Journal of Postsecondary Education and Disability

Executive Editor
Roger D. Wessel, Ball State University

Managing Editor
Richard Allegra, AHEAD

Editorial Assistant
Valerie Spears, AHEAD

Editorial Review Board

Manju Banerjee - Landmark College
Loring Brinckerhoff - Educational Testing Service
Sheryl Burgstahler - University of Washington
Stephanie Cawthon - The University of Texas at Austin
Justin Cooper - University of Louisville
Bryan Dallas - Northern Illinois University
Nina Du Toit - Cape University of Technology, South Africa
Lyman Dukes III - University of South Florida at St. Petersburg
Michael Faggella-Luby - Texas Christian University
Sharon Field Hoffman - Wayne State University
Elizabeth Evans Getzel - Virginia Commonwealth University
Christie L. Gilson
Chester Goad - Tennessee Technological University
Elizabeth G. Harrison - University of Dayton
Charles A. Hughes - The Pennsylvania State University
Michael John Humphrey - Boise State University
Alan Hurst - Disabled Students’ Stakeholder Group, United Kingdom
Margo Izzo - Ohio State University
Anne L. Jannarone - University of Delaware
Tori Kearns - East Georgia College
Kristina Krampe - Kentucky Wesleyan College
Sus Kroeger - University of Arizona
Tracy Knight Lackey - Jackson State University
David Leake - University of Hawai‘i at Manoa
Jennifer Lindstrom - University of Georgia
Ruth C. Loew - Educational Testing Service
Allison Lombardi - University of Connecticut
Pamela Luft - Kent State University
Joseph W. Madaus - University of Connecticut

Elaine Manglitz - Clayton College & State University
Carol Marchetti - Rochester Institute of Technology
Jim Martin - University of Oklahoma
Susan Matt - Seattle University
Joan McGuire - University of Connecticut
Janet Medina - McDaniel College
Deborah Merchant - Keene State College
Lori R. Muskat - Georgia School of Professional Psychology, Argosy University
Ward Newmeyer - Dartmouth College
Hye-Jin Park - University of Hawaii
David R. Parker - Children’s Resource Group (CRG)
Kelly Drew Roberts - University of Hawaii at Manoa
Daniel Ryan - SUNY at Buffalo
Mary Catherine Scheeler - Pennsylvania State University Green Valley
Sally Scott - The Association on Higher Education and Disability
Stuart S. Segal - University of Michigan
Judy Shanley - Easter Seals Transportation Group
Stan Shaw - University of Connecticut
Mike Shuttic - University of New Hampshire
Sharon K. Suritsky - Upper St. Clair School District
Tomone Takahashi - Shinshu University, Japan
Colleen A. Thoma - Virginia Commonwealth University
Linda Thurston - Kansas State University
Mary Lee Vance - University of California, Berkeley
Ruth Warick - University of British Columbia
Kristine Webb - University of North Florida
Marc Wilchesky - York University

AHEAD Board of Directors

Melinda S. Burchard - Messiah College
Doris A. Bitler Davis - George Mason University
Carol Funic - University of Arizona
Sam Goodin - Southern Illinois University
Alberto Guzman - Educational Consultant
Ann Heelan - Association for Higher Education, Access and Disability, Ireland
Barbara Hammer - University of Missouri
Andrea Henry - Massasoit Community College
Neera Jain - Auckland Disability Law Centre, Inc.
Donna Johnson - University of Minnesota
Andrew Jason Kaiser - St. Ambrose University
Colleen Lewis - Columbia University
Emily Lucio - John Hopkins University
Larry Markle - Ball State University
Linda Nissenbaum - St. Louis Community College
Christine O’Dell - University of California, Davis
Anne Osowski - College of Charleston
Christine Duden Street - Washington University in St. Louis
Lisa Toft - Private Consultant
Jack Trammell - Randolph-Macon College
Margaret P. Weiss - George Mason University

Bea Awoniyi, President - Santa Fe College
Jamie Axelrod, President-elect - Northern Arizona University
Terra Beethe, Secretary - Bellevue College
Michael Johnson, Treasurer - Monroe Community College – Damon City Campus
Gaeir Dietrich, Director - High Tech Center Training Unit, California Community Colleges
Chester Goad, Director - Tennessee Technological University
Sam Goodin, Director - Southern Illinois University
Paul D. Grossman, Director - Oakland, CA
Brent Heuer, Director - Casper College
Amanda Kraus, Director - University of Arizona
Adam Meyer, Director - University of Central Florida
Katheryne Staeger-Wilson, Director - Missouri State University
Ron Stewart, Director - AltFormat Solutions
Kristie Orr, Director - Texas A&M University
Stephan J. Smith, Executive Director (ex-officio) - The Association on Higher Education and Disability (AHEAD)

The Journal of Postsecondary Education and Disability is published in accessible formats. Please contact AHEAD to discuss hard copy subscription requests. All members of the Association on Higher Education And Disability receive the Journal.

© 2016, The Association on Higher Education And Disability, 107 Commerce Centre Drive #204, Huntersville, NC 28078 USA
# Table of Contents

*Journal of Postsecondary Education and Disability, 29(1)*

<table>
<thead>
<tr>
<th>Article Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>From the Editor</td>
<td>3-4</td>
</tr>
<tr>
<td>A Qualitative Investigation of the Motivation of College Students with Nonvisible Disabilities to Utilize Disability Services</td>
<td>5-23</td>
</tr>
<tr>
<td>Amber O'Shea, Rachel H. Meyer</td>
<td></td>
</tr>
<tr>
<td>The Blind Leading the Blind: Goalball as Engaged Scholarship</td>
<td>25-34</td>
</tr>
<tr>
<td>Derek Van Rheenen</td>
<td></td>
</tr>
<tr>
<td>Faculty Attitudes and Behaviors Towards Student Veterans</td>
<td>35-46</td>
</tr>
<tr>
<td>Carlene A. Gonzalez, Marta Elliott</td>
<td></td>
</tr>
<tr>
<td>STEM E-Mentoring and Community College Students with Disabilities</td>
<td>47-63</td>
</tr>
<tr>
<td>Noel Gregg, Gerri Wolfe, Stephanie Jones, Robert Todd, Nathan Moon, Christopher Langston</td>
<td></td>
</tr>
<tr>
<td>Assessing Faculty Perspectives About Teaching and Working with Students with Disabilities</td>
<td>65-82</td>
</tr>
<tr>
<td>Sandra Becker, John Palladino</td>
<td></td>
</tr>
<tr>
<td>Face-to-Face Versus Online Tutorial Support in Distance Education: Preference, Performance, and Pass Rates in Students with Disabilities</td>
<td>83-90</td>
</tr>
<tr>
<td>John T. E. Richardson</td>
<td></td>
</tr>
<tr>
<td>Inclusive Study Abroad Course for College Students with and Without Intellectual Disabilities (Practice Brief)</td>
<td>91-101</td>
</tr>
<tr>
<td>Kelly R. Kelley, Seb M. Prohn, David L. Westling</td>
<td></td>
</tr>
<tr>
<td>Author Guidelines</td>
<td>102-103</td>
</tr>
</tbody>
</table>
Disability services educators (i.e., staff working in college and university disability centers) are a diverse set of professionals that fulfill specific roles in higher education. Their training spans the academic spectrum, some of them have degrees in higher education, others are historians, and still others are legal experts. Some of them have a disability, others do not.

The offices they serve are equally varied. Some follow a centralized philosophy whereby all campus services for individuals with disabilities are located in one office; others integrate services throughout the campus with a central office coordinating services. The divisional location for disability offices may be in student or academic affairs.

Another area of great difference is the clients they serve. And although the list of clientele may be quite long, there is no doubt that the two primary clients served by disability services educators, and the offices they operate, are students with disabilities and faculty members. Both of these primary clients need to be challenged and supported (Sanford, 1967).

Students with disabilities transition from a secondary education system in which they have often been taken care of. Yet, in the higher education setting they must now be the adult taking personal responsibility and advocating for themselves, while maneuvering a new educational system and adapting to a new educational culture similar to every other student on campus. Disability services educators must enable these students so that they can successfully transition into higher education and take advantage of the educational opportunity to advance their life options.

Faculty members are content experts on college campuses; they are a valued institutional resource, often given much freedom in their work to be scholarly teachers providing service. They must provide equal opportunity for all students. Disability services educators, the campus content specialist for the disability field, must partner with them to give all students access to opportunities to learn, be academically successful, and launch careers.

There are challenges for disability services educators when working with these two primary client groups. Disability educators must balance the civil rights of students with disabilities while supporting institutional academic standards. Students, by virtue of a disability, do not obtain lower academic standards. And, faculty, because of the freedom associated with their profession, cannot ignore the civil rights and practical accommodations afforded by the law. Academic freedom does not trump the ADA, or national laws in other countries.

This issue of the Journal of Postsecondary Education and Disability is dedicated to disability services educators as they engage students with disabilities and faculty members to balance the needs of these two primary client groups. The issue begins by addressing student needs. The authors of the first article discuss the motivation of college students with nonvisible disabilities to utilize disability services. Amber O’Shea and Rachel Meyer, from Temple University, indicate that an important distinction regarding the disclosure of disabilities concerns the visibility of the disability, thus students with nonvisible disabilities may have more choice concerning disclosure. They explore the ways students with nonvisible disabilities make meaning of being a college student with a disability and how these meanings relate to their choice to use support services.

Derek Van Rheenen, from the University of California Berkeley, documents a pilot course that introduces students to the scholarship on disability framed within the cultural studies of sport. Students engage with existing literature while actively participating in goalball, a sport designed for the blind or visually impaired. The author proposes an integrated model of sport and disability studies at the postsecondary level, bringing together campus and community, combining academic and athletic curriculum and integrating sighted and visually impaired participants.

The third article fits nicely in both the student and faculty themes of this issue. Authors Carlene Gonzalez, from the National Council of Juvenile and Family Court Judges, and Marta Elliott, from the University of Nevada, Reno, investigate faculty members’ attitudes and behaviors toward student veterans pursuing postsecondary education. Using survey data collected from 160 instructors, they use structural equation models to explain the associations among faculty members’ prior contact with the military, their attitudes toward student veterans and willingness to help them, and their treatment of military-related issues in the classroom.
Noel Gregg, Gerri Wolfe, and Stephanie Jones, from the University of Georgia, team with Robert Todd, Nathan Moon, and Christopher Langston, from the Georgia Institute of Technology, to report the findings of a qualitative study to understand the provision of electronic mentoring (e-mentoring) to support the educational persistence of students with disabilities. Three aspects of a STEM e-mentoring program were examined. Among the findings were that STEM learning and emotional supports were enhanced when embedded in the practice of e-mentoring.

Assessing faculty perspectives about teaching and working with students with disabilities was the topic explored by Sandra Becker and John Palladino of Eastern Michigan University. They report findings of faculty member’s general approach to teaching, and specific attitudes and behaviors about accommodating students with disabilities. They follow-up the discussion with implications for faculty professional development.

John Richardson, from The Open University, shares the experiences of students taking the same courses in the humanities by distance learning when tutorial support was provided conventionally (using limited face-to-face sessions with some contact by telephone and email) or online (using a combination of computer-mediated conferencing and email). The results show that, given a choice between face-to-face and online tutorial support, students with and without disabilities were equally likely to choose online support rather than face-to-face support.

This issue concludes with a practice brief on an inclusive study abroad course for college students with and without intellectual disabilities. Kelly Kelley, Seb Prohn, and David Westling, from Western Carolina University, share first-hand experiences based on a study abroad trip taken by students to England and Ireland. Information is presented about initial planning, recruiting and selecting participants, course content and instructional procedures, organizations and agencies visited, providing travel support for students with ID, lessons learned, and challenges.

The editorial team and review boards salute all disability services educators who work diligently to balance the needs of students with disabilities and faculty members; we dedicate this issue of the Journal of Postsecondary Education and Disability to them.

Roger D. Wessel, Ph.D.
Executive Editor
A Qualitative Investigation of the Motivation of College Students with Nonvisible Disabilities to Utilize Disability Services

Amber O'Shea¹
Rachel H. Meyer¹

Abstract
Students with disabilities experience unique challenges in college. Whereas universities offer support services to students with disabilities, students typically must disclose their disability in order to utilize such services. One important distinction regarding the disclosure of disabilities concerns the visibility of the disability, as students with nonvisible disabilities may have more choice concerning disclosure. Even students who disclose their disability, however, often either do not utilize the available support services or utilize them ineffectively. This study explored the motivation of college students with disabilities to disclose their disability and utilize university support resources. Specifically, the purpose of this study was to explore the way students with nonvisible disabilities made meaning of being a college student with a disability and how these meanings related to their choice to use support services. Self-Determination Theory (Ryan & Deci, 2000a) was used as the theoretical framework to guide this study. The analysis identified six themes within which students’ experiences were analyzed as more or less supportive of their psychological needs of autonomy, competence, and relatedness. An important conclusion of the analysis was that students’ motivation and decision to utilize support services was framed by the level of acceptance of their disability; that is, their integration of their disability to their authentic self. Different levels of integration of the disability in students’ narratives suggested different levels of support for the psychological needs of autonomy, competence, and relatedness, particularly by significant adults at home and in high school.

Keywords: motivation, self-determination theory, higher education, students with disabilities

A growing number of college students are reporting some form of disability. Whereas in 1995, roughly 6% of students reported having a disability, the number rose to 9% in 2000 and to 11% in 2008 (Hurst & Hudson, 2005; U.S. Department of Education, 2009). Additionally, it is likely that these data underestimate the number of students with disabilities, as research suggests that many college students do not disclose their disability (Ryan, 1994; Sparks & Lovett, 2009). While the number of college students with disabilities is increasing, the unique challenges that face college students with disabilities span both the academic and social domains. For instance, in the academic domain, challenges include coping with traditional indicators of success, such as grade point average (Haller, 2006). In the social domain, challenges involve confronting and educating others about disabilities, including both peers and faculty members (Cawthon & Cole, 2010; Olney & Kim, 2001). It is not uncommon for students with disabilities to find themselves in a position of explaining to faculty details about eligibility for accommodations, the accommodation process, and the range of available support to students with disabilities on campus (Cawthon & Cole, 2010; Ryan, 1994).

