota) job</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other employment support</td>
<td>88</td>
<td>9.6</td>
<td>37</td>
</tr>
</tbody>
</table>

Note. * Percentages do not add up to 100% because an institution could implement more than one type of employment support. Source, JASSO (2012).
Table 7

Challenges to Providing Employment Support to Students with Disabilities as Reported by Higher Education Institutions (N=914) in 2011

<table>
<thead>
<tr>
<th>Type of Challenge</th>
<th>Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Staff lack knowledge and experience related to employment support for students with disabilities</td>
<td>532</td>
</tr>
<tr>
<td>Staff lack methods for employment support appropriate for students with particular disabilities</td>
<td>406</td>
</tr>
<tr>
<td>Students lack ability to take action, change lifestyle habits, attitudes, etc.</td>
<td>315</td>
</tr>
<tr>
<td>Staff lack understanding of particular disability types</td>
<td>280</td>
</tr>
<tr>
<td>Students lack understanding of their own disabilities and support needs</td>
<td>221</td>
</tr>
<tr>
<td>Lack of referral to and collaboration with external organizations</td>
<td>212</td>
</tr>
<tr>
<td>Staff have difficulty building relationships with students with disabilities / mutual understanding</td>
<td>202</td>
</tr>
<tr>
<td>Staff have difficulty managing relationships with individuals (families, relatives) related to or associated with students with disabilities</td>
<td>189</td>
</tr>
<tr>
<td>Staff have difficulty explaining disability issues to companies / introducing job-seeking students with disabilities</td>
<td>134</td>
</tr>
<tr>
<td>Staff have difficulty working with students with disabilities on practicing for job interviews and doing group work</td>
<td>120</td>
</tr>
<tr>
<td>Staff have difficulty instructing students with disabilities on resume writing, etc.</td>
<td>112</td>
</tr>
<tr>
<td>Staff have difficulty requesting and implementing disability accommodations and support from employers</td>
<td>104</td>
</tr>
<tr>
<td>Staff have difficulty providing employment information, support with assistive technology, etc. to students with disabilities</td>
<td>63</td>
</tr>
<tr>
<td>Other challenges</td>
<td>55</td>
</tr>
<tr>
<td>Staff have difficulty finding appropriate transportation for graduates with disabilities who found jobs</td>
<td>42</td>
</tr>
<tr>
<td>Limited access to job hunting venues</td>
<td>39</td>
</tr>
</tbody>
</table>

Note. * Percentages do not add up to 100% because an institution could report more than one type of challenge. Source, JASSO (2012).
The Impact of the Psychological Sequela of Trauma on Veterans Seeking Higher Education

Joshua Medley¹
Ann M. Cheney²*
Traci Abraham³,⁴
Kathleen Grubbs³,⁴
Justin Hunt⁴,⁵
Liya Lu⁹
John C. Fortney⁶,⁷
Geoffery M. Curran³,⁴,⁸

Abstract
Despite evidence that mental health burden is associated with lower academic success and non-completion in college students, and the high incidence of combat-related trauma exposure in returning veterans, few studies exist regarding the intersection of these issues in student veterans. This paper presents findings from a study on the mental health burden of student veterans attending rural community colleges in the southern United States. Based on qualitative research, the findings illustrate how the psychological sequela of combat-related trauma exposure impact classroom integration and academic achievement. The findings highlight the need for supportive services to integrate student veterans into campus communities and link them to mental healthcare resources, potentially improving academic success.

Keywords: Academic success, student veterans, mental health, trauma exposure

The post-9/11 GI Bill (Office of Public and Intergovernmental Affairs [OPIA], 2014) provides more than $20 billion in educational benefits to veterans and their beneficiaries. This federal policy has the potential to improve returning veterans’ economic futures via increased employment opportunities and long term earning potential. However, veterans returning from overseas combat (e.g., recently terminated military campaigns in the Middle East), often struggle with trauma-related psychological distress that can affect daily life and academic performance. Prior research has shown mental health burden is associated with lower academic achievement and a greater risk of non-completion of college (Hunt, Eisenberg, & Kilbourne, 2010; Kessler, Foster, Saunders, & Stang, 1995). Few studies have addressed the interplay of veteran combat experiences, mental health, and experiences in educational settings.

Many of the intense and disorganizing feelings associated with psychological trauma are experienced immediately following the event (James & Gilliland, 2012); however, individuals can experience long-lasting (i.e., longer than one month) psychological effects including depression, anxiety, and post-traumatic stress disorder (PTSD) (American Psychiatric Association, 2013; Foa, Hembree, & Rothbaum, 2007). Returning veterans with psychological trauma may experience intrusive symptoms (e.g., recurrent or involuntary memories, distressing dream/sleep disturbance, dissociative reactions or flashbacks, negative alterations in mood), may persistently avoid triggering events, and may also suffer a delayed hyperarousal response to current stimuli unrelated to previous combat (e.g., feelings of isolation or re-experiencing trauma in situations that pose no serious threat) (James & Gilliland, 2012). While each per-
son’s response to a traumatic event is unique, traumatic exposure, and particularly multiple exposures, increases the likelihood of developing symptoms that interfere with day-to-day life (Foa et al., 2007).

Recent work indicates that combat exposure and lingering PTSD symptoms contribute to veterans’ feelings of alienation on campus (Elliott, Gonzalez, & Larsen, 2011). Student veterans may have difficulty relating to others, perceiving student peers as immature and/or their comments as disrespectful (DiRamio, Ackerman, & Mitchell, 2008). Veterans’ extended gap between high school and college (e.g., several years compared to recent graduation from high school for civilian freshman) (Steele, Salcedo, & Coley, 2010), older average age, and deployment experiences further differentiate them, and may create additional challenges for classroom integration (Astin, 2011; Olsen, Badger, & McCuddy, 2014). As a result, student veterans may struggle to find a sense of belonging, leading to feelings of isolation (Whiteman, Barry, Mroczek, & Macdermid Wadsworth, 2013). Furthermore, student veterans often have physical and mental injuries, deployment- and combat-related stress, and family/relationship disruption after deployments, which can make it challenging to concentrate and learn (Steele et al., 2010) and may negatively affect academic performance.

Because many student veterans returning from the wars in Iraq and Afghanistan exit military service with signs and symptoms of mental health disorders (e.g., PTSD), understanding the impact of psychological trauma on classroom performance and integration is critical (Rudd, Goulding, & Bryan, 2011). To date, we know very little about: (1) the mental health burden of veterans attending rural community colleges, (2) their experiences in obtaining higher education, and (3) the effect of trauma on their educational experiences. In this article, we seek to fill the gap in the literature by examining the effects of psychological sequela of trauma on the mental health and experiences of rural veterans seeking higher education.

Methods

Estimates indicate that over 5,500 veterans have used the post-9/11 GI bill to obtain higher education in the state of Arkansas (U. S. Department of Veterans Affairs, 2010). Many of these veterans attend two-year community colleges and four-year universities close to their homes, often in rural, undeserved areas of the state (Field, 2008). This student population is often understudied. To better understand the unique needs of veterans attending two-year community colleges, we conducted a Department of Defense-funded study on the mental health burden and treatment-seeking behaviors of veterans attending community colleges in rural areas of Arkansas. A total of 11 community colleges from diverse rural regions throughout Arkansas, including colleges in the medically underserved Mississippi Delta Region and Ozark Mountains, participated in the study (Health Resources and Services Administration, 2015).

The first phase of the study (from January to April 2012) was marked by quantitative data collection; the second phase (from March 2012 to December 2014) by qualitative data collection. In this paper, we focus on the qualitative findings but merge mental health screening and military background data obtained from the quantitative study to better explain our qualitative findings. As described below, veterans were eligible to participate in the qualitative phase of the research if they screened positive for PTSD, depression, and/or anxiety—screening tools were embedded within a web-based survey—and agreed to participate in follow-up research.