Similarly, students with disabilities often meet peers who have little familiarity with disabilities, hold stigmas about people with disabilities, or even consider academic accommodations for students with disabilities to be an unfair advantage (Olney & Kim, 2001). As the result of federal legislation concerning the rights of students with disabilities to equitable educational opportunities, most colleges and universities have established support services for students with disabilities with the intention of easing the transition from

¹ Temple University
high school to college while supporting students facing academic and social challenges in college. However, in order to utilize disability services, students must disclose and provide disability documentation that is often different from the documentation required in the K-12 system (Shaw, Keenan, Madaus, & Banerjee, 2010).

Despite the increased availability of support services to students with disabilities on campuses, and despite the increasing numbers of students who indicate that they have a disability on admissions applications or anonymous questionnaires, a large number of students with disabilities fail to register for disability support services (Anctil, Ishikawa, & Scott, 2008; DaDeppo, 2009; Getzel, 2008; Haller, 2006; Martin, 2010; Shaw et al., 2010). Previous research on disability disclosure highlights concerns about cultural stigmas of disabilities and apprehension of being discriminated against as reasons students avoid disclosing their disabilities and utilizing support services (Martin, 2010). Additionally, students who are conflicted about having a disability have been found to be less likely to utilize services than those who have accepted their disability as a part of their identity (DaDeppo, 2009).

One important distinction between types of disabilities concerns the “visibility” of disabilities, with nonvisible disabilities (i.e., learning or attention disabilities) constituting some of the most documented types of disabilities found among college students (Kurth & Mellard, 2006; Martin, 2010). Processes related to disability disclosure may be slightly different among students with nonvisible disabilities, since students with nonvisible or “hidden” disabilities could withhold disclosing their disability status, whereas those with “visible” disabilities (i.e., mobility impairments) may find it difficult or impossible (Barnard-Brak, Lechtenberger, & Lan, 2010; Forman, Baker, Pater, & Smith, 2011; Martin, 2010; Olney & Kim, 2001). While researchers have aimed to develop an understanding of disability disclosure among students with visible and nonvisible disabilities, a number of gaps remain in the literature on the motivation of students with nonvisible disabilities to utilize disability support services.

A review of the literature on college students’ motivation to use disability support services reveals a number of theoretical and methodological limitations. First, many of the previous studies have been descriptive and have not been guided by a theoretical framework. A solid theoretical foundation is important for translating findings into a comprehensive framework that can guide interventions and future research. Second, most of the previous studies in this domain have employed closed surveys that reflected researcher-generated reasons for avoiding disclosure and utilizing services, thus limiting knowledge of students’ own reasons for such decisions. Finally, the majority of the research has focused on college students with specific disabilities, limiting the generalization of findings to students with different types of disabilities (Anctil et al., 2008; Reed et al., 2008; Skinner, 2004; Troiano, Liefeld, & Trachtenberg, 2010). Students with disabilities are a diverse group with a variety of cognitive, emotional, and physical characteristics (Anctil et al., 2008; DaDeppo, 2009; Higher Education and Disability, 2009; U.S. Department of Education, 2009). The current study aimed to complement findings and methods of previous studies and address some of the challenges of research in this domain by employing methods that give voice to the students with a diversity of hidden disabilities, while grounding the study in the established theoretical framework of Self-Determination Theory (Ryan & Deci, 2000).

Self-Determination Theory

Self-Determination Theory (SDT) is a comprehensive theory of human motivation that provides a framework for understanding choice of behavior, quality of motivation and engagement, and overall development and well-being (Ryan & Deci, 2000). The theory is founded on the premise that all humans have three innate psychological needs that are fundamental for adaptive motivation and development: autonomy, competence, and relatedness (Deci & Ryan, 2008). The need for autonomy refers to people’s inherent need to feel self-determined and self-directing in their actions, to act in ways that actualize their authentic selves, and to internalize and integrate values and behaviors into their sense of selves. The need for competence refers to people’s need to enhance their ability through action in their environment and to seek out opportunities that are congruent with these abilities. The need for relatedness describes the need to connect with, belong to, and feel cared for by others (Deci & Ryan, 2000). When the needs for autonomy, competence, and relatedness are satisfied, people perceive their source of action as autonomous or self-determined; that is, as emanating from and actualizing their deep sense of self. When one or more of the needs is frustrated, people either have no motivation to act or they feel coerced, externally or internally (e.g., by a sense of obligation or guilt), to engage in action.

Self-Determination Theory distinguishes between sources of decision-making and actions that can be described along a self-determination continuum. On one end of the continuum is a lack of motivation or “a-motivation,” seen in those situations in which a
person decides not to act. On the other end of the continuun is intrinsic regulation, in which decisions and actions are done for their own sake out of deep interest or enjoyment (Deci & Ryan, 2008). At the center of the continuum is extrinsic motivation, or engagement with the task to receive a tangible reward or avoid punishment (Deci & Ryan, 2008; Ryan & Deci, 2000b).

Extrinsic motivation refers to four types of behavioral regulations: external regulation, introjected regulation, identified regulation, or integrated motivation (Deci & Ryan, 2000; Ryan & Deci, 2008). Both external and introjected regulations are considered forms of controlled motivation, in which the person feels coerced to act, either externally or internally, respectively. Identified regulation refers to situations in which the behavior or goal is highly valued, and the person’s actions are perceived to be personally important. Finally, integrated regulation refers to situations when individuals feel that engagement actualizes their personal values and needs (Ryan & Deci, 2002; Ryan & Deci, 2000b; Deci & Ryan, 2000).

In the context of college students with disabilities, “a-motivation” manifests as deciding not to utilize support services. External regulation might manifest through a student deciding not to disclose his disability as he risks facing unwanted consequences. Conversely, an individual who was motivated by integrated regulation might endorse her disability as part of who she is. This belief system would lead her to disclose her disability and partake in the support services, not only to support her academic success, but as an act of actualizing her identity. Students with and without disabilities use decision-making and problem-solving skills and apply goal-orientation skills to help guide their behaviors and actions. In other words, students act intentionally toward accomplishing a specific goal or task, thereby achieving a purposeful outcome. A large body of research over the past three decades strongly suggests that when people’s actions are regulated by autonomous motivations, they are more highly motivated, have more positive emotions, engage more deeply, persist longer, and cope more effectively with difficulty and challenge than when they act from a sense of coercion and/or of being controlled (Deci & Ryan, 2008).

When people perceive the context as supporting their three psychological needs, they are more likely to sense a higher satisfaction of these needs, make decisions and act autonomously, and internalize the value of the decision and action (Ryan & Deci, 2000). People are likely to feel support for their need for autonomy when they are provided meaningful choice, when they understand and identify with the rationale for a decision or action, and when their personal perspective, experiences, and emotions, are taken into account. People are likely to feel support for their need for competence when they perceive that they are faced with manageable challenges, and that evaluation of their competence is intended to promote growth rather than be threatening. People are likely to feel support for their need for relatedness when they are treated as whole human beings rather than according to only one characteristic, when their personal backgrounds and life experiences are valued, and when social interactions with others affirm their belonging to a community (Reeve, 2009).

Self-Determination and Disabilities: The Special Education Perspective

Some researchers in special education utilize the term “self-determination” somewhat differently from self-determination theorists who follow Deci and Ryan’s (2000) framework. Special education researchers (Field, Sarver, & Shaw, 2003; Field, Martin, Miller, Ward, & Wehmeyer, 1998; Getzel & Thoma, 2008) hypothesize that successful students engage in self-determined behaviors, specifically, exercising academic choices (Wehmeyer & Field, 2007). In 2006, Wehmeyer defined self-determination by suggesting, “self-determined behavior refers to volitional actions that enable one to act as the primary casual agents in one’s life and to maintain or improve one’s quality of life” (pg. 3). The act of self-determination involves a student’s actions devoted intentionally toward accomplishing a specific goal or task, implying the action is coordinated to achieve a purposeful outcome. Characteristics of self-determination have been identified as acting autonomously with self-regulated behaviors that are psychologically empowered, and as acting in a self-realizing manner. In other words, self-determination provides people the knowledge, skills, and beliefs that facilitate goal-directed, self-regulated, and autonomous behavior (Test, Aspel, & Everson, 2006). When students in special education use their self-determination skills to show others that they can be successful, they also tend to feel a sense of pride and personal responsibility for their positive actions, signifying a greater sense of self-worth and self-esteem (Field & Hoffman, 1999; Wehmeyer & Field, 2007; Wehmeyer & Schwartz, 1998).

Research on self-determination from the special education perspective has focused primarily on students in the K-12 years. As children and adolescents learn and develop skills that enable them to become casual agents, elements of self-determined behavior, such as the following, develop: choice and decision
making skills, problem-solving skills, goal-setting and attainment, self-regulation and management skills, self-advocacy and leadership, self-awareness and knowledge skills, and positive perceptions of control, efficacy, and outcome expectations (Test et al., 2006; Wehmeyer & Palmer, 2003). These elements are essential for students in special education to help promote self-determination and action. Students are taught these skills throughout their education with the hopes of implementation to further their careers, personal well-being, and educational aspirations. Understanding and using these key components can help promote self-determination among students with disabilities. Unfortunately, research is limited for post-secondary education students with disabilities and self-determination. However, researchers have suggested that if students transition into postsecondary education settings with a better understanding of their disability and their needs, they are more likely to succeed (Test et al., 2006; Wehmeyer & Palmer, 2003). Thus, the earlier students can enhance their self-determination and develop appropriate skills, the more positive their outcomes will be when compared to adults who are not fully self-determined.

Field, et al. (2003) investigated self-determination among college students with learning disabilities through the use of the Self-Determination Student Scale and interviews. Exploring this construct in a post-secondary educational setting, two themes emerged from the interviews: internal (personality) markers that consisted of autonomy, problem solving, and persistence and external (environmental) factors including the awareness of the disability by both the student and faculty member, support within the environment, and outside social support. Based on these findings, the researchers recommended that disability staff focus on self-determination and effective instruction and not just on accommodations and modifications for students with disabilities. Field et al. also suggested that, when there is more consistency between students’ experiences in grade school and college, students would have better outcomes. Finally, the researchers recommended that success would also be established when students acquire high levels of self-determination and are able to clearly state their personal goals regarding the future.

According to SDT, we can assume that students who perceive disclosing their disability and utilizing support services as identified and integrated regulations, as opposed to external or introjected regulations, are more likely to utilize services adaptively. Additionally, we can assume that students would be more likely to perceive their use of services as being autonomously regulated when the college environment provides support for their needs for autonomy, competence, and relatedness. However, the actual experiences of students’ decisions and actions of disclosing their disability and utilizing support services are not clear. Moreover, it is not known what features of the college environment students with disabilities perceive to constitute support for their three psychological needs. Indeed, such motivations and perceptions of the environment may differ in different settings within the college environment (e.g., different courses and social groups), and among students from different backgrounds, with different characteristics, and with different disabilities. Thus, the purpose of the current study was to investigate the meanings that students with nonvisible construct of their college experiences; how these meanings are related to students’ desire to achieve autonomy, competence, and relatedness; and how these experience and desires influence students’ decisions about disclosing and utilizing support services. To this end, the researchers explored the following research questions:

1. What does it mean for college students with nonvisible disabilities to utilize the university disability support services and how do these meanings relate to their motivation to utilize these services?
2. How do college students with nonvisible disabilities perceive different features of the college environment as either supporting or frustrating their psychological needs?

Method

Research about college students with disabilities and their reasons for using support services is limited. Even with the available research, concerns arise regarding data collection and methodologies. One challenge to studies of college students with disabilities is low response rates. Invitations to participate in interviews (e.g., Marshak, Weiren, Ferrell, Swiss, & Dugan, 2010) or mailed surveys (e.g., Forsbach & Rice-Mason, 2001; Martin, 2010) often garner less than a 20% response rate. Based on the experiences of previous research, it was deemed unrealistic to recruit a representative sample of students with disabilities. Consequently, the researchers employed narrative interviews to create multiple-case studies. This approach was chosen to promote an inclusive and in-depth understanding of the subjective meaning making and decision-making processes of college students with disabilities (Josselson, 2011).
Participants

Participants were 11 college students (6 female, 5 male) with diagnosed nonvisible disabilities from a large public university located in the Northeast. At the time of the study, all students were registered with the university’s Disability Resource and Services (DRS). Students were selected using purposeful sampling with the goal of creating a diverse set of cases that would allow insight into various meanings that students with different characteristics make of their experiences. In order to answer the research questions and obtain a diverse sample of students with disabilities, participants were chosen based on disability, gender, class status, and ethnicity, which had previously been reported to DRS. The characteristics of these students, although not representative of the general population of college students with disabilities, appeared to be representative of the university as a whole. The DRS Center provided a list of registered students from which an initial group of approximately 800 students with different disabilities, gender, class status, and ethnicity were selected. Although all students were identified using the DRS listserve, it was assumed that not all them actively utilized the DRS services. A formal email was sent to approximately 750 students on the resulting list, inviting them to partake in interviews about their experiences on campus. In the initial recruitment email, students were provided with information about the study’s goals and purposes, informed that participation would involve engaging in one interview that would last approximately an hour to an hour and a half, and told that they would receive a $15 gift card as an incentive for participating in the study and completing the interview. An additional email invitation was sent out to each student to encourage participation in the study.

Twelve students expressed interest in participating and were contacted by the researcher to schedule an interview. All but one of the students who participated reported having a nonvisible disability. In order to maintain a coherent sample with regards to the type of disabilities, interview data from the one student with a visible disability was excluded from further analysis. The remaining sample included 11 students with nonvisible disabilities. Interviews were conducted in a private office located within the office of disability services on the university’s main campus by the corresponding author of this manuscript and a supervising faculty member.