Study Design

We conducted a large-scale quantitative survey using a web-based format, followed by in-depth qualitative interviews. Because prior research has primarily focused on students attending four-year institutions (Eisenberg, Hunt, & Speer, 2013), quantitative data were collected to better understand the prevalence of mental health conditions among student veterans attending two-year community colleges and to assess treatment-seeking behaviors. In-depth qualitative interviews were conducted with a selected subset of participants to elicit student veterans’ experiences with mental health issues to provide a more granular picture of the links between mental health and life stressors as well as their effect on day-to-day student life. Focus group discussions were conducted to deepen understanding of the findings via in-depth interviews and additionally to elicit suggestions for ideal ways to screen student veterans and link them to healthcare services.

Recruitment and Sampling

The web-based survey used in the first phase of the research was used to recruit participants for the
Data Collection

Mental health screening and military background data. Mental health screening tools used in the Healthy Minds Study (on which this study was modelled) were used to assess current probable mental health burden (Eisenberg et al., 2013; Eisenberg, Hunt, Speer, & Zivin, 2011). Participants’ current mental health status was assessed using validated screening instruments for depression, PHQ-9 (Kroenke, Spitzer, & Williams, 2001); general anxiety disorder (GAD), GAD-7 (Löwe et al., 2008); and PTSD, PC-PTSD (Prins et al., 2004).

As part of the web-based survey, participants were asked if they had ever served in the United States (U.S.) Armed Forces, military Reserves, or National Guard and, if so, whether they were currently in Reserve Officers’ Training Corps (ROTC), military Reserves, or the National Guard. Additionally, the survey asked whether participants were on active duty or had been on active duty during the prior 12 months or in the past but not during the prior 12 months. Participants with a history of military service were asked if they had been deployed (either within or outside the continental U.S.). Those participants with deployment experiences were asked a series of questions about their experiences during deployment to understand if or how often they had: (1) gone on combat patrols or other dangerous duties; (2) been under enemy fire; (3) been surrounded by the enemy; (4) had soldiers in their units who were killed, wounded, or missing; (5) fired rounds at the enemy; (6) seen someone hit by incoming or outgoing rounds; or (7) been in danger of injury or death.

Of the 928 veterans sampled, 30.7% (n=211) completed the web-based survey. The socio-demographic characteristics, mental health burden, and treatment seeking behaviors of this cohort are reported elsewhere (Fortney et al., 2016). For the qualitative study, we focused on 87 of the 211 veterans who completed the survey and screened positive for depression, GAD, and/or PTSD, and also agreed to be contacted for future research. We contacted 100% of these 87 participants, and a total of 23 veterans were recruited and agreed to participate in the qualitative research (see Tables 1 and 2 for a quantitative description of all 87 veterans eligible to participate in the qualitative study). We did not find any significant differences between the 23 veterans who participated in the qualitative research and those who declined to participate or who were not reachable (see Tables 1 and 2).

Qualitative interviews. We engaged participants in a qualitative, in-depth interview regarding mental health burden, treatment-seeking behaviors, and ideal models of screening and linkage to care. A semi-structured interview guide with open-ended questions was used to elicit information about participants’ experiences: (1) military experience; (2) transition from military to civilian life and college; (3) day-to-day stressors and emotional and psychological health; (4) support systems; (5) help-seeking behaviors; (6) perceived need for treatment; and (7) preferred models of screening and linkage to care. The interview guide was developed with input from a student veteran research assistant and tested with a rural student veteran to ensure trustworthiness and validity. Interviews, which lasted between 45 minutes and two hours, were held in a private location at each participant’s respective campus.

Subsequent focus group discussions were held with 10 student veterans (6 men and 4 women) who participated in an in-depth interview. During the focus group discussions, an overview of the findings on mental health burden, treatment seeking, and barriers to care was presented to the veterans. Participants discussed the findings’ relationship to their own experiences. In addition, participants were presented with initial recommendations for screening and linkage-to-care programs and provided an opportunity to elaborate on these ideas and discuss their perceived value. Participants in both the qualitative interviews...
Data Analysis

We merged data from quantitative and qualitative phases of the research, providing a more complete understanding of the mental health burden among student veterans and its effect on their day-to-day life (Creswell, Klassen, Plano Clark, & Smith, 2011). The quantitative survey data were used to generate descriptive statistics, including frequencies on socio-demographics, socio-economics, military service, and current mental health conditions among the 23 veterans who participated in the qualitative study. The qualitative interview data provide in-depth insight into the effects of psychological sequela of trauma during military service on veterans’ day-to-day life and student experience.

Qualitative interviews were recorded and transcribed, then imported into MAXQDA, a qualitative data analysis software program (VERBI Software, 2012). In the first phase of analysis, structural codes (i.e., codes derived from the interview guide) were applied to the text. The second (AMC) and last (GMC) authors developed a detailed codebook and independently coded the same text to assess inter-coder agreement (MacQueen, McLellan, Kay, & Milstein, 1998). The coders met to reconcile disagreement and to revise the codes until an inter-coder reliability of 0.80, considered an acceptable percent of agreement between coders, was reached (Bernard, 2002). In the second phase of coding, the first (JM) and second author (AMC) used an inductive approach, engaging in line-by-line reading of the text, to identify emergent themes (Ryan & Bernard, 2003). Once themes were identified, the first (JM) and second (AMC) authors defined their dimensions and discussed the relationships among themes, their dimensions, and the data (Strauss & Corbin, 1990).

Results

Table 1 shows socio-demographic and mental health characteristics for the 23 student veterans involved in the qualitative phase of the larger mixed-methods study. These veterans were mostly married White men between ages 23 to 30 in their second year of college. Nearly 70% had been on active duty in the past, with 17% on active duty at the time of the study. Eighty-three percent screened positive for depression, 65.2% for GAD, and 56.5% for PTSD. Nearly a quarter (21.7%) expressed suicide ideation in the two weeks prior to the survey.

Table 2 details the military experiences of the 23 student veterans shared during the qualitative research. Nearly three-fourths (69.6%) had been deployed, 69% had been under enemy fire, and 56% had been surrounded by enemy fire and had seen someone hit by rounds. Over a third (34.5%) reported danger of injury or death, with a quarter indicating between 4 and 12 separate exposures.

The Transition from Military to Civilian Life

Many of the student veterans in our study deployed to support the conflicts in Iraq and Afghanistan and were involved in combat patrols. Such experiences do not always fade with the passing of time, and can leave enduring psychological scars. Student veterans described hypervigilance and intense reactions to everyday sights and sounds as well as having a “short temper” and anger outbursts upon return from deployment and reintegration into civilian life. The transition from a highly structured environment where roles are clear and institutionally enforced to a less structured environment where roles are unclear and not always enforced caused disorientation.

During interviews, veterans discussed their difficulties transitioning out of the military, pursuing civilian education, reintegrating with family, and coping with the lingering psychological effects of trauma. In the following section we describe veterans’ transitional experiences, particularly in regard to student life, highlighting the effects of social distance, the stress of multiple competing demands, and re-experiences of trauma on integration into the classroom and achieving academic success.

Social distance. Many struggled to relate with the civilian world and their student peers. A young man in the focus group discussion said, “we’re very well trained, very disciplined individuals and very motivated.” Referring to a previous comment made by another man in the focus group, he said, “like one of the other guys was saying, we’re not kids. We’re not 18-, 19-year-old kids; we’re disciplined, organized, intelligent individuals.”

Others expressed a sense of disconnection from their peers related to their older age and prior military and deployment experiences: “Being the oldest guy in class, that makes it a little hard, too, because everybody looks at you and calls you the old man.”
Student veterans also talked about frustrating interactions with civilian “kids,” who they often described as immature. During one of the focus group discussions, one veteran candidly discussed this irritation:

That’s the thing I had problems with the first probably year or two I was in. I got so irritated being with civilians and immature kids and stuff. It about drove me insane because I just wanted to go into class [and] sit down.

The social distance veterans felt from other students’ immaturity was compounded by perceived stigma attached to having served in military combat. The veterans’ perceptions were often exacerbated due to civilians’ inappropriate questions and assumptions about service members. Multiple veterans brought up the peer insensitivity in asking about war experiences, particularly questions inadvertently reinforcing veterans’ feelings of isolation or “difference.” One veteran explained:

A lot of the kids here, when they ask you about the military or if you’ve been to war, one of the first questions that everybody always asks is, “Did you kill anybody?” That’s a question that’ll piss off a Veteran quicker than anybody.