Table 1 presents the characteristics of the participants, including their gender, year in school, type of disability, and their age at time of diagnosis. Students’ names are pseudonyms.

Instrument and Procedure

The interview protocol followed a life-history approach (Elliott, 2005) in which the interviewee was asked an initial leading question: “Please tell me about your experiences as a student with a disability at this university.” Following the interviewee’s response, the interviewer probed by asking the interviewee to elaborate on the various parts of the narrative concerning his or her experiences and to provide specific examples for more general statements (Bates, 2004; Elliott, 2005; Kiellhofer & Mallinson, 1995). One of the authors of this study, along with one graduate student researcher, conducted the interviews. Both interviewers were advised on the interview protocol in order to better understand the context of the interviews and were trained in narrative interviewing techniques through doctoral level qualitative research methodology courses. Each student who agreed to participate in the study was interviewed privately by one of the two female interviewers.

Prior to beginning the interview, the interviewer explained the purpose of the study to the student, assured that participation is voluntary, and emphasized that the student could choose to avoid any question or withdraw from the study at any time. The student was encouraged to ask any questions he/she may have had about the study and was then asked to sign a consent form. At the end of the interview, interviewees filled out a short survey that collected demographic information (gender, age, academic level, and disability status). All interviews were audio-recorded and then transcribed, while keeping any identifying information confidential.

Analysis

Analysis of interviews was framed by a combination of the phenomenological approach (Giorgi, 1975) and the narrative approach (Josselson, 2011). The researchers utilized several analytic steps to derive each participant’s construction of their experience and decision-making and actions regarding utilizing support services. This process included reading through the interview several times; identifying “units of meaning” as they emerged from the narrative; coding each unit of meaning for theme, content, and process; integrating the various themes into a comprehensive and coherent system for each participant; relating themes across participants; and anchoring dominant themes into a theoretical model of processes underlying experiences and decision-making of students with disabilities at a large public university.

Four researchers, including the two authors and two supervising faculty members at the institution, participated in the analysis and interpretation of the
interviews. The researchers were formally trained in the analytic approach at doctoral degree granting institutions and worked together to construct a coherent and integrated interpretation of the narratives. To increase inter-rater reliability, each researcher coding the same interview independently and then discussed the results, interpretation, and understandings to reach a consensus. The analysis of each interview involved listening to each interview multiple times and reading the transcripts to discover emerging themes and concepts. It was important to pay close attention to both the content of the interview as well as the structure of the narration to obtain as much insight as possible about the student’s experiences, as “the process of analysis is one of piecing together data, making the invisible apparent, deciding what is significant and insignificant, and linking seemingly unrelated facets of experiences together” (Josselson, 2011, p. 227). The process involved coding parts of the narrative with codes from the three psychological needs of autonomy, competence, relatedness, and regulated behaviors, from self-determination theory, or with codes that emerged as significant in the data. These codes were evident across the interviews, which increased the trustworthiness of the research.

**Results**

The analysis of the 11 interviews revealed six cross-case themes that undergirded participants’ constructions of their experiences as students with disabilities that, in turn, framed their motivation to disclose their disability and utilize or not utilize support services. The six themes were labeled: (1) Disability Construction; (2) High School Experience; (3) Significant Adults; (4) Disability Resources and Services (DRS) and other Services; (5) Interactions with Faculty; and (6) Interactions with Peers. Categories were determined within each theme in an attempt to represent the diversity of students’ narratives, personal experiences, and the role of processes within each theme in students’ decision-making. Table 2 describes the six themes and their corresponding categories.

**Theme 1: Disability Construction**

The theme “disability construction” highlights cognitive and emotional ways students seem to have constructed the meaning of their disability. This “construction” emerged as significant throughout the interviews and, hence, also appears in the remaining themes. An example demonstrating students’ construction of their disability is a statement from Brian, a male student with Asperger’s Syndrome and Seizure disorder: “When I was told about the accommodations, I was like, I don’t need any special room or dorming or anything. I’m not that severely disabled.” The way students understood their disability provided a frame and justification for their decisions in academic and non-academic domains. Three types of constructions of the disability were identified in the sample: as a self-attribute, as a minor irritation, and as a source of ambivalence.

The category of “Self-Attribute” refers to students’ acceptance of their disability as a part of their overall sense of self. Three female students were categorized as constructing their disability as an integrated part of self. These three students had all previously received disability support services while in high school settings prior to entering college, and were very aware of the services they needed as well as having a clear understanding of their disabilities. These participants tended to elaborate on their disability in the interview and to relate it explicitly to their academic strengths and weaknesses. The words these students used suggested that they embraced their disability as a significant self-characteristic. For example, Brittany described her disability in the following way:

> Like I never really looked at it as a disorder or a problem. I just thought it was a little setback. Because there are people who are worse off than me so I never considered it a disorder because I know there are people who are blind, who are deaf, who have autism. Who am I to say ADHD is a learning disability when there are people with autism who have to do the same thing as me.

These students also described rational considerations and decision-making regarding utilization of support services. For example, Julie described her use of the disability services as it related to her construction of her ADHD by stating “I know that it helps me and in the end I’ll do better. I’m not going to advertise that I’m walking into the disability resources office. But I know inside that it helps me. It’s nothing that I’m ashamed of.” Students in the self-attribute category had a strong sense of their own competence within multiple academic environments and social settings, and appeared to demonstrate autonomous behavior when dealing with the disability.

Two students, one male and one female, described their disability as a minor irritation or aspect that they could overcome or that had an easy fix. Whereas these students acknowledged that they had a disability, they considered it played a significant role in their well-being or sense of competence. The following is an
example of minimizing one’s disability through the reflective narrative by Marcus:

Interviewer: Let me go back to something that you said in the beginning. You said you have ADHD, and you don’t really consider that a disability, or real disability.

Marcus: I consider it a disability, but I don’t consider it as something that makes me disabled.

Interviewer: Talk to me a little bit about what that means.

Marcus: The way I see disabled is...I could study, but I have medicine that I can take to help me study like Ritalin and Concerta, but I haven’t taken the medicine. I don’t think I’ve taken it at all since I’ve been a (college) student honestly.

Both of these students indicated that with the use of medication, their disability did not seem to play a significant role in their lives. Rather, the students could see it as a minor irritation that had an easy fix or solution. Students in this category tended to get their needs met in order to satisfy academic demands.

The category of “Ambivalence Towards the Disability” included four male and two female students. Some of these students acknowledged their disability but explicitly rejected it as a self-defining aspect. As Tony said, “I consider my disability to be a technical foul.” Other students denied having a disability. Brian discussed his Asperger’s diagnosis with a sense of personal dismissal:

But considering how, I don't really feel effected by the Asperger’s diagnosis at all really. Because the things that most people with Asperger’s lack is a sense of humor and a sense of sarcasm, and like I have that. And it's not really interfering with my learning, really. Well, that's what I think[ing] anyway.

Students who described their disability in terms that indicated more integration of the disability to the self also tended to describe deciding to disclose and utilize services in an argentic, flexible, and non-conflict manner. Whereas students who described their disability in terms that were not integrated—as a minor irritation, or in ambivalent terms—also described their disclosure and utilization of services in rigid, narrow, terms, and may be less willing to disclose their disability.

Theme 2: High School

Experiences in high school emerged as very meaningful in the participants’ narratives. Several students described high school experiences with self-advocacy and interactions with high school teachers and guidance counselors that were formative in their constructions of the meaning of their disability. Students reported receiving strong support in high school for coping with their disability. For example, Brittany, who was diagnosed with a learning disability, said, “I was working with [the university] DRS before I even got here. I had a great support system even at my high school.” Five students indicated that experiences in high school which had shaped their understanding of their disability led them to disclose to the university DRS and seek support services in college. Despite variability in the path to receiving such support, they reported feeling empowered by their high school experiences and supported by individuals in the high school context. For example, Gail stated:

Yeah, I would always ask for extra help until I actually got the documentation that said that I was allowed to have extra time and stuff. I always looked to the teacher.

Two female students indicated that they did not take advantage of the disability services in high school. Lori stated, “OK, well in high school I had not taken any of the disabilities advantages because I was at one of those high schools where you didn't want to be singled out.” This example highlights the interconnectedness among the themes related to high school and peers (theme six), as it emphasizes an important context and a developmental stage within which students are developing their self-understanding and identities.

It is noteworthy that four participants, all males, did not mention their high school experiences during the interview. Participants were not directly asked about high school; hence, its absence in some students’ narratives may mean that these participants’ high school experiences were not significant in shaping their construction of their disability and subsequent decisions in college, or it may be that other experiences were more salient in the context of the interview and masked recollections of the high school experience.

Theme 3: Significant Adults

A third theme was interactions with significant adults, both in high school and in other life domains, which played an important role in several of the participants’ narratives. Participants referred to significant adults such as the high school counselor, a parent,
therapist, a teacher, or a doctor who may have helped them find available resources at college. Significant adults provided students with medical or psychological labels and definitions for the disability, emphasized to them specific domains of challenge, and arranged for specific support services to address the domains of challenge. For example, Mark reported, “So my mom looked into it more and then found out that it’s DRS, you know, and then she made the meeting, she called them up and we went through that whole process.” Julie stated, “It was more my advisor in high school that told me about it because I guess she knew that they had a good disability program.” Analysis of the participants’ narratives suggested these adults’ authority and actions guided and shaped the participants’ construction of their disabilities, as well the relevance or lack thereof of specific services. In turn, these adults guided participants’ decisions and actions upon entering college to disclose their disability, register with disability services, and utilize certain support services rather than others. For example, as a result of a traumatic brain injury, Katie worked with her high school counselor on time management skills in order to be more efficient in terms of her daily obligations through the use of strategies. This student was able to take the tools and resources she received from her high school counselor and implement them in her college setting. Further, with the help of the disability office, she thought to request more time for test taking.

The analysis also suggested different types of student-adult interaction: (1) submission to adults’ guidance and (2) collaborative empowerment with significance to the student’s sense of agency regarding disclosing and utilizing services. Seven participants reported interactions with adults that were characterized by the student’s submission to the adult’s authority. The interaction involved the adult taking charge in seeking out services in college. The adults in these interactions were depicted as caring for the student, but at the same time failing to promote the student’s autonomy and competence. The narratives depicted the student as passive or as submitting to the adult’s directives to disclose and utilize services. Thus, while these students ultimately sought services, it was not due to self-determination. An example from Mark follows showing the control of the student’s mother:

Um, so, it took a little bit of convincing me, well not a little bit, well yeah. Basically my mom continually, repetitively telling me that I needed to use a note taker in college because college was going to be difficult.

Brittany is included to show the importance of students’ submission to adults’ guidance:

Well, my mom was the main one who was like, you know that you are unfocused and you should probably handle it. And I wasn’t trying to stay away from it. I was just so excited to get to college, I wasn’t even thinking about it. So she really looked up the information for me. Being the mom she is she just wanted to make sure that, everything was okay, and I would enjoy college. But make sure you’re able to have that relationship with the teacher, have someone to go to if you need help. She always wants to make sure that I’m okay with asking for help.

In contrast to students whose interaction with significant adults was characterized by submission to the adults, narratives of other students (1 Male and 3 Female students) indicated agency with regard to their disability and utilization of services. For example, Julie noted how she worked with her high school counselor to figure out what colleges had disability programs:

It was more my advisor in high school that told me about it (DRS) because I guess she knew that they had a good disability program. So I don’t know if I necessarily would have investigated the disability program here. I probably would have just talked to my professors and I maybe found out that way.

Katie discussed how she worked with her high school counselor in order to contact the university’s disability program. The student and the counselor found a way to work together:

So my advisor knew that since I had the 504, it transfers to college because I had just gotten reevaluated. So she was really that bridge. She gave me the numbers to contact. So I was connecting with DRS before I even came here to get the placement test done, I was working with them. So when I came in I was on the email roster. I was getting emails, I was getting phone calls. So yeah, I reconnected with them before I got here.

Although it is unclear if Julie would have sought out disability services on her own, it is clear that the student was the one who actually made the contact. Furthermore, Katie’s proactivity allowed her to pre-register with DRS prior to the start of school. When students work collaboratively with significant adults, the student is encouraged to fully integrate his or her disability into an authentic sense of self.
Theme 4: Disability Resources and Services (DRS) and other Resources

Participants’ mentioning of the DRS and other Resources at school emerged as a major theme across the interviews. Throughout the interviews, students addressed their utilization of disability support services. For example, Susan discussed the nature of her interactions with DRS staff by saying:

I always feel comfortable talking to my advisor. I know I feel comfortable with the people working there. I just talked to my advisor yesterday because I’ve been having problems in completing my essay portions for a lot of my, like, midterms and such.

In addition to using DRS for support, students also indicated that they used or were aware of other services provided on campus. Other students suggested that they did not have time to use alternative services, they formerly used the services provided, no longer utilized services, or were not always aware of other services provided on campus.

The analysis of the narratives indicated that participants differed in the amount of utilization and time they spent at the disability office and/or using other services on campus. Most of the participants seemed to have come to college with a prior understanding of the types of services they needed and were not typically open to exploring other possibilities. However, the analysis also suggested that students constructed the role of DRS in different ways, which affected how they used the services available to them. These different ways are represented in the different categories of this theme, including: “DRS as a Club,” “DRS as a Service Provider,” “DRS as a Mentor,” and “DRS as Just Another Service.”

The category “DRS as Club,” which included two female students (one diagnosed with a learning disability and one diagnosed with ADD) suggested students’ desire for more social interactions to be provided by DRS, such as support groups for students with disabilities, outings to local attractions in the community, and help in developing friendships with other students with disabilities. These students thought of DRS as a place of comfort where they could get their needs met, a supportive environment, or a place of acceptance for someone with a disability. In the context of this research, a “DRS Service Provider” explains the types of services one can receive while at DRS. For these students, DRS is often thought of as a place of comfort, a place where students can get their needs met, a supportive environment, or a place of acceptance for someone with a disability. Several of the participants (1 Male and 6 Females) indicated that they currently or have used multiple services that DRS provides, hence, “DRS as Service Provider.” For example, students reported using testing accommodations or arranging for a classroom note-taker, which are common examples of services provided by DRS.

In several narratives, the analysis indicated that students wanted to see DRS as more than a mere service provider. For example, students indicated their desire to have the disability office serve as a sounding board, or assist them make decisions regarding their academic schedule. A male student described his experience working with a disability staff member at an initial meeting at the start of the semester, as providing students with a full array of service options in a comfortable setting, allowed the student to feel excited about his college experience. The narratives from the students in this category (three male and three male) indicated that they are seeking more than just academic advice, to wit an advisor who is attuned to their feelings and personal needs, providing positive feedback about their competencies.

Students might utilize other resources and services on campus, such as the writing or math center in addition to or in place of DRS, viewing DRS as “Just Another Service.” It is important to keep in mind that these other services are available to all students on campus and not just those with a diagnosed disability or who are registered with the disability office. Still, some students (2 Male and 4 Female) indicated they either did not use additional services or were not aware of other services being offered Students can individually control the frequency of utilizing the services provided by DRS. Participants’ previous experiences, such as the types of services received while in high school or the amount of previous support received regarding their disability, tend to be reflected in students’ utilization of the DRS and the other resources offered on campus to all students.

Theme 5: Interactions with Faculty

A common theme expressed throughout the narratives was the nature of students’ interactions with faculty in regard to their disabilities. The role and efficacy of the faculty is guided, in part, by the relationship(s) that students establish with their professors. Analysis of the narratives suggested that most of the participants had constructive communication with the majority of their professors regarding their disability; as such, six female and five male students were categorized according to this theme. Students described their decision to disclose their disability to their professors as a significant step, suggesting the decision to take the
step and disclose to faculty was related to students previous experiences of disclosing their disability in high school and to the support they received from staff in the DRS. The support by DRS in providing a letter of accommodation to be presented to the professor was noted as an important scaffold for students’ initiating the interaction with faculty. Katie described disclosing her disability to her professors as having “the conversation” and touched on the role of DRS in promoting her motivation to have the conversation. She used the guidance of DRS as a bridge for identifying her disability, and although she did not need DRS to have this communication with her professors, she used phrases and words suggested by the DRS office to assist her in engaging in the conversation with faculty. Another student was hesitant to disclose her disability to her professors because she did not want to feel as though she was taking advantage of services and did not want to be viewed differently or with favoritism, when compared to other students. She exemplified how both the responsiveness from the professor and class demands dictated her decision-making process for disability disclosure.

The narratives suggested students’ utilization of services related to the classroom or with faculty as an important construct for classroom performance. These services are provided by or set up by instructions in class. These services might include, accessible office hours, permission to have a note-taker, or collaborative in-class projects. The analysis indicated that students are more likely to utilize services within the classroom when they are comfortable discussing their disability. The narratives also indicate that both campus disciplines and individual faculty members do not have a uniform policy relative to the utilization of services set up by instructors in class. For example, Lori discussed her experiences attempting to obtain a note-taker:

Lori: No, I had a note taker request for Japanese, but um, nobody responded for that. It’s very hard to get people to just copy the notes and paste them to an email or something like that. The law class is basically the biggest experience I’ve had with note taking and as successful that’s been or not successful in this case.

Interviewer: OK. Were there any other times?

Lori: I don’t believe I had one for communications, my communications class. Um, I never, it’s very hard to actually just get people to, not that the teachers didn’t try. Every teacher that I can remember sent out at least one email asking for a note taker. And I had some math classes that would have been very helpful because the teachers had the thickest accents.

Interviewer: OK.

Lori: So it was, um, but most of the math and science classes I had, I never saw an email go out. But my English teachers have probably been the ones most concerned about it. They would come up to me after class and say, "Are you doing OK?" And the thing was that I usually was. Like I have some better classes, not so good in the other ones, but um. That’s pretty much all I have to say about the note taking.

Theme 6: Interaction with Peers

The final theme that emerged from the analysis of the narratives was students “Interaction with Peers”. The analysis revealed three categories within this theme: “Stigma”, “Acceptability”, and “Avoidance.” The first category, “Stigma” included students who felt that their peers believed a stigma is associated with having a disability. Several students indicated that being associated with DRS or being seen walking into the Disability Office associated a person with having a disability and thus promoted a negative perception. “Acceptability” included students who accepted their disability and allowed it to be a part of their authentic selves among peers. Additionally, when a student personally accepts his or her disability, the likelihood of openly discussing the disability among peers is enhanced. One female student indicated that she and her best friend from high school had both been diagnosed with ADHD and it was just a part of who they were as individuals. These two students had a shared common experience, consequently easier to discuss and accept. The theme of “Avoidance” emerged from the narratives, which suggested that students do not want to talk about their disability, nor do they share with others that they have a disability. Some students do not want to advertise intellectual differences and risk being identified as different from their peers, whereas other students mentioned situations where they did not want to discuss their disability with peers. A common experience occurred when students had to share their disability with a roommate. These students specified that they discussed their disability with their roommate when students felt it was absolutely necessary or if a situation occurred where the roommate questioned a participant’s behaviors as acting out of the norm of the college environment. One male’s motivation for disclosure arose only when he felt the need to establish
a better relationship with his roommate. Tim shared his experience with his roommate:

Tim: The people who have had a bigger impact in my life I’ve had to explain to them what some of my disabilities are and how that affects things. Like I wasn’t, I didn’t tell my roommate about all of my problems until we had a little bit of a conflict. Um, like I’m ADD, I’m obsessive compulsive and I have symptoms of Asperger’s syndrome, so I um, so like when it comes to socializing, Asperger’s seems to be the problem that comes up most. My roommate told me I make weird facial expressions or that I’m unexpressive sometimes or that I don’t seem to be expressing enough interest in the things that he is talking about. And like I often seem a little bit more normal here (in the interview), but for some reason I’m more comfortable talking to people who are more like an adult or someone who is in authority rather than people my age. It’s very weird.

Interviewer: What was that like for you when you told your roommate whatever you did tell him?

Tim: Yeah, I first told him like when we first met, we didn’t have much contact before move in day and so I did tell him upfront about the ADD and OCD and I wasn’t sure at first if I wanted to tell him about the Asperger’s syndrome. I didn’t want to be pitied for being on the Autism spectrum since like when people think of Autism, like they think of Rain Man and that kind of thing and I don’t want to be seen or thought of as being some kind of savant or that kind of thing. But like, when we had communication issues at some point, I felt like I had to bring it up.

Interviewer: How was that?

Tim: Um, he did become a little bit more under understanding. I don’t think that he fully understands what exactly Asperger’s syndrome is but I did explain to him about some difficulties I have with understanding and interpreting some emotion because sometimes my face can become some kind of a mask, especially when I am nervous.

This excerpt seems to be an example of uncertainty regarding norms. Tim’s motivation for disclosure arose only when he felt the need to establish a better relationship with his roommate. This is an example of some of the complexities that might arise at the college level in reference to communication and understanding of disabilities. As is demonstrated by the previous excerpt, college relationships are often complicated, and clear communication sometimes enhances peer relationships, and unfortunately, sometimes it does not appear to improve the relationship.

**Discussion**

The purpose of this investigation was to understand the motivation of college students with disabilities to utilize university support services. Focusing on a small sample of college students with nonvisible disabilities, this study aimed to explore the ways students made meaning of being a college student with disability and how these meanings related to their use of university support services. The findings highlight the importance of the subjective experience of a match between students’ with disabilities perceived needs and their motivation to utilize support services. When students with disabilities enter college, they are faced with experiences that challenge their sense of academic autonomy, their ability to do well academically, and their sense of relatedness to peers, faculty, and academic choices. In an effort to address these challenges, university disability offices can promote students’ needs of autonomy, competence, and relatedness within the context of various support services (Niemiec & Ryan, 2009).

Overall, the findings point very strongly to students’ experiences of disability support in high school as an important psychological foundation for their motivational processes related to disability disclosure in college. Experiences in high school seem to frame students’ self-advocacy decisions in college. Specifically, the findings of the current study underscore the importance of early experiences with disability support in high school and highlight the role that high school counselors and other adults in the environment play in encouraging the early development of self-determination in students with disabilities. High school constitutes an important context within which students develop their self-understanding and identities. Interaction with significant others and strong support for their coping with disabilities seems to relate to meaning-making about a disability and to student’s motivation for utilization of services in college.

In SDT terms, the high school context and the significant adults within it can have powerful roles in supporting or thwarting students’ psychological needs for autonomy, competence, and relatedness. This interaction can influence the integration of disability into students’ identity and impact their utilization of
disability support services. In particular, the nature of feedback and support from peers, teachers, and disability staff is highly important. Self-Determination Theory suggests that the best kind of feedback enhances support for students’ three psychological needs. Specifically, this could involve rewarding students with acceptable grades and praise for academic challenges they have overcome, providing feedback for students’ autonomy as learners, and allowing students to choose topic areas of study they are interested in, thus enhancing the support of the students’ three psychological needs (Koestner & Losier, 2002; Ryan & Deci, 2000b).

The analysis suggested positive experiences while in high school contributed to student’s motivation for higher education and academic success and for disclosing in order to seek support services in college. Illustrating the role that positive relationships play in supporting students’ psychological needs, Brittany explained how the support she received in high school laid the foundation for her utilization of disability support services in college. Brittany described working closely with adults in high school to make decisions regarding her disability. This experience was essential in encouraging her to make decisions that supported her authentic sense of self as well as her need for autonomy, competence, and relatedness. Conversely, other students described experiences indicating that their self-determination was stymied by the actions and behaviors of significant adults that frustrated their needs for autonomy, competence, and relatedness. For instance, Tim and Mark described situations in which their parents assumed control of the decision-making processes related to seeking help, thus undermining these students’ opportunities to act in a way that actualized and represented their authentic sense of selves.

The experiences recounted here provide support for Deci and Ryan’s theory of self-determination and illuminate the ways that an individual’s psychological needs for autonomy, competence, and relatedness can be either supported or thwarted by a number of internal and external factors. Specifically, the findings indicate that internal factors such as students’ integration of their disability into their authentic selves, and external factors such as the actions of key figures in the context (i.e., parents, teachers, counselors, etc.), can play instrumental roles in facilitating students’ sense of self-determination and subsequent actions. Furthermore, the findings from this study suggest that these factors interact in complex and dynamic ways. For instance, students’ understanding of their identity, particularly with regards to their disability and academic needs, may be shaped by a myriad of personal and environmental factors, developing and unfolding as students participate and interact with others in the college context. Environments that foster a sense of autonomy may help to encourage identity development, which can positively impact students’ expression of self-determination. Thus, these findings suggest that it is important for adults in the high school and college environment to not only include students in important decision-making processes related to their disability but to encourage participation in the exploration of the environment as it relates to their emergent sense of self.

The training and professional competence of disability support providers emerged as a further factor affecting whether or not students with disabilities engaged with support services while at college. Well-trained disability support providers have been shown to empower a greater sense of self and well-being among students with disabilities, leading to a greater willingness to engage appropriate support (Cawthon & Cole, 2010; Kurth & Mellard, 2006; Levesque-Bristol & Stanek, 2009). It follows that disability support services staff at colleges should begin their work with students by asking them to articulate what services they have previously used and, accordingly, explaining to them what services are currently available. This concept was articulated in Mark’s narrative by the following: “We went over a lot of different things, all the different options available to me, all the different types of help, all the different places that I could go. It was very resourceful…” This framing enhances a sense of autonomy for the student and supports their ability to tailor a service package based on what is available. When DRS acts to enhance autonomy and competence with general metacognitive variables such as, how to “break down” problems, best strategies for problem success, and a system for personally assessing efficacy of academic work, students are more likely to experience autonomy.

The two types of relationships with significant adults identified in the narratives reflect a clear distinction between controlling and autonomy-supportive interactions. A collaborative interaction, in which the adults scaffold the student’s action rather than prescribe it to them, supports the student’s needs for relatedness, competence and, eventually, the student’s sense of self-determination. In contrast, well-intentioned adults who push for actions such as registering for support services may support students’ needs for relatedness, but thwart their needs for competence and autonomy. Students who are submissive to adults’ guidance are dependent on the adult and tend to allow the adult to control his or her decisions. When a parent, for example, sets up an appointment with a university’s disability office for their child, as was the case with Tim and Mark, the par-
ent is in control of the student’s actions; the parent has not necessarily taken the student’s own internalization of their disability into account. In contrast, students who work with significant adults are more likely to have their needs for autonomy, competence, and relatedness satisfied through endorsing the authentic self, as we saw with Julie and Brittany. According to Ryan and Deci (2000, pg. 237), “By identifying with the value of the activity, internalization will be fuller, people will experience greater ownership of the behavior and feel less conflict about behaving in accord with the regulation, and the behavior will be more autonomous.” Thus, interactions that are collaborative and empowering are more likely to promote autonomous decision-making and utilization of services.

Some students expressed a greater ease in discussing certain kinds of disabilities over others. This may have been influenced by public awareness and perception of the disability. For example, as ADHD has become a more widely discussed disability in our culture within the last decade (Perry & Franklin, 2006; Skinner & Lindstrom, 2003), it might be easier to discuss with support staff when compared to other types of disabilities such as a Traumatic Brain Injury (TBI) or Asperger’s Syndrome. This was the case with Tim, who explained that while he disclosed his diagnoses of ADD and OCD to his roommate, he was more hesitant to disclose his Asperger’s diagnosis, stating “when people think of Autism, like they think of Rain Man and that kind of thing, and I don’t want to be seen or thought of as some kind of savant.” Additionally, it is imperative the faculty be well versed in understanding a disability in order for the student not to feel uncomfortable about making use of accommodations. For instance, Gail described the importance of her interactions with faculty in her decisions to utilize classroom services, explaining that she always “looked to the teacher” for the “extra help” needed to meet her needs. Without a professor’s understanding and support, it is possible students may not pursue accommodations and services.