Veterans in our focus group stated their belief that many university students are treated like children. They were often taken aback at the way students were coddled in the classroom:

I had a similar issue where people just didn’t understand that I’m not a kid. I just want to get in and sit down and learn and take it seriously and do what I need to do and get out. I hate to say it, but they’d really pander to the college kids and treat them like they’re kids. I was like, ‘I’m a grown adult. I’ve been in the military and I don’t feel like I should be treated like a kid.”

Stress of competing demands and expectations. Many struggled to successfully juggle the demands and expectations of marriage and parenthood, employment, and education. Despite receiving assistance from the Post-9/11 GI Bill, which pays for tuition, books, and a housing allowance throughout the academic year, participants struggled to pay bills, including childcare, as well as their everyday expenses. Throughout the semester, participants worked full-time, part-time, and/or odd jobs to “get by.” For some, competing demands necessitated dropping or discontinuing classes. One single male veteran, who worked full-time and had an 18-hour course load, discussed the challenges with juggling both:

I had to drop some classes because I was taking way more classes and work[ed] full time. Just before I started that semester, work offered me a fulltime position, which I took because I needed the money. . . . I thought I could handle and it just became more or less I couldn’t, there wasn’t enough time in the day to finish all my work.

Some struggled to find purpose and meaning in their new role as students, which many described as less meaningful than military service. Veterans also associated being students with an inability to adequately provide for their families or to do enough to meaningfully contribute to society: “[Being a student] makes me feel like I’m not providing for my family and it makes me feel like I’m just a drain on society.” Veterans discussed how these demands coupled with drastic changes in their financial situation, which tended to shift from having enough money to pay bills and enjoy leisure time activities to barely having enough money to get by, created stress, loneliness, and, in some cases, depression. One veteran discussed the frequent negative emotional effects of staying home to study while his wife went to work:

There’s five or six times a month where I’ll have a little pity party sitting at the house. The wife will come home and I’m just over there at my desk feeling sorry for myself. I’ll be in a bad mood all afternoon, walking around mumbling, crying to myself.

In this case, the demands of education involved long hours of studying alone, which was isolating and contributed to depression symptoms. This veteran, similar to other participants, used alcohol to cope with loneliness, depression, and traumatic memories. He explained:

I’ll just start cracking a beer to go watch a movie. The next thing you know I’m looking at my buddies on the wall – their pictures, feeling sorry about that; feeling sorry that I can’t find a job;
feeling sorry because this bill’s behind or am I going to have enough money to go do this with the family. And then before you know it, the nights up and I’m stumbling to bed drunk.

Existing mental health problems, such as depression, GAD, or PTSD, exacerbated veterans’ symptoms, increasing challenges to academic success (e.g., difficulty attending classes regularly or meeting educational expectations [e.g., passing or high grades]). One woman veteran with a history of depression explained:

I saw the warning signs [of depression]; I ignored them. I had been thinking that the depression and stress and all that, was coming from, ‘Well if I make better grades then I won’t have that [depression]…I’m a little depressed and that’s why I’m not even in class this semester.

**Re-experiencing trauma.** Events or situations on campus that triggered memories related to combat further complicated the ability of veterans to integrate into the classroom and achieve academic success. These memories, in turn, induced heightened levels of stress and, in some cases, caused veterans to re-experience and re-live the trauma of combat.

Some participants described the effect of crowded situations as distressing, shaping not only their campus experience but how they navigated daily life at school. For these participants, and other student veterans like them, situations reminding them of combat both produced anxiety and resulted in hypervigilance, increasing their distress. In this excerpt, a woman who screened positive for PTSD described situations on campus that invoked her anxiety:

It was just the registration portion of it, like being in those little offices…They would have…that front desk…that woman was helping all the students in there. And it’s 30 students standing there in that little space waiting for her. That’s how it was in almost every office you went into.

In some instances, specific events or experiences on campus triggered disturbing memories, as described by a participant in the following excerpt:

Well, for instance, the other day I came and there was a kid that we thought seized out downstairs…and I had him in my arms, trying to keep him from hitting his head and stuff. And when I was sitting there holding him the same way I was holding this guy that got shot in Iraq, and the guy died, I was sitting there thinking, “Oh my God. Is this guy gonna die too?”

These experiences reinforce the psychological distance between students with combat experience and their peers, further disrupting classroom integration.

Other veterans struggled with intrusive thoughts and memories related to traumatic experiences that interfered with their ability to focus and concentrate during class and therefore negatively affected their academic performance. In the following excerpt, a veteran explicitly describes the negative effect of combat-related trauma and re-experiencing trauma in the classroom:

Veteran: Yeah, just thinking back to the things you’ve been through, like the things that happened… Some of the classes what they discussed would bring up (trails off).

Interviewer: Would bring up those memories?

Veteran: Yeah, and so I would find myself sometimes zoned off in deep thought about other things that I had been going through versus what we’re talking about in class.

For others, thoughts and memories of traumatic events occurred at night, disrupting their sleep patterns and making it difficult to attend classes. One male combat veteran explained:

One thing that really made it hard on me [going to school] was a lot of mornings I would wake up and still be tired because I have these real bad dreams during the night. Trying to make it into class after being up just about all night was just very hard.

These student veterans brought lived experiences of the psychological sequela of trauma with them to the classroom, and the residual effects shaped both classroom integration and academic performance.
Discussion

The data described in this article reflect the difficulties veterans experienced trying to integrate into the classroom at community colleges in rural areas of the American South. The experiences of our participants might not be entirely representative of what other veterans experience in other contexts (e.g., in more urban settings in the Northeast). Additionally, these qualitative findings from the lived experience of veterans are meaning-centered, context dependent, and difficult to generalize. Despite these limitations, our study is among the first to fill in the gaps regarding the mental health burden faced by veterans at the community college level.

By studying 11 community colleges from diverse rural regions throughout Arkansas, the findings from our study indicate veterans who screened positive for depression, GAD, or PTSD struggle with mental health concerns, especially psychological trauma related to combat exposure. These findings reveal some underlying reasons returning veterans might be unable to connect with peers and experience feelings of isolation while transitioning from military service to a campus environment. Our study highlights the need for more data on the range of experiences of veterans seeking out secondary education using the Post-9/11 GI Bill in a variety of educational settings (e.g., Universities, community colleges, vocational schools, etc.) to provide appropriate support in each context. This is important as the number of degree-seeking veterans is expected to grow (Widome et al., 2011).

In our study, we found that the majority of veterans had deployed and reported being in danger of injury or death. Many student veterans also had to deal with the effects of trauma exposure while adapting to an environment where they felt isolated and out of place. As veterans’ narratives evidence, war-related trauma and related impairments (e.g., traumatic brain injury) can hinder returning veterans’ academic performance (Ellison et al., 2012; Smee, Buenrostro, Garrick, Sreenivasan, & Weinberger, 2013).

Similar to participants in other studies regarding veterans’ re-integration, participants in our study conveyed the difficulty they faced during the transition from the highly structured military profession to a campus setting with peers from whom they felt disconnected, due to differences in life experiences, age, and stage in life (Astin, 2011). Bonar & Domenici (2011) referred to the integration process as a type of culture shock that requires “attainment of a new set of cultural competencies and awareness” (p. 208). Not surprisingly, some felt as if the behaviors that had once made them successful were now devalued and isolated them from their peers.

Practical Implications

Our findings have practical implications for college and university disability providers, administrators, and educators. As veterans increasingly transition from the battlefield to the classroom, colleges and universities must be able to address the unique needs of this student population (Zinger & Cohen, 2010). Existing tools may help to facilitate veterans’ transition and minimize adverse classroom experiences. The National Center for PTSD and Veterans Administration (VA) recently created a “VA Campus Toolkit Handout” that offers tips on how higher education can respond to common issues returning student veterans face (e.g., distraction, provocative class material, challenges sitting quietly because of hyperactivity, sleepiness because of troubled sleep or reoccurring nightmares, or challenges adjusting to classroom rules and expectations including unstructured setting, group activities, open-ended assignments). The VA toolkit provides administrators and educators with easy-to-implement practices to address these common issues, including the use of “trigger warnings,” which alert students to potentially unsettling or upsetting images, text, or discussions that could evoke traumatic memories or experiences. Additionally, the toolkit encourages administrators and educators to consider the following: (1) campus culture, especially politicized statements, can negatively affect veterans’ experiences, (2) veterans are often older, non-traditional students with multiple responsibilities, and (3) veterans appreciate being treated with respect.

It is important that college and university service disability providers recognize that although veterans may struggle with symptoms of depression, GAD, or PTSD, this study suggests many do not seek mental healthcare services. In part, this was because many veterans attend community colleges where limited resources are available to support student mental health (particularly the unique mental health needs of veterans). Unlike four-year institutions, many community colleges serve low-income students and offer low-cost tuition, reducing funds for student services, including health and mental healthcare services (Kahlenberg, 2015).
All college and university students face multiple barriers to accessing mental healthcare services (Eisenberg, Golberstein, & Gollust, 2007). Student veterans in rural contexts arguably face additional barriers based on military enculturation and conservative gender role expectations that constrain ability to seek formal mental healthcare (Abraham, Cheney, & Curran, 2016). Student veterans may struggle to seek assistance from mental health professionals due to military specific stigma around mental health and help-seeking (e.g., “only the weak seek care;” Hoge et al., 2004). Our previous findings indicated that student veterans were more likely to recognize the need for treatment, compared to civilian students, but also perceived more public stigma which can negatively influence treatment seeking (Fortney et al., 2016). Student veterans can access VA mental healthcare services, including community-based outpatient clinics designed to serve veterans in rural areas. Therefore, college and university disability service providers need to be aware of local VA services and resources so they can refer veterans appropriately.

**Conclusion**

For student veterans already facing the difficult task of reintegration, managing the symptoms of psychological trauma may impede both their ability to successfully use existing educational tools and to interact with other students (Smee et al., 2013). While Post-9/11 GI Bill benefits are intended to invest in the veteran and their community, veterans struggling with the aftermath of trauma exposure may find any potential returns diminished. As seen among the veterans in our study, sleep disturbance, hypervigilance, irritable/aggressive behavior, and problems concentrating were the most recognizable mental health symptoms. Trauma-related stressors and comorbid disorders can create challenging barriers for student veterans to overcome, reducing the effectiveness of current programs. Linkage-to-care interventions, such as peer-led supportive services, have been found to be especially effective among student veteran populations and have the potential to connect veterans to needed resources as well as offer veterans a sense of community, potentially increasing retention rates and helping to ensure academic success (Olsen et al., 2014). Veteran-led peer programs may be appropriate and feasible in rural settings where there is limited access to campus and community mental healthcare services (Cheney et al., 2016).

**References**


About the Authors

Joshua Medley received his master’s degree in clinical mental health counseling from Harding University. He is a therapist and provides psychotherapy services at Families, Inc. Counseling Services, and is a captain in the Arkansas Army National Guard. He served as student veteran leader in a VA Office of Rural Health project to support rural student veterans in Arkansas and connect them to needed services. His research interests include student veteran mental health, combat stress, and post-traumatic stress disorder among returning veterans. He can be reached by email at: jmedley@harding.edu.

Ann M. Cheney received her B.A. degree in anthropology from the State University of New York at Oneonta and Ph.D. in anthropology from the University of Connecticut. She is a medical anthropologist with expertise in substance use and mental health services research and community-based participatory research. She is currently assistant professor in the Department of Social Medicine and Population Health at the University of California, Riverside School of Medicine. Her research interests include women’s health, minority and immigrant health, and social determinants of mental health and health risk behaviors. She can be reached at: ann.cheney@medsch.ucr.edu.

Traci Abraham received her BA degree in anthropology from Illinois State University and Ph.D. in anthropology from the University of Connecticut. She completed a health services research fellowship at the Central Arkansas Veterans Healthcare System (CAVHS) in Little Rock, AR, and is currently a research health scientists and medical anthropologist in the Center for Mental Healthcare and Outcomes Research at the CAVHS. Her research interests includes barriers and facilitators to healthcare services, gendered health, and mental health care. She can be reached by email at: Traci.Abraham@va.gov.

Kathleen Grubbs received her B.A. degree in psychology from Yale University and Ph.D. from University of Hawaii, Manoa. Her experience includes a clinical fellowship at the Houston VA and a research fellowship at the Central Arkansas VA Healthcare System in Little Rock, AR. She is currently a Clinical Psychologist in the Telemental Health program at VA San Diego Health Care System and is an assistant clinical professor in the Department of Psychiatry at University of California San Diego. Her research interests includes access to and engagement in evidence based psychotherapy for Veterans with PTSD. She can be reached by email at: kathleen.grubbs@va.gov.

Justin Hunt received his B.S. in chemistry from the University of Arkansas, Fayetteville, M.D. from the University of Arkansas for Medical Sciences, and MS from the Robert Wood Johnson Clinical Scholars Program at the University of Michigan. He is a psychiatrist with expertise in mental health services research, healthy policy, and community-based participatory research. He is currently Assistant Chief of Mental Health at the Veterans Health Care System of the Ozarks in Fayetteville, AR. He has been the principal investigator on two grants funded through the Department of Defense and NIMH to develop community-based screening and linkage to care interventions for returning Iraq and Afghanistan Veterans. He can be reached by email at: Justin.Hunt2@va.gov.

Liya Lu received her BMGT in accounting and M.A. in history from the University of Science and Technology of China, ad M.S. in Statistics from the University of Arkansas, Fayetteville. She has expertise in applied statistics relevant to public health and health services research. She is currently a senior data analyst at General Dynamic Information Technology in Little Rock Arkansas, and worked for more than five years as a biostatistician in the Department of Psychiatry in the College of Medicine at the University of Arkansas, Little Rock. She has research interests in experimental design, longitudinal data analysis, and generalized predictive modeling and mixed-effects models. She can be reached by email at: liya.lu@gmail.com.
John C. Fortney, Ph.D. is a Professor in the Department of Psychiatry and Behavioral Sciences at the University of Washington, School of Medicine, and the Director of the Division of Population Health. He is also a Core Investigator at the HSR&D Center for Innovation for Veteran-Centered and Value-Driven Care at the VA Puget Sound Health Care System. For the last 25 years Dr. Fortney's research has focused on issues of access to care, especially the delivery of mental health services in rural primary care clinics. His research has been supported by NIMH, NIAAA, PCORI and VA HSR&D. He can be reached by email at: fortneyj@uw.edu.

Geoffrey M. Curran received his Ph.D. in sociology from Rutgers University. He is a medical sociologist with research foci in health services research and implementation science. He is currently core investigator at the Central Arkansas Veterans Healthcare System and a Professor of Pharmacy Practice and Psychiatry at the University of Arkansas for Medical Sciences. His research interests includes substance use and mental healthcare quality improvement, diffusion of innovation, and implementation science, and has conducted a number of studies with veterans. He can be reached by email at: CurranGeoffreyM@uams.edu.

**Acknowledgement**

There are no conflicts of interest for any authors. The Department of Defense grant number W81XWH-11-2-0059 supported this work. The views expressed in this article are those of the authors and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.
### Table 1