Several students within this study construed the disability services and resources office (and staff) as a narrow, authoritarian environment rather than a support. Students use services selectively and in relationship to how the student constructs his or her disability, as we saw, for example, in Marcus’ utilization of services. When students are engaged with support services that foster self-efficacy, they will broaden their needs, and support for autonomy may be satisfied.

According to the narratives in this study, some students tend to view DRS as a service provider. Rather than solely providing services, DRS staff should be educating students regarding their academic strengths and weaknesses. Staff can scaffold services, in providing assistance, direction and guidance about self-advocacy relative to a student’s particular intellectual strengths. In this manner, DRS would serve as an educator to help develop students’ sense of self. Engaging with an educator-oriented DRS may encourage students to more actively utilize university support services and help them achieve their goals.

The findings of this study generally support Ryan and Deci’s Self-Determination theory by illuminating the lived experiences of college students with hidden disabilities, particularly with regards to the degree to which their needs for autonomy, competence, and relatedness were met in the college environment. The unit of analysis that emerged from the data is not college, but rather the context within which students relate to college. For different individuals, different contexts may thwart or satisfy different needs. Students construct their own meaning in their contexts and within those contexts the individual needs are dynamic and complex. Differences between faculty and their understanding of disabilities, or a the presence or absence of a friend’s supportive nature towards a person’s disability, or even a student’s relationship or lack thereof with the disability support services office, can impact the creation of a positive sense of self. Support for the psychological needs of competence, relatedness and autonomy is dynamic and varied for students with disabilities. Yet, it is a critical factor.

**Limitations**

Several limitations exist within this study. One limitation pertains to the sample used. All of the participants in the current study were students with hidden disabilities who had registered with disability resource services at a large, public research university in the Northeastern United States. Future research should attempt to sample students with a wider range of disabilities in a variety of contexts. A second limitation involved response bias. Although the questions asked during the interview were open-ended, due to the sensitive subject nature, it is possible some students were less open to discussing their experiences than others. Another limiting factor in this study was that the research team did not employ member checking as a method for increasing the trustworthiness of the interpretations (Creswell & Miller, 2000). While member checking was not used in the current study, several measures were employed to validate that our understanding of the participants’ meaning-making processes was accurate. The structure of the interviews included features that help achieve trustworthiness,
such as adopting an open-ended and flexible format that allowed for a personal narrative to develop. Additionally, interviewing a number of participants allowed us to draw connections among participants’ experiences and check the comments of each participant within the context of the others as a means of understanding how participants make meaning of their experiences (Seidman, 2006).

Implications for Future Research

The findings from this study provide insight toward the role played by the psychological needs for competence, relatedness, and autonomy in a student’s experience and ultimate decision to disclose a disability and utilize university support services. The results indicated that when these needs are satisfied, students are more likely to disclose their disability and actively utilize university support services. However, additional research is still needed to better serve college students with disabilities and understand their motivation for disclosure and utilization of university support services.

Future research should investigate additional contexts and environments in which students with disabilities attend college or university. This investigation took place at a large public university. It would be important to replicate this study at a smaller, possibly private university, where there may be a smaller student-to-instructor ratio to see if findings would be similar. Exploring similarities and differences among students, and services offered, may provide additional understanding and guidance in tools for disability staff and faculty to help promote the satisfaction of students needs for autonomy, competence and relatedness. As students’ needs become more internalized, a more adaptive integration of the disability to the authentic self is likely to occur and result in stronger patterns for use of services.

The students who participated in this study were students with hidden disabilities. As is often the case, students with visible disabilities’ identity is often determined for them; therefore, it would be interesting to note how students with visible disabilities integrate their disabilities to their authentic self and the different patterns of motivation and decision-making processes. Replicating this study to investigate students with visible disabilities would be of interest in order to understand this population’s motivation to disclose and utilization of support services.

Implications for the Field

Prior literature has suggested that DRS policies, procedures, and staff may unintentionally create barriers to students’ self-determination and use of services. According to Beck, Diaz del Castillo, Fovet, Mole & Noga (2014) there are a number of practices that disability service offices can implement in order to promote access to services. For example, students could have virtual registration meetings in order to prevent fear of stigma when walking into the offices. Disability service offices could develop new ways to reach students who otherwise might not seek services on their own. In order to satisfy students’ need for autonomy and relatedness, DRS offices could provide information in orientation packets, post flyers throughout the universities in less public places, or email campus wide newsletters, allowing students to review the material in a private location without the perceived presence of stigma (Beck et al., 2014). Disability staff would benefit from further education related to SDT so they can help promote students sense of self and satisfying their psychological needs (Ryan & Deci, 2002a, b).

The training and professional competence of disability support providers is a further factor affecting whether or not students with disabilities will engage with support services while at college. Well-trained disability support providers have been shown to empower a greater sense of self and well-being among students with disabilities, leading to a greater willingness to disclose disabilities and engage appropriate support (Cawthon & Cole, 2010; Kurth & Mellard, 2006; Levesque-Bristol & Stanek, 2009). It follows that disability support services staff at colleges should begin their work with students by asking them to articulate what services they have previously used and, accordingly, explaining to them what services are currently available to the student at the particular college.
References


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


Reeve, J. (2009). Why teachers adopt a controlling motivating style toward students and how they can become more autonomy supportive. *Educational Psychologist, 44*, 159-175.


Footnotes

1 Upon registering with the DRS, students provide consent to be contacted by the DRS for reasons related to support services.

About the Authors

Amber O’Shea received her B.A. degree in Psychology from Indiana University of Pennsylvania and her M.S. degree in Counseling from Florida State University. She earned her Ph.D. in Educational Psychology from Temple University. Her experience includes working as a mental health counselor and instructing courses on adolescent development and cognition and learning. Her research interests involve understanding the psychological, social, and motivational processes related to learning, particularly among individuals with disabilities in higher education. She can be reached by email at amber.oshea@temple.edu.

Rachel Meyer received her BA in Psychology from the University of Denver, a Masters in Counseling from John Carroll University and her Ph.D. in Educational Psychology from Temple University. Her experiences include working with severe and persistent mental illness, teaching in higher education and running a disability office at a small college in Cleveland, Ohio. Currently, she is a school psychologist at Denver Schools of Science and Technology (DSST) in Denver, Co. Her research interests include motivation, transitioning from high school to college, and college students with learning differences. She can be reached at: rachelmeyer1@gmail.com.
Table 1

*Participants' Demographic Characteristics*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Year</th>
<th>Disability Type</th>
<th>Timing of diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark</td>
<td>Male</td>
<td>Freshman</td>
<td>ADD, OCD*, Anxiety Disorder*</td>
<td>Pre-College</td>
</tr>
<tr>
<td>Tim</td>
<td>Male</td>
<td>Sophomore</td>
<td>Asperger’s, OCD*, ADD*</td>
<td>Pre-College</td>
</tr>
<tr>
<td>Brian</td>
<td>Male</td>
<td>Sophomore</td>
<td>Asperger’s, Seizure Disorder*</td>
<td>During College</td>
</tr>
<tr>
<td>Tony</td>
<td>Male</td>
<td>Junior</td>
<td>ADHD</td>
<td>During College</td>
</tr>
<tr>
<td>Marcus</td>
<td>Male</td>
<td>Junior</td>
<td>ADHD</td>
<td>Pre-College</td>
</tr>
<tr>
<td>Katie</td>
<td>Female</td>
<td>Sophomore</td>
<td>Learning Disability, Cognitive Short-term memory loss*</td>
<td>Pre-College</td>
</tr>
<tr>
<td>Lori</td>
<td>Female</td>
<td>Sophomore</td>
<td>ADD</td>
<td>Pre-College</td>
</tr>
<tr>
<td>Brittany</td>
<td>Female</td>
<td>Sophomore</td>
<td>ADHD</td>
<td>Pre-College</td>
</tr>
<tr>
<td>Susan</td>
<td>Female</td>
<td>Sophomore</td>
<td>ADHD</td>
<td>Pre-College</td>
</tr>
<tr>
<td>Julie</td>
<td>Female</td>
<td>Junior</td>
<td>ADHD, Test Anxiety*</td>
<td>Pre-College</td>
</tr>
<tr>
<td>Gail</td>
<td>Female</td>
<td>Junior</td>
<td>ADD, General Learning Disability*</td>
<td>Pre-College</td>
</tr>
</tbody>
</table>

*Note.* *Listed as second and third disability diagnosis.*
Table 2

Themes and Categories in Students’ Narratives

<table>
<thead>
<tr>
<th>Theme and categories</th>
<th>Brief Description</th>
<th>Participants endorsing the construction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(1) Disability Construction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A) Self-attribute</td>
<td>Disability as a significant and stable self-aspect that requires significant attention</td>
<td>3 students (3 F)</td>
</tr>
<tr>
<td>(B) Minor irritation</td>
<td>Disability as a minor issue that can be addressed with a very specific service</td>
<td>2 students (1 M, 1 F)</td>
</tr>
<tr>
<td>(C) Ambivalence towards disability</td>
<td>Ambivalence regarding identifying oneself as having a disability</td>
<td>6 students (4 M, 2 F)</td>
</tr>
<tr>
<td><strong>(2) High School</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A) Positive support in high school</td>
<td>Utilized support services for disability while in high school</td>
<td>5 students (1 M, 4 F)</td>
</tr>
<tr>
<td>(B) Non-utilization in high school</td>
<td>Indication of disability in high school with no service utilization</td>
<td>2 students (2 F)</td>
</tr>
<tr>
<td><strong>(3) Significant Adults</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A) Submission to adults’ guidance</td>
<td>Students relied on the assistance of significant adults.</td>
<td>7 students (4 M, 3 F)</td>
</tr>
<tr>
<td>(B) Collaborative empowerment</td>
<td>Students were empowered by the interaction with significant adults.</td>
<td>4 students (1 M, 3 F)</td>
</tr>
<tr>
<td><strong>(4) Disability Resources and Services (DRS)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A) DRS as Club</td>
<td>Views DRS as a social setting for networking</td>
<td>2 students (2 F)</td>
</tr>
<tr>
<td>(B) DRS as Service Provider</td>
<td>Customer of disability resources and services</td>
<td>7 students (1 M, 6 F)</td>
</tr>
<tr>
<td>(C) DRS as Mentor</td>
<td>DRS staff as supporting and promoters of growth</td>
<td>6 students (3 M, 3 F)</td>
</tr>
<tr>
<td>(D) DRS as Just Another Service</td>
<td>Views DRS within the general services for students at the university</td>
<td>4 students (2 M, 2 F)</td>
</tr>
<tr>
<td><strong>(5) Faculty</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A) Constructive communication</td>
<td>Interaction with faculty, typically regarding a students’ disability</td>
<td>11 students (5 M, 6 F)</td>
</tr>
<tr>
<td>(B) Service utilization</td>
<td>Other services provided by or set up by instructors in class, like note taking and office hours</td>
<td>7 students (2M, 5F)</td>
</tr>
<tr>
<td><strong>(6) Peers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(A) Stigma</td>
<td>Stigma associated with disabilities</td>
<td>6 students (3M, 3F)</td>
</tr>
<tr>
<td>(B) Acceptability</td>
<td>Open to disability disclosure</td>
<td>9 students (4M, 5F)</td>
</tr>
<tr>
<td>(C) Avoidance</td>
<td>Non-disclosure of disability or minimal peer interactions</td>
<td>4 students (2M, 2F)</td>
</tr>
</tbody>
</table>
The Blind Leading the Blind: Goalball as Engaged Scholarship

Derek Van Rheenen

Abstract
The paper describes an engaged scholarship course at a large public research university on the west coast of the United States. The pilot course introduces students to the scholarship on disability framed within the cultural studies of sport. Participants engage with existing literature while actively participating in goalball, a sport designed for the blind or visually impaired. Through narrative analyses of participants, three themes emerged within this engaged scholarship experience: (a) an increased sensitivity to disability issues through an academic and somatic experience; (b) challenging ableism by privileging visual impairment in a sports context; and (c) envisioning political action by creating community among unlikely partners. Based upon research findings from this pilot study, the paper proposes an integrated model of sport and disability studies at the postsecondary level, bringing together campus and community, combining academic and athletic curriculum and integrating sighted and visually impaired participants. One important outcome of the course has been to help redefine the popular adage of the blind leading the blind from an ableist metaphor to an expression of emancipatory education.

Keywords: goalball, sport, visual impairment, engaged scholarship, blind leading the blind

“The blind leading the blind” is an expression commonly used to describe inept execution; a bumbling group effort. The expression is not only an indictment of poor leadership but a slight to all parties involved in the effort. It is a visual metaphor, conjuring the image of a poor soul, arms extended, searching the darkness, while trying to help others navigate the same path unsuccessfully.

The metaphor has been around since antiquity. Jesus uses the expression at least twice in the four Gospels; he heals the blind on even more occasions. Having traveled across millennia, the expression remains in use today. Mick Jagger of the Rolling Stones uses the metaphor as the title of a 21st Century rock ballad. The blind leading the blind is also a metaphor used by those who see and take for granted their advantaged status. The metaphor embodies a certain smugness of the sighted, implying that those with vision could perform the task in question far more capably. Perhaps not intended to draw a literal separation between the blind and those who see, the underlying cultural meaning of this expression is that the sighted must help the blind, leading them to safety.

From this perspective, societies must protect people with disabilities from dangerous situations rather than allowing them to take risks like everyone else. In certain physical activities, such as sport, the risks are perceived as even greater for people with disabilities. Not surprisingly, American children and youth with disabilities participate in physical activity 4.5 times less often than their peers without disabilities (Rimmer, 2008; U.S. Department of Education, 2011). These disparities in participation rates may be even more pronounced for visually impaired youth who tend to be more sedentary and have lower fitness levels than their sighted peers (Hopkins, Gaeta, Thomas & Hill, 1987; Karakaya, Aki, & Ergen, 2009; Kobberling, Jankowski, & Leger, 1991; Lieberman & McHugh, 2001; Short & Winnick, 1986).