**Student Veterans' Demographic Characteristics**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Veteran participants $(N=23)$</th>
<th>Veteran sample pool</th>
<th>$p^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-22</td>
<td>1 (4.35)</td>
<td>4 (6.25)</td>
<td>0.9346</td>
</tr>
<tr>
<td>23-30</td>
<td>12 (52.17)</td>
<td>29 (45.31)</td>
<td></td>
</tr>
<tr>
<td>31-40</td>
<td>6 (26.09)</td>
<td>20 (31.25)</td>
<td></td>
</tr>
<tr>
<td>41+</td>
<td>4 (17.39)</td>
<td>11 (17.19)</td>
<td></td>
</tr>
<tr>
<td><strong>Male</strong></td>
<td>15 (68.18)</td>
<td>49 (76.56)</td>
<td>0.4370</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>13 (56.52)</td>
<td>48 (75.00)</td>
<td>0.1982</td>
</tr>
<tr>
<td>Black</td>
<td>5 (21.74)</td>
<td>10 (15.63)</td>
<td></td>
</tr>
<tr>
<td>Other$^a$</td>
<td>5 (21.74)</td>
<td>6 (9.38)</td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>13 (56.52)</td>
<td>33 (51.56)</td>
<td>0.6828</td>
</tr>
<tr>
<td><strong>Years attending community college</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>7 (30.43)</td>
<td>19 (29.69)</td>
<td>0.5622</td>
</tr>
<tr>
<td>2</td>
<td>14 (60.87)</td>
<td>33 (51.56)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1 (4.35)</td>
<td>10 (15.63)</td>
<td></td>
</tr>
<tr>
<td>4+</td>
<td>1 (4.35)</td>
<td>2 (3.13)</td>
<td></td>
</tr>
<tr>
<td><strong>Lives off campus</strong></td>
<td>22 (95.65)</td>
<td>31 (48.44)</td>
<td>0.0876</td>
</tr>
<tr>
<td><strong>Current financial situation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is a financial struggle</td>
<td>16 (69.57)</td>
<td>31 (48.44)</td>
<td>0.0876</td>
</tr>
<tr>
<td>It is tight, but doing fine</td>
<td>7 (30.43)</td>
<td>24 (37.50)</td>
<td></td>
</tr>
<tr>
<td>Finances not a problem</td>
<td>0 (0.00)</td>
<td>9 (14.06)</td>
<td></td>
</tr>
<tr>
<td><strong>Mental Health</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHQ-9</td>
<td>19 (82.61)</td>
<td>49 (76.56)</td>
<td>0.5472</td>
</tr>
<tr>
<td>GAD-7</td>
<td>15 (65.22)</td>
<td>34 (54.84)</td>
<td>0.3896</td>
</tr>
<tr>
<td>PC-PTSD</td>
<td>13 (56.52)</td>
<td>39 (61.90)</td>
<td>0.6513</td>
</tr>
<tr>
<td><strong>Thoughts and behaviors</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suicide ideation</td>
<td>10 (43.48)</td>
<td>25 (39.68)</td>
<td>0.7511</td>
</tr>
<tr>
<td>Acute suicide ideation</td>
<td>5 (21.74)</td>
<td>18 (29.51)</td>
<td>0.4764</td>
</tr>
</tbody>
</table>

*Note.* $^a$ Comparisons made using Chi-square $t$-tests.
### Table 2

**Student Veterans’ Military Background**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>Veteran participants $(n=23)$</th>
<th>Veteran sample pool $(n=64)$</th>
<th>p²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number of times Military service</td>
<td>Military service</td>
<td></td>
</tr>
<tr>
<td>Deployed, N (%)</td>
<td></td>
<td>16 (69.57)</td>
<td>47 (73.44)</td>
<td>0.7216</td>
</tr>
<tr>
<td>Served in U.S. military, N (%)</td>
<td>Currently in military Reserves or National Guard</td>
<td>3 (13.04)</td>
<td>12 (18.75)</td>
<td>0.2978</td>
</tr>
<tr>
<td></td>
<td>Now on active duty</td>
<td>4 (17.39)</td>
<td>4 (6.25)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>On active duty past 12 months, not now</td>
<td>0 (0)</td>
<td>4 (4.69)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>On active duty in past, but not past 12 months</td>
<td>16 (69.57)</td>
<td>45 (70.31)</td>
<td></td>
</tr>
<tr>
<td>Went on combat patrol, N (%)</td>
<td>No</td>
<td>2 (12.50)</td>
<td>10 (21.28)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes 1-3 times</td>
<td>3 (18.75)</td>
<td>4 (8.51)</td>
<td>0.7751</td>
</tr>
<tr>
<td></td>
<td>4-12 times</td>
<td>3 (18.75)</td>
<td>7 (14.89)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13-50 times</td>
<td>3 (18.75)</td>
<td>10 (21.28)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>51+ times</td>
<td>5 (31.25)</td>
<td>16 (34.04)</td>
<td></td>
</tr>
<tr>
<td>Were under enemy fire, N (%)</td>
<td>Never</td>
<td>5 (31.25)</td>
<td>13 (27.66)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes &lt;1 month</td>
<td>3 (18.75)</td>
<td>7 (14.89)</td>
<td>0.9434</td>
</tr>
<tr>
<td></td>
<td>1-3 months</td>
<td>2 (12.50)</td>
<td>5 (10.64)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4-6 months</td>
<td>3 (18.75)</td>
<td>8 (17.02)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7 months or more</td>
<td>3 (18.75)</td>
<td>14 (29.79)</td>
<td></td>
</tr>
<tr>
<td>Were surrounded by enemy, N (%)</td>
<td>No</td>
<td>7 (43.75)</td>
<td>31 (65.96)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes 1-2 times</td>
<td>5 (31.25)</td>
<td>5 (10.64)</td>
<td>0.3022</td>
</tr>
<tr>
<td></td>
<td>3-12 times</td>
<td>2 (12.50)</td>
<td>7 (14.89)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13-25 times</td>
<td>1 (6.25)</td>
<td>1 (2.13)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>26+ times</td>
<td>1 (6.25)</td>
<td>3 (6.38)</td>
<td></td>
</tr>
<tr>
<td>Percentage of killed, wounded, or missing soldiers, N (%)</td>
<td>None</td>
<td>6 (37.50)</td>
<td>17 (36.17)</td>
<td></td>
</tr>
</tbody>
</table>
Table 2, continued

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level</th>
<th>Number of times</th>
<th>Military service a</th>
<th>Veteran sample pool (n=64)</th>
<th>p b</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often did you fire rounds at the enemy?</td>
<td>Some</td>
<td>1-25%</td>
<td>9 (56.25)</td>
<td>28 (59.57)</td>
<td>0.9380</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26-50%</td>
<td>1 (6.25)</td>
<td>2 (4.26)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>51-75%</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>76% or more</td>
<td>0 (0.00)</td>
<td>0 (0.00)</td>
<td></td>
</tr>
<tr>
<td>How often did you see someone hit by rounds?</td>
<td>Never</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>1-3 times</td>
<td>1 (6.25)</td>
<td>4 (8.51)</td>
<td>0.1418</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-12 times</td>
<td>3 (18.75)</td>
<td>5 (17.02)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>13-50 times</td>
<td>4 (25.00)</td>
<td>2 (4.26)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>51+ times</td>
<td>0 (0.00)</td>
<td>2 (4.26)</td>
<td></td>
</tr>
<tr>
<td>How often were you in danger of being injured or killed, N (%)</td>
<td>Never</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-3 times</td>
<td>2 (12.50)</td>
<td>2 (12.50)</td>
<td>0.6638</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-12 times</td>
<td>4 (25.00)</td>
<td>4 (25.00)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>13-50 times</td>
<td>2 (12.50)</td>
<td>7 (15.22)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>51+ times</td>
<td>2 (12.50)</td>
<td>2 (4.35)</td>
<td></td>
</tr>
</tbody>
</table>

Note. a Military service provides frequency and percentage for those answered "Yes" or "Some" to the questions. b Comparisons made using Chi-square t-tests.
Student Attitudes and Perceptions About Postsecondary Education for People with Intellectual Disabilities (Practice Brief)

Michelle R. Haney¹
Kati Fisher¹

Abstract
Postsecondary education programs are associated with many positive outcomes for people with Intellectual Disabilities (ID) including increases in social skills, vocational skills, and independence. Although these programs are increasing, there are regions of the United States where few exist. The present study assesses the attitudes and perceptions of 133 undergraduate students at a small liberal arts college about creating a postsecondary education program for young adults with ID. Overwhelmingly positive attitudes and perceptions were reported. Most respondents reported that they would be interested in serving as a mentor and felt that a postsecondary education program would provide opportunities for growth and increase diversity on campus. In addition, concerns about changing dynamics of the classroom and compromising the integrity of the college were noted. Based on student responses, future steps to clarify misperceptions are discussed. Limitations of this study are addressed including the small response rate and self-selection bias.

Keywords: Intellectual disability, postsecondary education, transition, inclusion

In the 1948 passage of the Universal Declaration of Human Rights, the United Nations deemed education to be one of many basic human rights; and at the 2006 Convention on the Rights of Persons with Disabilities the United Nations recognized “the social and economic benefits that continuing education” offers persons with disabilities (O’Connor, Kubiak, Espiner, & O’Brien, 2012, p. 247). Many countries have adopted policies to ensure education for children with disabilities. Among other places, policies have been enacted in Australia (e.g. the Disability Discrimination Act of 1992), the UK (e.g. the Equality Act of 2010), the United States (e.g. Individuals with Disabilities Education Act, 1975), and many countries in Europe (through the European Access network; Corby & Cousins, 2012; O’Connor et al., 2012).

Despite developmental deficits in communication, social skills, and independence, students with intellectual disabilities (ID) have been increasingly and successfully included with their typically developing peers in public school classrooms (American Youth Policy Forum and Center on Education Policy, 2001; Goodman, Hazelkorn, Bucholoz, Duffy, & Kitt, 2011). In 2009, the United States Department of Education National Center for Educational Statistics ([NCES], 2012) reported that 26.7% of students with ID attending public schools were served in regular education classes at least 40% of the day.

Educating students with ID in an inclusive environment is not limited to elementary and high school. In 2012, the NCES reported that there are currently 7,398 Title IV postsecondary institutions (institutions that apply for federal financial aid programs) in the United States and “other U.S. jurisdictions.” Of these programs, just over 250 of them currently offer PSE opportunities for individuals with ID (Grigal & Hart, 2010). The emergence of the PSE programs for people with ID in the United States may be partially attributed to the passage of the Higher Education Opportunity Act (HEOA) in 2008. The HEOA not only allows for the development of PSE programs, but also affords students with ID the ability to apply for federal financial aid (Griffin, Summer, McMillan, Day, & Hodapp, 2012). At the same time federal legislation mandates least restrictive learning opportunities for all students in the United States, large institutions housing people with ID have closed and governmental policy has embraced community-based living and

¹ Berry College
work programs. Consequently, there is an increased focus of federal, state, and local policies that support transitioning students with ID from public schools to the community (Lee, 2009). However, unlike in other parts of the world, these policies are not backed up by community services for adults with ID (Parmenter, 2011). Many communities in the United States offer limited opportunities for adults with ID to have shared experiences with their same age peers that are similar to what they had while attending public schools. This lack of opportunity has been correlated with a lack of employment opportunities, decreased self-determination, decreased self-advocacy, and decreased well-being (Biggs & Carter, 2016; Grigal & Hart, 2010).

Although parents of children with ID may anticipate a PSE for their child (Zager & Alpern, 2010), these are not often the expectations held by other members of the community (Grigal & Neubert, 2004). McGrew and Evans (2004) note that people with ID are rarely held to the same high expectations as typically developing students (e.g. furthering their education, getting a job, and becoming successful, productive members of society). Instead, they are often held to a lower standard of expectations based on stereotypes underestimating their abilities and potential for independence and achievement. Grigal and Hart (2010) report that individuals with ID have the fewest employment and education opportunities after secondary school compared with other categories of disability typically developing youth. Only 58.6% of individuals with ID hold a steady job two years after secondary school and only 37% live independently five years after secondary school. Additionally, Grigal and Hart report that individuals with ID experience greater social isolation after secondary school compared to other adults. These outcomes reflect low expectations society has historically held for individuals with ID.

The inclusion movement asserts that people with disabilities have the right to the same life experiences as all people, including intimate relationships, transitioning to adulthood, learning opportunities, and recreational opportunities (Culham & Nind, 2003). Educating students with ID in environments with their typical peers is associated with increases in skills such as socialization, communication, and independence (Kirova, 2001; Salend, 1999; Wood, 2006; Yager, Johnson, & Johnson, 1985), as well as exposure to a wider array of employment experiences, access to a new learning environment, increased self-advocacy, and increased self-esteem (Folk, Yamamoto, & Stodden, 2012; Grigal & Hart, 2010; Simmons-Reed, Cullen, Day, Izzo, & Colebaugh, 2013). Additional benefits may include professors expanding teaching strategies to engage students with diverse learning styles (O’Connor et al., 2012) and increased tolerance of diversity among students (Folk et al., 2012; Jones & Goble, 2012).

**Depiction of the Problem**

Prior to developing a new PSE program, it is important to understand college students’ perceptions (and expectations) about the inclusion of individuals with ID on college campuses. Griffin et al. (2012) surveyed 256 college students at Vanderbilt University and found that they held positive attitudes towards inclusive PSE programs. Additionally, they found that females and individuals who were more comfortable around individuals with ID were more likely to support inclusive PSE programs. Although Griffin et al.’s research found interesting results, the research on student perception about PSE programs for people with ID is scarce. In the literature that does exist it is difficult to find studies focusing solely on individuals with ID (Corby & Cousins, 2012; Grigal & Hart, 2010).

Negative stereotypes and stigmas surrounding individuals with ID may serve as a barrier to accessing PSE. In fact, it became clear that such negative stereotypes and stigma existed among administrators on our campus when a PSE program for students with ID was proposed. Therefore as a first step, it is important to assess and understand whether or not negative attitudes exist within the institution where a PSE program may be implemented. Understanding the perceptions and misinformation provides a clearer picture of the barriers that need to be overcome.

We believe that a PSE program would be a good fit with our historical college mission and student culture. The mission of our educational institution is to educate the “heads, hearts, and hands” of all students while ministering to the needs of others. Likewise, due to student interest the Psychology Department has offered several courses on developmental disability and interventions such as Applied Behavior Analysis that have been well received by our students. Furthermore, volunteer service activities involving people with developmental disabilities (such as a special needs dance hosted by a student group on campus) and academic lectures on related topics (such as Au-
tism, Inclusion, and Applied Behavior Analysis) are well attended.

Therefore, the purpose of this study was to gain information about current student attitudes towards an inclusive PSE program at this college as a first step to providing information about the potential feasibility of developing such a program on our campus.

Participant Demographics and Institutional Partners/Resources

Participants included 133 undergraduate college students attending a small private liberal arts college in northwest Georgia. These participants included 114 female, 18 male, and 1 not specified. The college currently enrolls approximately 2,000 students (66.8% female, 33.2% male). The overrepresentation of female students in the study (86% female, 14% male) is likely due to the fact that significantly more female than male students are currently enrolled in the college. In terms of class standing, 21.8% of participants were seniors, 27.8% were sophomores, 18.8% were juniors, and 31.6% were freshmen.

Description of Practice

Students currently enrolled were emailed a 15-item survey developed to assess their perceptions about a PSE programs at the college (see Appendix A). The survey, which was sent out twice within one week via campus email defined ID according to the DSM-IV-TR (American Psychiatric Association, 2000) definition to ensure more accurate responses from the participants. The survey contained both yes/no questions and open-ended questions. Items assessed whether or not students have ever been in classes with individuals with ID; if students thought a PSE program should be included at the college; if students would be a mentor for students with ID; and if a student felt that a PSE program would fit the founder’s and school’s mission of educating the head, heart, and hands. In addition, students were asked to consider potential benefits and drawbacks of having a PSE program at the college. Several yes/no questions included prompts to explain why a participant responded as they did. In order to better analyze the open-ended questions in a quantified manner, responses were grouped into discrete categories whenever possible.

Evaluation of Observed Outcomes

Seventy-nine percent of respondents reported knowing someone with ID, with 18% reporting that they had a family member with ID. Additionally, 61.7% of the respondents reported having an inclusion experience involving individuals with ID in elementary, middle, or high school. Thus, the majority of respondents had learning- or community-based experiences with individuals with ID.

One hundred thirteen of the respondents (87%) reported that the college should offer a PSE program for individuals with ID. A common theme explaining their reasons was that everyone deserves the same opportunities and because it would diversify the campus. Common objections to a PSE program included concerns that students with ID would hold back other students in classes and that having students with ID would negatively impact the college’s prestige. Additionally, 87% of respondents reported that they would be comfortable having individuals with ID in their classrooms and 72% said that they would consider being a mentor in at least one setting (classroom or otherwise).

Based on a qualitative analysis of the open-ended questions about benefits of having a PSE program on campus, high frequency responses included increased awareness (37.6%), diversity (28.6%), and combating stereotypes (12%). When asked to report the drawbacks of such a program, high frequency responses included concerns about issues in classes (i.e. disruptions, slowing down the pace of the class; 29.3%), bullying/discrimination (18%), use of too many resources (9.8%), and compromising the integrity of the college (6.8%).