In response to these disparities, the United States Department of Education’s Office of Civil Rights (OCR) issued policy guidelines in January 2013 stipulating that educational institutions should make reasonable modifications and provide necessary accommodations to ensure that a student with a disability is afforded the opportunity to participate in extracur-

1 University of California Berkeley

This paper describes one co-curricular example at the postsecondary level in keeping with these federal mandates. In the spring of 2013, the author helped design a university course at the intersection of sport and disability studies. The course introduces students to the scholarship on disability studies framed within the cultural studies of sport. In particular, participants engage with existing literature while actively participating in a sport designed for the blind or visually impaired.

Goalball was an activity first designed to help returning World War II veterans, blinded in battle; it has been a Paralympic sport since 1976. In goalball, visually impaired and blindfolded athletes compete in teams of three; competitors try to throw a three-pound perforated ball, with bells embedded in it, into the opponents’ goal. Defenders try to block the ball with their bodies, usually by sliding and laying fully outstretched, as they listen to the ball’s approaching trajectory. The goalball court, the size of a volleyball court, is marked by tape, thin rope, or sash cord so that participants can feel the boundaries of the playing field and thus orient themselves physically within this space.

Central to the success of this newly designed course has been a strong commitment to engaged scholarship. The underlying premise of engaged scholarship is to create meaningful collaborative environments with partners outside of the university and thereby promote reflective engagement among students on broad social issues and interests. In addition to strengthening the campus’s commitment to equity, social justice, and civic responsibility, engaged scholarship represents another important tool for critical analysis and emancipatory education (Cutthill, 2012; Stanton, 2008).

In developing and implementing the goalball course, the university partnered with the Disabled Athletics and Recreation Program (DARP), a local organization that has served the disabled community for over twenty five years. This campus/community partnership has allowed students and community members the opportunity to think and play together in a non-traditional classroom. The course provokes reflection on these intentional and spontaneous collaborations, providing a sports opportunity to visually impaired students while helping sighted students understand the lived experience of disability.

The novelty of this curriculum has been the blending of sport and disability studies within a non-traditional classroom. The classroom opens a field of play to students and non-students alike and to individuals with and without visual impairment. Researchers have found that visually impaired youth participating in goalball increased their physical fitness and stability (Karakaya et al., 2009) and reduced their percent body fat (PBF) and body mass index (BMI) (Aydog, Aydog, Cakci, & Doral, 2006; Caliskan et al., 2011).

Indeed, most existing studies of sport and the visually impaired have focused on quantitative rather than qualitative data that could illuminate the lived experience of participants. Similarly, there is a dearth of literature on sighted students participating in a sport designed for the visually impaired, particularly when sighted and visually impaired students are integrated within the same program. The current research fills these critical gaps in the literature. Because goalball normalizes visual impairment, this study problematizes the dichotomy between ability and disability. In highlighting the social construction of disability, this paper describes some of the key findings from this engaged scholarship course.

Conceptual Frame

Cultural assumptions of blindness exist within the lived experience and corresponding expectation of sightedness. The ability to see is normative and ubiquitous; to not see implies a lack or limitation of a given, taken-for-granted ability. Framed within a medical model, blindness is pathologized as a disability to be diagnosed, treated, and cured. Like a disease, this disability is often covered up, hidden from view. Lack of vision creates concrete examples of exclusion and marginalization. For example, when visually impaired students are given campus tours at this university, these students are not taken to the Recreational Fitness Center (RFC), implying that this would not be a space of interest for them. After all, the space is full of gyms, weights, and machines, a place to participate in extracurricular athletic activities. In this way, educational institutions implicitly enforce corporeal and social norms.

Counter to the medical model, social models of disability recognize the ambiguity of essentialized categories of ability and disability. These categories are socially constructed in opposition or as binaries, often leading to the marginalization and oppression of disabled individuals. As Gabel and Peters (2004) argue:

a hallmark of the social model has been its political standpoint on the relationship of disabled people to society. In general, the social model recognizes two groups in the larger struggle—the disabled and non-disabled—even though the distinctions between these two groups is often unclear.
Documenting the theoretical eclecticism evident in the Disability Rights Movement and in disability studies, Gabel and Peters (2004) propose the use of resistance theory as a productive bridge between theory and practical action, a conceptual means to unite the diverse versions of the social model across paradigmatic boundaries. More specifically, resistance theory recognizes the potential for individual and collective agency attained through a combination of critical reflection and action. Drawing on the writings of Foucault (1994, 1995) and Freire (2003), resistance theory: 

assumes that disabled people and their non-disabled political partners are simultaneously individuals and members of a collective. As such, experience and its influence on the construction of the disability identity are as important as the macro-social processes of disability community-building, disablement and the oppression of entire groups of people. (Gabel & Peters, 2004, p. 594)

**Method of Inquiry**

Drawing on resistance theory’s call for combining critical reflection with action, this paper utilizes narrative analysis within the context of sport and disability studies. The author refers to the work of Smith and Sparkes (2012), who use narrative analysis to enliven the experiences of athletes who have suffered catastrophic spinal cord injuries. According to these researchers, “narrative analyses hold onto understanding the sporting body as not just material or subjective, but also culturally produced and producing, with narratives from culture doing ‘positive’ and ‘dangerous’ work on and for bodies” (p. 82).

The blind leading the blind metaphor is one such narrative that has done harm to the visually impaired within the realm of sport and physical culture. In the goalball course, participants read and wrote about blindness as a disability while also performing in a sport for the blind. Through critical reflection of these practices, participants produced a series of experiential and embodied narratives. Specifically, data included initial and summative reflections of the goalball course experience from both sighted and visually impaired participants. Through a course website, facilitators asked participants to respond to narrative prompts such as, “What have you learned about disability and blindness? Relate this to your experience playing goalball and at least two texts in the class.”

Two course readings, in particular, were frequently cited in participants’ narrative responses: H.G. Wells’s short story, *Country of the Blind* (2007) and Tanya Titchkosky’s scholarly article, “Looking Blind: A Revelation of Culture’s Eye” (2005). Participants reflected on the fictional and non-fictional stories embedded in these course texts to construct their own narratives. The construction of these narratives reflected a critical chronology, as participants developed a more nuanced understanding of sport and disability studies over time.

**Participants**

The pilot study involved 36 participants, including the author as the instructor of record, two goalball coaches from the Disabled Athletics and Recreation Program (DARP) and two graduate students enrolled at the university at which this pilot course was offered. All other participants were students and community members actively engaged in the goalball course. Participation in this course was voluntary; informed consent and liability waivers were obtained from all participants. Pseudonyms were used to protect the anonymity of the participants. 

As the instructor of record, the author designed the academic curriculum and helped to coordinate meetings between campus and community partners. He also documented the process and took the lead on conducting research associated with the program. Two graduate students helped to facilitate the academic aspects of the course and supported the athletic instruction provided by the community experts. The head coach had worked for DARP for over twenty-five years. He began working at DARP as a volunteer coach and has since developed as one of the most experienced goalball coaches in the country. The assistant coach competed in goalball for the United States at a previous Paralympic Games. He originally served as a volunteer coach for the course but was hired as a university employee in the Recreational Fitness Center beginning in the 2013-14 academic year. In this more formalized capacity, he has since taken a more active role in leading the goalball class.

In addition to the five course facilitators, 31 participants were actively engaged in this co-curricular experience. As illustrated in Table 1, 13 of the participants (42%) were female; eighteen (58%) were male. Twenty-three (74%) were university students; eight (26%) were local community members. Four of the students were disabled; three of these students were visually impaired. All of the community participants identified themselves as visually impaired. Thus, over one-third (35%) of the participants in the goalball course were visually impaired, while the majority (65%) was sighted. The racial/ethnic identification of the participants was as follows: 16 were white (52%), eight were Asian or Asian-American (26%), four were...
Chicano/Latino (13%), one participant was African-American/Black (3%), and one participant was Pacific Islander (3%).

**Study Context**

The course met weekly in Gym B of the Recreational Fitness Center (RFC), the university’s largest fitness center with over 100,000 square feet of activity space. The RFC serves the campus community of faculty, staff, and students. Gym B is approximately 100’ x 110’ or 11,000 square feet, almost completely occupied by two full-size basketball courts. On the floor there are various court markings for other sports such as volleyball. The course utilized the court markings of one of the volleyball courts for the goalball class. Because participants rely on hearing in this sport, the second court of the Blue Gym was closed to other recreational sports, such as organized or pick-up basketball games, while the goalball class was in session.

Each class lasted two hours. Course facilitators arrived early to set up the court, laying out the rope and covering it with tape so as to frame the boundaries of the goalball court. The course was organized into three segments of approximately 40 minutes. The first one-third of the course involved discussion and reflection, based on course readings or guest speakers. These discussions took place on the floor of the gymnasium. The second segment of the class involved goalball instruction, with coaches teaching specific game skills and strategies. The final third of the class was reserved for sport competition, led by one or both of the two coaches.

**Analysis and Results**

Utilizing a holistic-content analysis (Lieblich, Tuval-Mashiach, & Zilber, 1998; Smith & Sparkes, 2012), an inductive process generated common themes or patterns through the reading, review, and rereading of participants’ textual data. A final review of these narrative texts ensured that the themes discovered during the inductive process were relevant and representative of the data.

Preliminary data revealed three key themes associated with this course. These themes were (a) an increased sensitivity to disability issues through an academic and somatic experience; (b) challenging ableism by privileging visual impairment in a sports context; and (c) envisioning political action by creating community among unlikely partners.

In light of the Office for Civil Rights recent clarification of schools’ responsibilities to ensure that students with disabilities have equal opportunities to participate in extracurricular athletic activities, the paper includes recommendations for providing athletic opportunities for students with disabilities. These recommendations suggest that future efforts at providing athletic opportunities for students with disabilities at the postsecondary level should focus on creating an integrated model of engaged scholarship. The proposed model would include the integration of campus and community partnerships, the integration of sighted and visually impaired participants, and the integration of athletic and academic instruction within a non-traditional classroom. Furthermore, the proposed model seeks to recognize and promote blind and visually impaired leaders in the field of sport disability studies. As educators, we have the potential to reclaim an ableist narrative in the form of an ancient metaphor, creating spaces within which the blind not only lead the blind, but lead the sighted, as well.

**Findings and Participant Outcomes**

**Performing Blind(ness): An Increased Sensitivity to Disability**

In “Looking Blind: A Revelation of Culture’s Eye,” Titchkosky (2005) describes her experience as a sighted person passing as blind, and therefore being mistaken to be blind. Her husband, “a real blind person,” she writes, was working late and became concerned that his guide dog, Smokie, was getting hot and tired. He asked his wife to pick up the dog and take him home.

While leading the guide dog to the entrance of the subway station on the way home, Titchkosky gave Smokie a verbal command, a command the dog did not immediately heed. A sighted man witnessed the exchange and grabbed Titchkosky by the arm, telling her that he would take her to the subway. He then guided her to the ticket booth, despite her protests that she did not need his help. Titchkosky writes, “Despite this stranger’s impositional power, performed through his own status as a ‘helpful sighted person,’ he failed to see that I was sighted” (p. 221). He also failed to imagine her as competent, independent, and blind.

In a liminal or in-between state between passing as blind and performing blindness, Titchkosky reveals how blindness as an identity category is constructed through interaction. While her experience with the man at the subway epitomizes the way in which society treats the disabled with protective gloves, Titchkosky sees the potential for meaningful engagement between disabled and non-disabled people, where the experience might be open, reciprocal, and respectful.
This potential for meaningful engagement and interaction was realized within the goalball class at the university. Performing blindness within the context of goalball enabled the participants, particularly sighted participants, to increase sensitivity to disability issues through an academic and somatic experience. Jennifer, a sighted student, wrote:

I’ve noticed, similar to Titchkosky, that visually impaired people are often treated very differently by society from everybody else. People with visual impairments are sometimes seen as helpless or lower status, under the assumption that disability is a “stigmatized deviation and oppressive minoritization” (p. 227). But, in our class, not being able to see is simply a different way of experiencing life and interacting with each other. We use a lot more verbal communication and listen closely for both the sounds of the ball and each other’s voices.

The lessons learned on the goalball class extended beyond the court of play. Ryan, a senior and Division I student athlete wrote:

Several points Titchkosky made opened my eyes to what being blind was like. I had never thought that trying to help a visually impaired person cross the street could annoy and frustrate him or her… After reading the article, I couldn’t stop thinking of how it would frustrate me if I had walked a certain distance to get somewhere and all of a sudden someone who thought of me as ‘disabled’ thought that I needed their help to cross the street. It opened my eyes to the ignorance of the general population when it comes to disabilities.

While the narrative reflections of some of the sighted students may have seemed superficial to the visually impaired participants or those better versed in disability studies, a heightened sensitivity to disability was a recurring theme in the initial reflections of many participants in the course.

**Resistance and Reflection: Challenging Compulsory Able-bodiedness**

Requiring all members of the class to wear blindfolds when playing goalball had an immediate and powerful impact on participants. Performing blind(ness) within this sport’s context enabled participants to recognize but likewise challenge the normative state of being able to see. Sarah, a disabled female student, wrote:

…compulsory able-bodiedness [is] the idea that disabled people should do as much as they can to be like able-bodied people. However, goalball is a sport designed with the assumption of not being able to see, and requires blindfolds to keep the players from seeing—whether the participants are blind or not. Goalball presents an opposing condition to compulsory able-bodiedness.

As such, the course afforded visually impaired participants an unfamiliar advantage while witnessing the fear, fragility, and even humility of sighted participants. Emily, a sophomore who describes herself as “legally blind [with] some remaining vision,” appreciated the risk and pleasure of competing with and against others. She wrote:

Ever since a young age, I never had much exposure to athletics. From first grade onward, I was in adapted physical education courses, which were extremely safe environments. The goalball class was drastically different. For the first time, I felt like part of a team and experienced real competition. Although sometimes I would return home feeling very sore, I could say it was all worth it because I scored a goal for the team! Not only did I have a great time interacting with others and bonding with my goalball classmates, I also realized I am not as fragile as I thought.