The last two questions of the survey pertained specifically to the college’s motto and mission of its founder. The first question was “Would the implementation of this type of program fit with the college’s motto of ‘not to be ministered unto, but to minister’?” An overwhelming 86.5% of respondents answered with the affirmative. The second question was: “Would the implementation of this type of program comply with the college’s mission to engage the students’ head, heart, and hands through service and learning?” Again, this was a high response, with 85% answering with the affirmative.
Implications and Portability

Overwhelmingly, participants held strongly positive attitudes about including individuals with ID on the college campus. Those who had reservations about a PSE program expressed concern that including peers with ID would impact their classes and the admission standards of the college. Others were also concerned that the college may not be equipped with the resources to implement such a program. However, the majority of positive responses suggest that the addition of a PSE program would be well received by the student body. Students reporting a previous positive experience involving a person with an ID were more likely to report a positive attitude about including people with ID on campus in the future. Thus, early inclusive experiences during elementary and high school appear to influence later attitudes about including people with ID in the community as adults. Furthermore, the survey results support the original idea that the target college campus is likely a good fit for a PSE program for young adults with ID.

However, despite the positive responses from the survey, it should be noted that the survey data represents a response rate of 6%. The degree to which this data represents the student population is unknown. This data may include self-selection bias in that students who are either more interested in or knowledgeable about ID are more likely to participate in the survey. On the other hand, students who are the least comfortable or hold intensely negative perceptions about people with ID may also self-select and be more likely to respond to the survey. In any case, it should be noted that the majority of students did not choose to participate in this survey. Email is the primary mechanism for communicating information to students at this college. Therefore, many students likely delete emails that do not seem immediately relevant.

The current study did not address faculty perceptions or concerns about PSE programs on their campus. The success of a PSE program depends upon support from both faculty and students. Lombardi (2010) reported that when faculty have a greater knowledge about disabilities, they are more likely to hold positive attitudes about individuals with ID. In a recent study, O’Connor et al. (2012) reported that professors were concerned about finding and keeping steady mentors for their students and the possibility of poor attendance of students with ID. However, despite these concerns, professors who participated in the O’Connor et al. study reported that the presence of students with ID in their classes allowed them to make courses more accessible to all students by moving from an instructor-focused to a student-centered approach.

Even though only a relatively small number of students expressed concerns about the negative impact of a PSE program on their learning, it is important that such concerns be directly addressed. Grigal and Hart (2010) suggest that the concerns about PSE programs are usually a result of negative stereotypes they possess surrounding the term “intellectual disability” rather than actual experience. However, research shows that after the implementation of a PSE program, students (particularly female students) are less hesitant about and have fewer negative stereotypes about the inclusion of students with ID in the classroom (Griffin et al., 2012; May 2012). Thus, more opportunities to engage jointly in activities and projects with people from diverse backgrounds, particularly people with ID, may reduce stereotypes.

Assessing attitudes and perceptions about including people with ID in a PSE program is a useful first step for establishing a climate conducive to developing a successful PSE program. The next step involves raising awareness for college faculty and administrators as to the benefits associated with creating an opportunity for students with an ID to have a PSE experience. This next step may be accomplished by increased opportunities for faculty and students to engage in inclusive experiences with people who have developmental disabilities. For instance, service learning and civic engagement projects partnering with people with developmental disabilities provide students, faculty, and administrators with meaningful experiences within familiar frameworks of teaching and service. Likewise, courses with field experience components in which students engage with people with developmental disabilities in the community may provide a bridge to a more formal inclusive experience on campus.

In addition, the benefits of an inclusive PSE program may be more intentionally highlighted through campus-wide presentations and workshops demonstrating opportunities for college students to mentor and develop skills working with people who have developmental disabilities, for faculty to develop a broader range of teaching and assessment methods to address different learning needs, and for contribut-
ing to a climate of diversity and inclusion on campus. Workshops for faculty introducing them to successful PSE programs serving people with ID in schools similar to our college would be helpful in building momentum. Faculty may be concerned that they lack the skills necessary to reach learners with cognitive and academic skills different than those of traditional students. Thus, professional development opportunities with supported stipends are likely to be useful tools in providing guidance for faculty who are willing to support the development of such programs.

Ultimately, students, faculty, and administrators across the country must consider the bigger picture. PSE programs not only promote normalization and inclusion, they highlight problems involving social injustice in which a group of people, because of their differences, are prohibited from accessing experiences available to others. Framing the issue of PSE programs within context of social justice may serve to clarify concerns grounded in biases and stereotypes.

References


About the Authors

Dr. Michelle Haney received her B.A. degree in psychology from Oglethorpe University, her Master’s and Specialist Degrees in school psychology from the University of Georgia, and her Ph.D. in school psychology from Georgia State University. For eight years, she worked as a school psychologist in Bartow and Cobb County Schools in Georgia, focusing on developmental disabilities. She is currently a professor in the Department of Psychology at Berry College. Her current research interests include transitioning students with developmental disabilities from high school to the community, Applied Behavior Analysis, and teaching literacy skills to adults with intellectual disabilities. She can be reached by email at: mhaney@berry.edu

Kati Fisher received her B.A. degree in psychology from Berry College. She currently works at Safe-House Outreach in Atlanta and is working on her Master’s Degree in public administration.
Appendix

Survey on Including Peers with Intellectual Disabilities

A person with an Intellectual Disability (ID) is someone who has significant deficits in cognitive, social, and daily living skill. Yet, these individuals are often capable of learning, working, developing relationships, and contributing in a positive way to society. The survey you are about to complete will ask you questions about young adults with Intellectual Disabilities. Additionally, it will also ask you to give your opinions on having peers with Intellectual Disabilities as a part of the campus community. All responses will be kept anonymous. Additionally, by continuing this survey, you give consent for the researchers to use and analyze your responses for the purposes of gaining a better understanding of the current attitude of students towards young adults with Intellectual Disabilities. If you consent to the aforementioned terms, please complete the survey.

What is your gender?

In what month and year do you expect to graduate?
(e.g. May 2013)

Do you know anyone with an Intellectual Disability?

If you answered "YES" to the previous question, what is their relation to you?

Have you ever had a peer with an Intellectual Disability in your classes? (elementary, middle, or high school)

If you answered "YES" to the above question, please describe your experiences going to school with him/her.

Do you think [the college] should include a learning opportunity to your peers with Intellectual Disabilities? Why or why not?
Please answer in the following format: "Yes, because..." OR "No, because..."

If [the college] were to offer an educational experience for your peers with Intellectual Disabilities, would you feel comfortable having them in your classes?

Would you consider being a mentor for a peer with an Intellectual Disability?

If you answered "YES" to the above question, in which of the following settings would you consider being a mentor?
Check all that apply

- A mentor in the classroom
- A mentor as part of the student work program
- A mentor for social events (clubs, KCAB events, volunteer work, CE credits, etc.)
- A mentor for athletics or intramurals
- A mentor in another setting

What, if any, would be the benefits to [the college’s] community of having individuals with Intellectual Disabilities on campus?

What, if any, would be the drawbacks of having individuals with Intellectual Disabilities on campus?
Do you think including peers with Intellectual Disabilities in [the college’s] community would fit in with [the founder’s] vision for the college? (Think “not to be ministered unto, but to minister”). Why or why not? Please answer in the following format: "Yes, because..." OR "No, because..."

Do you think having a post-secondary education experience at [the college] for students with Intellectual Disabilities fits with our motto of head, heart, and hands? Why or why not? Please answer in the following format: "Yes, because..." or "No, because..."

Please feel free to share other remarks concerning the inclusion of individuals with Intellectual Disabilities at [the college].
Manuscripts must be submitted electronically as attachments via email to jped@ahead.org

Content
Manuscripts should demonstrate scholarly excellence in at least one of the following categories:

• Research: Reports original quantitative, qualitative, or mixed-method research.
• Integration: Integrates research of others in a meaningful way; compares or contrasts theories; critiques results; and/or provides context for future exploration.
• Innovation: Proposes innovation of theory, approach, or process of service delivery based on reviews of the literature and research.
• Policy Analysis: Provides analysis, critique and implications of public policy, statutes, regulation, and litigation.

Format
All manuscripts must be prepared according to APA format as described in the current edition of The Publication Manual, American Psychological Association. For responses to frequently asked questions about APA style, consult the APA web site at http://apastyle.org/faqs.html

• All components of the manuscript (i.e., cover page, abstract, body, and appendices) should be submitted as ONE complete Word document (.doc or.docx).
• Provide a separate cover letter asking that the manuscript be reviewed for publication consideration and stating that it has not been published or is being reviewed for publication elsewhere.
• Manuscripts should be double-spaced and range in length between 25 and 35 pages including all figures, tables, and references. Exceptions may be made depending upon topic and content but, generally, a manuscript’s total length should not exceed 35 pages.
• Write sentences using active voice.
• Authors should use terminology that emphasizes the individual first and the disability second (see pages 71 - 76 of APA Manual). Authors should also avoid the use of sexist language and the generic masculine pronoun.
• Manuscripts should have a title page that provides the names and affiliations of all authors and the address of the principal author. Please include this in the ONE Word document (manuscript) that is submitted.
• Include an abstract that does not exceed 250 words. Abstracts must be double-spaced and located on page 2 (following the title page). Include three to five keywords below the abstract.
• Tables and figures must conform to APA standards and must be in black and white only. All tables and figures should be vertical and fit on the page; no landscape format. If Tables and/or Figures are submitted in image format (JPEG, PDF, etc.), an editable format must also be submitted along with a text description of the information depicted in the Table/Figure. This will be provided as alt format in the electronic version of JPED, making Tables/Figures accessible for screen readers.

How to Submit Manuscripts
All manuscripts (research and practice briefs) must be submitted to JPED at this email address: jped@ahead.org and must include the following:

• Subject Line: J PED Manuscript Submission
• Body of Email: Include a statement that you are submitting a manuscript for consideration for the JPED. Include the title of the manuscript and your full contact information.
• Attach to the email:
  ○ Your complete manuscript, prepared as directed above
  ○ Cover letter as outlined above

You will receive an email reply from Richard Allegra (Managing Editor of JPED) to confirm receipt of your submission within 5 – 7 business days.

Upon Acceptance for Publication
For manuscripts that are accepted for publication, Valerie Spears (JPED Editorial Assistant) will contact the lead author to request:

• A 40-50 word bibliographic description for each author, following the template that Valerie will send you.
• A signed and completed Copyright Transfer form that she will send you.
• Manuscript submissions by AHEAD members are especially welcome. The JPED reserves the right to edit all material for space and style. Authors will be notified of changes.

Practice Brief Manuscripts
JPED invites practitioners and/or researchers to submit Practice Briefs that can inform readers of innovative practices that could, in time, become the basis of an empirical study. Practice Briefs will describe new or expanded programs, services, or practices that support postsecondary students with disabilities. Practice Briefs are not research articles. Manuscripts that involve data analysis beyond the reporting of basic demographic data or evaluative feedback should be submitted as research articles. The overall length of a Practice Brief will be limited to 12 double-spaced pages, which includes separate title page, abstract, and references pages. Tables and/or figures may be submitted, too, above and beyond the 12 page limit.

Please submit all components of a Practice Brief (i.e., cover page, abstract, body, appendices) as a single Word document. These manuscripts should use the following headers/sections:

• Title Page: Title not to exceed 12 words. Identify each author and his/her campus or agency affiliation. State in your email cover note that the work has not been published elsewhere and that it is not currently under review by another publication.
• Abstract: The abstract needs to answer this question: “What is this paper about and why is it important?” The abstract should not exceed 150 words.
• Summary of Relevant Literature: Provide a succinct summary of the most relevant literature that provides a clear context for what is already known about your practice/program. If possible, describe similar practices on other campuses. Priority should be given to current...
• literature published within the past 10 years unless an older, seminal source is still the best treatment of a particular topic/finding.

• **Depiction of the Problem:** In addition to a clear statement of the problem being addressed, consider the following questions when stating the purpose of the article: What outcome, trend, or problem might improve if your practice/program works? What gaps or problems or issues might persist or arise if this practice/program did not exist?

• **Participant Demographics and Institutional Partners/Resources:** Maintain the anonymity of the students, colleagues, and campus(es) discussed in the article but provide a clear demographic description of participants (e.g., number of students, disability type, gender, race and/or ethnicity whenever possible, age range if relevant) and the types of offices or agencies that were collaborative partners (if relevant).

• **Description of Practice:** Briefly and clearly describe your innovative practice/program and how it has been implemented to date. Tables and figures are encouraged to provide specific details you are comfortable sharing. They condense information and enhance replication of your practice/program on other campuses.

• **Evaluation of observed outcomes:** Whenever possible, summarize formative or summative data you have collected to evaluate the efficacy of your practice/program. This can be anecdotal, qualitative, and/or quantitative data. Support any claims or conclusions you state (e.g., “Our program greatly enhanced students’ ability to self-advocate during their transition to college”) with objective facts and/or behavioral observations to support these claims.

• **Implications and Portability:** Discuss what you have learned thus far and how you could further develop this practice/program in the future. Be honest about any challenges you may have encountered. This transparency enhances the rigor of your reporting. What would you do differently next time to achieve stronger outcomes? Provide a clear description of how and why disability service providers on other campuses should consider adapting your practice/program. Finally, how could your practice be studied by researchers? Identify possible research questions, hypotheses, or potential outcomes that could be studied if you and/or colleagues could expand the practice/program into a research investigation.

• **References:** Use the current APA guidelines to format and proofread your paper prior to submitting it. This includes the proper use of spelling, punctuation and grammar, appropriate use of headers, correct formatting in listing references, and formatting any tables or figures appropriately.

### Upon Acceptance for Publication
For Practice Briefs that are accepted for publication, Valerie Spears (JPED Editorial Assistant) will contact the lead author to request:

- A 40-50 word bibliographic description for each author, following the template that Valerie will send you.
- A signed and completed Copyright Transfer form that she will send you.
- Manuscript submissions by AHEAD members are especially welcome. The JPED reserves the right to edit all material for space and style. Authors will be notified of changes.

### Guidelines for Special Issues
JPED publishes one special issue per year (normally Issue 3, published in the fall). Special issues feature a series of articles on a particular topic. JPED welcomes ideas for special topical issues related to the field of postsecondary education and disability. The issue can be formatted as a collection of articles related to a particular topic or as a central position paper followed by a series of commentaries (a modified point/counter point). Authors who wish to prepare a special issue should first contact the JPED Executive Editor at jped@ahead.org.

The authors should describe the topic and proposed authors. If the series appears to be valuable to the readership of the JPED, the Executive Editor will share an Agreement Form to be completed and returned by the Guest Editor. The Executive Editor may provide suggestions for modification to content or format. The Guest Editor will inform authors of due dates and coordinate all communications with the contributing authors. Each special edition manuscript will be reviewed by members of the JPED editorial board members. The Guest Editor and the Executive Editor will be responsible for final editing decisions about accepted manuscripts.

### Book Review Column Guidelines & Procedures
Please contact the JPED Executive Editor at jped@ahead.org to suggest books to be reviewed or to discuss completing a book review. Contact and discussion should be done before the book review is completed in order to expedite the procedures in the most efficient and fairest way possible.

### Content and Format
In general, the book review should present:

1. An overview of the book, providing the book’s stated purpose, the author’s viewpoint, and a general summary of the content.
2. An evaluation of the book, elaborating on the author’s objectives and how well those objectives were achieved, the strengths and weaknesses of the book along with the criteria you used for making that assessment, and the organization and presentation of the book. Recommendations should specify to whom you would recommend the book, why, and how you would suggest the book be used, and address its potential contribution to our field.

At the end of the review, please list your name and institutional affiliation.

### Submission
The length of a book review can range from 800 - 1200 words. Please send in an email attachment in MS Word, double-spaced to jped@ahead.org per instructions above in “How to Submit Manuscripts.” After the review is submitted, the Executive Editor or designee will edit the manuscript and follow up with you about the publication process.

### Publication Statistics
The Journal of Postsecondary Education and Disability is published four times a year. All back issues are archived and accessible to all at: http://ahead.org/publications/jped. In addition, nearly 3,000 individuals subscribe to the Journal. JPED’s acceptance rate is approximately 30%. The Journal does not track its impact factor.