Chloe, a blind international student, wrote:

I have never been athletic as a child. Even when other children ran or played around me, I would not join them… This goalball class has been an unexpected gift for me this semester. Even during the first lesson, I already found this sport to have the speed and thrill one sees in popular sports like soccer, basketball, and football. Every move requires a refined technique, and strategy and teamwork are vital for one’s success. On the one hand, I was considerably humbled, for I realized how ignorant about goalball I really was! Yet, on the other hand, I was empowered; if I keep learning and working hard, I will have the competence to play well in this sport.

The intentional interaction between sighted and visually impaired athletes in goalball created camaraderie, a space at once competitive but also safe to challenge one’s vulnerabilities and preconceptions. While Ryan recognized his own, and society’s, insensitivity to the abilities of the disabled community, Chloe acknowledg-
edged her own hesitation as a blind person to take advantage of athletic opportunities.

The experience also allowed participants to recognize the broad range of disabilities and the varying degrees of visual impairment. Sarah, a disabled and sighted student wrote:

Because I am not blind, I worried that I would be entering into a private sub-culture in which I would be out of place despite the reassurances that all were welcome…I thought that putting on a blindfold would help level the playing field between blind and sighted students but I did not think it would help sighted students better understand the lives of blind students.

She added, however, “There is no real comparison between an hour of playing with a blindfold and a life of blindness.”

Sighted participants, or “sighties” as Michael referred to those with full vision, came to recognize that visual impairment and sightedness exist along a continuum. Moving beyond binaries of ability and disability, the notion of “partials” emerged, an in-between state of being able and not being able (to see). Learning about this in-between or liminal state in sport reinforced course curriculum, illuminating the blurry border crossing between ability and disability. Moving beyond binaries opened unexplored spaces in which participants could experiment with perspective, expand possibilities and establish mutual values of respect and dignity for all abilities.

The Country of the Blind: Envisioning Political Action through Critical Reflection

In *The Country of the Blind*, Wells (2007) creates an allegorical world in which the people had not known sight for many generations. Wells connects the country’s original “plague of blindness” to disease: “a strange disease had come upon them, and had made all the children born to them there—and indeed, several older children also—blind” (p. 323). As a result, citizens organized their social and physical environment from this perspective. Blindness was normal, expected, taken for granted.

Nunez, a sighted mountaineer from a country over the hills, fell over a precipice to land in the valley of the blind. As the sighted explorer discovered this strange new world, he remembered the proverb, “In the country of the blind, the one-eyed man is king.” To his surprise, however, he would not become king of these people. His ability to see was not a skill of value in this land. Rather, as Wells writes of the citizens that Nunez confronted, “their senses had become marvelously acute; they could hear and judge the slightest gesture of a man a dozen paces away—could hear the very beating of his heart…Their sense of smell was extraordinarily fine” (p. 335).

Conversely, Nunez’s demands to express his advantage of sight were perceived as the ravings of a lunatic. A blind doctor sought to cure Nunez of his affected brain by removing his eyes. Ultimately, Nunez fled the country of the blind, with the knowledge that he would die but retain his ability to see the world from his perspective:

There were deep mysterious shadows in the gorge, blue deepening into purple, and purple into a luminous darkness, and overhead was the illimitable vastness of the sky. But he heeded these things no longer, but lay quite inactive there, smiling as if he were satisfied merely to have escaped from the valley of the Blind in which he had thought to be King. (pp. 346-347)

The *Country of the Blind* resonated with both visually impaired and sighted participants in the goalball course at the university. In particular, participants were struck by how the course inverted the normative position of sightedness. Emily, a visually impaired student, wrote:

The description of Nunez’s experience in the valley contrasts ironically with what visually impaired individuals experience in daily life. In this story, Nunez is seen as being abnormal, having a diseased mind, because he continues to hallucinate about sight… In the modern world, it can be said that the able body is king: able-bodiedness exemplifies power and advantage. This is also true in the world of athletics. Society assumes the able body to be better, faster, more competitive and likely to win in athletics. However in the Goalball class, this does not necessarily hold true. Sighted players are not only asked to enter the game, but in addition they are asked to pass, like Nunez and Titchkosky, as blind. All players are asked to wear eyeshades, and the perceived advantage of sight is removed. It is with the removal of this perceived advantage that sighted players learn to become attentive to their other senses while the daily lived experiences of the blind players become an experiential advantage. In goalball a reversal of roles occurs, breaching the gap between disability and assumptions of athletes while further questioning the definition of the normative position.
Jennifer, a sighted student who participated in two semesters of the class and became a course facilitator during her second term, recognized the importance of how normative positions are created and reinforced. She wrote:

Although the story seems to guide the reader toward a reverse type of thinking about disability, the Blind people from the Valley in the story have just as much hubris as Nunez when he first entered the Country of the Blind. Both Nunez and the Blind people were born and raised to have opinions about what they consider as normal, and thus both parties automatically assume that the other is strange and different. Nunez thinks he can rule the country better because he can see, and the Blind try to ‘cure’ Nunez by planning to take his eyeballs out!

These narrative reflections represented a developmental process within the course. Participants moved beyond simply acknowledging the need for a heightened sensitivity around disability issues. Participants began to articulate a more nuanced understanding of disability and the so-called disability community. The disabled community became more than a monolithic, essentialized social category, comprised of a diverse collection of individuals and groups. Recognizing the notion of compulsory able-bodiedness, narratives began to see the disabled community itself guilty of replicating their own structures of inequality within and between a range of disabled identities.

A deeper understanding of disability helped to forge alliances between sighted and visually impaired participants. Meaningful interaction among participants became a recurring theme developed from these somatic experiences and critical reflections. The interaction took place in discussion on and off the court of play. Susan, a sighted student, described her experiences on the court:

In goalball we are forced to communicate in ways in which we normally wouldn’t if we had sight. It forms more of a bond between team members, as you really have to trust your fellow teammates to hold down their end of the fort; moreover it forms a sort of community between you and your fellow classmates, who all understand the level of cooperation that has to go on to properly execute a solid block or play.

Susan’s description highlights the co-curricular aspect of this experience, referring to interaction with fellow participants as both her teammates and classmates. Similarly, instructors leading the class are both coaches and teachers, a further blurring of pedagogical lines within this non-traditional educational space.

Brian, a sighted senior, drew from course readings to reflect on his experiences with goalball when he wrote:

The story of Nunez and the Country of the Blind seems similar to my experience in goalball, both in terms of playing the game and interacting with the community members who are visually impaired. The idea that the people who are blind in the story have heightened their other senses and have made that into an advantage seems applicable to the actual game of goalball and the need to focus on your other senses. Going past the sport itself, the idea of both groups of people having a lot they can learn and gain through working together seems similarly applicable.

Establishing mutual values through critical reflection and action provided a productive framework to resist compulsory able-bodiedness and to work for social justice. Participants’ narratives from the goalball class culminated in a sense of individual and collective agency surrounding disability issues. Sighted and visually impaired participants alike created community, redefining dominant understandings of disability. This process unfolded over time, on and off the goalball court. On the court, performing blind demanded cooperation and trust, as teammates played together and competed against others. Individuals tested themselves, forced to challenge existing perspectives.

Off the court, participants initially developed a more heightened sensitivity to disability. For sighted participants, a narrative chronology often developed from a cultural naiveté to a more nuanced understanding of disability. These participants may have gained the most from this experience, transforming what one participant described as ignorance to a sense of political advocacy for the disabled community. Visually impaired students gained a greater sense of physical and athletic competence as a result of the course. Participating in a competitive, fast-paced sport led many to feel stronger and less fragile.

In particular, the course forced participants to confront one of the tenets central to the disability rights movement: balancing dignity with risk. This balancing act may be even more difficult for blind or visually impaired individuals, who are often excluded from physical activities and sports where such exclusion is justified as a means of protection. Thus, a more nuanced understanding of interaction between able-bodied and disabled participants suggests that
schools need to do more than simply provide access and opportunity for sports and physical education. These educational institutions should seek to treat disabled participants with respect and dignity by pushing the boundaries and meanings of participation.

Conclusions, Recommendations and Implications

The initial premise of the pilot course was to provide a unique sports opportunity for visually impaired university students. As it turned out, sighted students may have learned more from this unique experience. In addition to learning a new sport designed for the visually impaired, sighted students developed an increased sensitivity to disability issues on their college campus and in society more broadly. This heightened sensitivity, provoked by playing blindfolded and reading about disability in a college goalball class, led participants to reflect and resist the social construction of compulsory able-bodiedness. As Titchkosky argues, “This is part of the radical critical power that lies between the differences of disability and nondisability and makes cross-disability experiences potential spaces for critical inquiry into ableist culture” (p. 223, author’s italics).

Almost by accident, the goalball class created this critical space for a cross-disability experience. The space promoted the integration of able-bodied and disabled participants, coming together around a common goal. As an engaged scholarship experience, the course facilitated the integration of campus and community collaboration. The course would not have been possible without DARP, a community organization with the knowledge and experience to guide the campus through the often-blind intersection of disability and sport. DARP’s expert coaches and community participants enlivened and broadened the course experience. The integration of community partners and campus participants remains at the heart of engaged scholarship and its commitment to collaborative, critical reflection and emancipatory education.

Finally, the course has helped to redefine the blind leading the blind as an ableist metaphor. The university’s hiring of a former Paralympian to teach both visually impaired and sighted student athletes suggests that we may have stumbled across an educational model that works. The model, recommended for educational institutions interested in replicating a similar course, has been successful at this university because the pilot program integrates campus and community, academic and athletic curriculum and sighted and visually impaired participants. Ultimately, the course has been successful because it teaches and dignifies a diverse community while broadening the vision of sport and higher education.

References


Footnotes


About the Author

Derek Van Rheenen received his B.A. degree in Political Economy/German, M.A. in Education, and Ph.D. in Cultural Studies all from the University of California, Berkeley. His experience includes working as the Director of the Athletic Study Center for UC Berkeley since 2001, serving as the Director of the M.A. program Cultural Studies of Sport in Education in the Graduate School of Education at UC Berkeley since 2010, and competing as a professional soccer player on the San Francisco Bay Blackhawks from 1988-1992. He is also currently an adjunct professor in the Department of Education at UC Berkeley. His research interests include a wide range of topics from the cultural studies of sport to physical education to intercollegiate athletics and higher education. As of late, Dr. Derek Van Rheenen has explored the intersection of disability and sport in institutions of higher education. He can be reached by email at: dvr@berkeley.edu.
Table 1

**Participant Characteristics**

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>M/F</th>
<th>Ethnicity</th>
<th>Visual Impairment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randy</td>
<td>Coach</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Michael</td>
<td>Coach</td>
<td>M</td>
<td>African American</td>
<td>Yes</td>
</tr>
<tr>
<td>Rebecca</td>
<td>GSI</td>
<td>F</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Jeff</td>
<td>GSI</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Chris</td>
<td>Student</td>
<td>M</td>
<td>Asian American</td>
<td>No</td>
</tr>
<tr>
<td>Harris</td>
<td>Student</td>
<td>M</td>
<td>African American</td>
<td>No</td>
</tr>
<tr>
<td>Ernest</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Noah</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Kevin</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>Yes</td>
</tr>
<tr>
<td>Sarah</td>
<td>Student</td>
<td>F</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Chloe</td>
<td>Student</td>
<td>F</td>
<td>Chinese</td>
<td>Yes</td>
</tr>
<tr>
<td>Natalie</td>
<td>Alumni</td>
<td>F</td>
<td>Asian American</td>
<td>No</td>
</tr>
<tr>
<td>Alice</td>
<td>Student</td>
<td>F</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Walter</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>David</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Saul</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Nathan</td>
<td>Student</td>
<td>M</td>
<td>Chicano/Latino</td>
<td>No</td>
</tr>
<tr>
<td>Stewart</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Reed</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Ryan</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Emily</td>
<td>Student</td>
<td>F</td>
<td>Asian American</td>
<td>Yes</td>
</tr>
<tr>
<td>Jennifer</td>
<td>Student</td>
<td>F</td>
<td>Asian American</td>
<td>No</td>
</tr>
<tr>
<td>April</td>
<td>Student</td>
<td>F</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Rufus</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Nick</td>
<td>Student</td>
<td>M</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Nora</td>
<td>Student</td>
<td>F</td>
<td>White</td>
<td>No</td>
</tr>
<tr>
<td>Irene</td>
<td>Community</td>
<td>F</td>
<td>Chicana/Latina</td>
<td>Yes</td>
</tr>
<tr>
<td>Jamie</td>
<td>Community</td>
<td>F</td>
<td>Asian American</td>
<td>Yes</td>
</tr>
<tr>
<td>Mark</td>
<td>Community</td>
<td>M</td>
<td>Pacific Islander</td>
<td>Yes</td>
</tr>
<tr>
<td>Lawrence</td>
<td>Community</td>
<td>M</td>
<td>Asian American</td>
<td>Yes</td>
</tr>
<tr>
<td>Spencer</td>
<td>Community</td>
<td>M</td>
<td>Asian American</td>
<td>Yes</td>
</tr>
<tr>
<td>Grant</td>
<td>Community</td>
<td>M</td>
<td>White</td>
<td>Yes</td>
</tr>
<tr>
<td>Haley</td>
<td>Community</td>
<td>F</td>
<td>Chicana/Latina</td>
<td>Yes</td>
</tr>
<tr>
<td>Amanda</td>
<td>Community</td>
<td>F</td>
<td>Chicana/Latina</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Faculty Attitudes and Behaviors Towards Student Veterans

Carlene A. Gonzalez¹
Marta Elliott²

Abstract
According to the U.S. Department of Education (2013), approximately 11% of undergraduate students reported having a disability in the 2007-2008 academic year. Of these students, veterans reported having disabilities more than their non-veteran counterparts (5% vs. 3%)¹. This study investigates faculty members’ attitudes and behaviors toward student veterans pursuing postsecondary education. Over half a million U.S. troops have returned from the wars in the Middle East and opted to use their GI-bill benefits to enroll in college. Many of these students face common post-war experiences such as post-traumatic stress disorder (PTSD) and traumatic brain injury (TBI). Previous research has shown that mental health issues led student veterans to perceive faculty as judging them unfairly, but little is known about what faculty actually think of student veterans. Using survey data collected from 160 instructors at a community college and four-year university, we estimate structural equation models to explain the associations among faculty members’ prior contact with the military, their attitudes toward student veterans and willingness to help them, and their treatment of military-related issues in the classroom. The results reveal that faculty who have greater contact with the military in their own lives discuss the military more often in class and are more willing to help student veterans because they know more of them. Policy recommendations in line with Universal Design (UD) are offered for training faculty who do not have contact with the military and need to be aware of special issues related to student veterans in their classrooms, such as helping students who are dealing with visible and invisible injuries related to their military service.

Keywords: veterans, faculty attitudes, and postsecondary education

The number of students with disabilities enrolled in postsecondary education is continuing to grow (Synder & Dillow, 2010). In the 2008-09 academic year, over 700,000 students with disabilities were enrolled in postsecondary institutions (Raue & Lewis, 2011). Of these, 86% were students with specific learning disabilities, followed by students who reported mobility limitation/orthopedic impairments (76%) and mental illnesses (76%, Raue & Lewis, 2011). In a separate study, 96% of all postsecondary institutions enrolled student veterans or their dependents in the 2012-13 academic year (Queen & Lewis, 2014). About half of a sample of student veterans participating in the Student Veterans of America (SVA) Million Records Project reported earning postsecondary degrees or certificates (Cate, 2014). In the 2007-08 academic year, approximately 5% of students with disabilities identified themselves as veterans (U.S. Department of Education, 2013).

Postsecondary institutions throughout the U.S. have seen an influx of veterans joining the ranks of the student body, in large part due to the availability of tuition assistance through the Department of Veterans Affairs (VA). Unlike previous versions of the education bills, the Post-9/11 G.I. Bill extended benefits to cover tuition and expenses at institutions of higher education for honorably discharged veterans who served 90+ days of active duty since September 2001, their spouses and their children (Grossman, 2009). With armed forces having largely exited Iraq and military presence continuing to decrease in Afghanistan, approximately one-half million returning veterans have opted to use their post-9/11 G.I. bill benefits in recent years (Sander, 2012). In a study examining the first implementation of the new GI bill, nearly 24% of survey respondents cited the existence of this legislation as a primary reason for enrolling in postsecondary education (Steele, Salcedo, & Coley, 2010). Research has documented the impact

¹ National Council of Juvenile and Family Court Judges; ² University of Nevada, Reno
of military service on student veterans’ health as well as their experiences in school (Elliott, 2015; Elliott, Gonzalez, & Larsen 2011; 2012). This study moves forward to explore faculty member’s attitudes and behaviors toward student veterans in the interest of linking faculty input to student success.

Many veterans who enroll in postsecondary institutions have endured the consequences of the Global War on Terror (GWT) such as extensive physical wounds, mental health issues and traumatic brain injuries (Church, 2009). Concentration and memory problems, depression and anxiety, and issues related to impulse control and irritability are common manifestations of the GWT (Church, 2009). In a study on Wounded Warriors, participants reported psychological/emotional, health-medical, learning disabilities and mobility issues as primary disability categories (Vance & Miller, 2009). Experiencing military-related injuries may negatively impact the educational performance of student veterans, who tend to have lower grade point averages (GPAs) than their non-veteran counterparts (Durdella & Kim, 2012) and relatively low completion rates of their postsecondary programs (Cate, 2013). With such a large number of student veterans with disabilities enrolling in postsecondary education, there is an opportunity to re-shape Disability Services (DS) offered to all students with disabilities (Madaus, Miller & Vance, 2009). The Office of Civil Rights (OCR), for instance, announced the Wounded Warriors Initiative (Monroe, 2008) which pledged to support student veterans with disabilities by encouraging postsecondary institutions to adopt innovative approaches to serving this special population. The OCR has also stressed two important points: (1) veterans must be proactive in notifying their institution of their needs, and (2) just because a veteran was not determined as disabled by the military at the completion of service does not mean that he or she is ineligible for Section 504 of the Rehabilitation Act (Section 504) or the American with Disabilities Act Amendments of 2008 (ADAA; U.S., Department of Education, 2008).

Such efforts to make postsecondary institutions more veteran-friendly would be well-advised to incorporate the core principles of Universal Design (UD, Center for Universal Design, 1997). The principles of UD emphasize making environments flexible for individuals of diverse abilities, including veterans. Because many student veterans are coping with post-deployment disabilities, enrolling and studying at a campus that implements UD would potentially make the transition to campus life easier. It is important to note, however, that much of the work on UD has focused primarily on creating malleable physical environments, such as by altering a space to better suit the needs of the students with disabilities or by using more ergonomically-sound desks and chairs. More recently, however, the work on UD has shifted to focus on instruction (e.g., course planning, curriculum and assessment development).

Because student veterans returning from the most current wars often struggle with both physical and psychological injuries, it is imperative that instructors take UD principles into account when preparing class lectures and activities. It has been shown that military-related injuries impact student veterans’ capacity to assimilate into campus life. For instance, symptoms of both post-traumatic stress disorder (PTSD) and depression increase the likelihood that student veterans will feel uncomfortable in situations such as crowded auditoriums, unfairly judged, and like they do not fit in on campus (Elliott, 2015; Elliott, Gonzalez, & Larsen 2011; 2012). In addition, student veterans feel uncomfortable when their professors’ version of military history departs significantly from their first-hand experience (Gonzalez, 2012) and when they are singled out as representatives of the military (DiRamoio, Ackerman, & Mitchell 2008). Student veterans also feel that differences between conservative versus liberal perspectives on military-related issues result in unpleasant interactions with faculty members. Clashes between liberal professors and conservative students lead students to feel that faculty did not understand them (Ackerman, DiRamoio, & Mitchell, 2009; DiRamoio, et al., 2008). A substantial proportion of faculty identify themselves as liberal or left (Hamilton & Hargens, 1993), especially in the social sciences and humanities (Harris Poll, 2004).

Altering the learning environment to implement principles of UD could potentially assist in alleviating student veterans’ feelings of not fitting in. For instance, ‘a community of learners’ encourages dialogue and communication between peers, as well as with faculty. Such a learning environment may promote relationship-building and feelings of belonging. Some techniques linked with the ‘community of learners’ principle include the creation of structured study groups, email lists, and chat rooms. Additionally, many of Burgstahler’s (2012) performance indicator categories are applicable to service members enrolled in campus courses. For example, instructors could strive to create a safe and supportive class climate so that student veterans can inform their instructor of any physical, mental health, or learning issues they may be experiencing. Offering instructional content in various modes is also likely to serve a student veteran population, as sitting in a classroom for long periods
may be difficult for those with military-related physical injuries. In regards to feedback, student veterans are likely to benefit from receiving ongoing constructive feedback from their instructors. Because it has often been quite a while since many service members have been in a classroom, requiring that students submit drafts of written assignments prior to their due date is likely to assist student veterans in adjusting to their instructor’s expectations and their role as a student.

To date, most research on student veterans has focused on their military background and other individual characteristics. However, success in college is not only determined by student input. The academic environment also plays a part in determining student outcomes (Astin, 1993). The present study builds on research about student veterans’ college experiences to incorporate faculty input. To our knowledge, only one published study has examined faculty members’ attitudes toward student veterans, finding that instructors with more negative feelings towards the military were more likely to report that they did not respect the service of veterans (Barnard-Brak, Bagby, & Sulak, 2011). In addition, they were less likely to feel confident and prepared to help student veterans who experienced PTSD (Barnard-Brak, et al., 2011). These results demonstrated how faculty members’ perceptions of those who serve in the military can impact their perceived ability to work with student veterans who are affected by the consequences of their service.

The present study explores what predicts the manner in which military-related issues are treated in the classroom as well as faculty member’s willingness to help student veterans who are taking their classes. Predictors included faculty members’ existing contact with the military, contact with student veterans, and attitudes toward student veterans with the expectation that each of these predictors will affect how military issues are treated in the classroom as well as faculty members’ willingness to help student veterans. By “helping” student veterans, we are referring to behaviors that acknowledge student veterans’ likelihood of living with mild to severe disabilities as a result of their service, accompanied by a willingness to assist such students in dealing with them. Specifically, we expect that faculty members who think highly of student veterans, who have contact with the military outside of academia, and who have relatively more contact with student veterans will be more likely to address military issues in class in a way that does not alienate student veterans. We also expect these same factors will increase faculty members’ willingness to help student veterans, such as by listening to them, developing accommodations for them, and directing them to sources of assistance (e.g., disability resources) where appropriate. In addition, we control for a number of faculty characteristics that may be correlated with these two outcomes, including gender, age, job rank, years teaching, teaching locale (community college vs. a university), political party affiliation, fiscal conservatism, and social conservatism.

**Method**

The Institutional Review Boards at both academic institutions from which data were collected approved this study. All instructors (311) from a two-year community college (n=239) and a four-year university (n=72) who taught courses that met general education requirements were recruited to participate in the survey between February and May 2012. Instructors of required courses such as English 101 were targeted to increase the odds that they would have had student veterans in their courses since most students take such core courses during their first two years of college.

The tailored design method (Dillman, Smyth, & Christian, 2009) was followed to maximize the response rate. Instructors were contacted via their institutional email addresses and invited to either complete an online survey or to request a hardcopy in the mail. The invitation included an information sheet that advised potential participants of the nature of the study prior to taking part in the survey. Consent was implied by survey participation. Each instructor was contacted a total of four times, including the initial invitation and reminders. A total of 160 out of 311 (51.4% response rate) instructors completed the survey.

Since this survey was the first of its kind of which we were aware, we developed the survey items directly related to student veterans ourselves. Several faculty members and staff who worked with veterans pre-tested the survey by completing it and reporting what the questions meant to them. Using their feedback, we modified the questions until we were reasonably certain that they captured our intent.

The first set of questions in the survey asked faculty how much contact they had with the military throughout their lives, including whether or not they had ever been in the military (0 = no, 1 = yes), and how many of their close friends and family had been in the military (1 = none, 2 = 1-2, 3 = 3-4, 4 = 5 or more). We then asked if any of their friends or family had been (1) physically wounded during military service (0 = no, 1 = yes); (2) emotionally injured by military service (0 = no, 1 = yes); or (3) killed in service (0 = no, 1 = yes). Next, we asked faculty about their on-the-job contact with student veterans, including how many student veterans they knew (from 1 ‘none’ to 4
among items from idiosyncratic (or error) variance because this method distinguishes shared variance estimated using confirmatory factor analysis (CFA) & Muthén, 2010). Multiple-item measures were with structural equation modeling (SEM) (Muthén, 2006), factors with confirmatory factor analysis (CFA) and conservative vs. liberal they were.

In the interest of gauging faculty’s attitudes toward student veterans, we asked them how they viewed student veterans in comparison to all other students. More specifically, we asked them to rate the extent to which they agreed or disagreed that student veterans were (1) more deserving of a college education, (2) more serious about learning, and (3) more aware of global issues, each assessed on a four-point scale ranging from 1 = Strongly Disagree to 4 = Strongly Agree.

The next set of questions addressed the manner in which the military came up in class so as to identify situations that might be perceived as offensive or insensitive by student veterans. First, faculty was asked how often military-related issues were covered in the class curriculum and how often they shared their views on the post 9/11 wars (from 1 = "never" to 4 = "often"). Then, faculty were asked how much they agreed that student veterans should know their positions on the post 9/11 wars. These items were intended to capture moments described in earlier research by student veterans when faculty alienated them by criticizing the very wars in which students had recently served (Gonzalez, 2012). Lastly, we asked faculty how much they agreed that instructors should ask student veterans to identify themselves, because students reported that being identified in class as a veteran made them uncomfortable (Gonzalez, 2012).

In order to gauge how willing faculty members would be to give extra help to student veterans, we asked how much faculty agreed that they should (1) make sure student veterans are doing okay in class; (2) mention on-campus services for student veterans in class; and (3) be responsible for understanding the needs of student veterans. We also asked how likely faculty would be to attend a voluntary seminar on the needs of student veterans (from 1 = "very unlikely" to 4 = "very likely").

Lastly, we asked faculty to describe themselves in terms of their gender, age, job rank, years teaching, whether they taught at the community college or at the university, their political party affiliation, how fiscally conservative vs. liberal they were, and how socially conservative vs. liberal they were.

Mplus 6.12 software was used to estimate latent factors with confirmatory factor analysis (CFA) and causal models of the relations among latent factors with structural equation modeling (SEM) (Muthén, & Muthén, 2010). Multiple-item measures were estimated using confirmatory factor analysis (CFA) because this method distinguishes shared variance among items from idiosyncratic (or error) variance specific to a one-item or subset of items. We used SEM to estimate relationships among the latent factors because it allowed us to specify relationships between factors as bi-directional, directional, or indirect. Given that this study was largely exploratory, it was important to use a flexible method of data analysis. Model fit was evaluated with multiple indices including the Comparative Fit Index (CFI), the root mean square error of approximation (RMSEA), and the ratio of the Chi-square to the degrees of freedom. CFI values at or above .90 (Meyers, Gamst, & Guarino, 2006), RMSEA values at or below .05 (Kline, 1998), and Chi-Square/df values less than five (Wheaton, Muthén, & Alwin, 1977) represented good model fit.

Results

Descriptive statistics for all these variables are presented in Table 1. The sample was half male, half female with a broad age range from 24 to 83 and a mean of 50.1 (SD = 13.94). The typical respondent was an instructor (M = 2.01, SD = .75) and 70% of the sample taught at the community college. The average years teaching was 13.1 (SD = 10.39). Most respondents were Democrats (52.4%), while 13% were registered Independents, 12.3% were Republicans, and the remainder subscribed either to a different political party or to no party in particular. Lastly, respondents were more fiscally conservative (M = 2.85, SD = 1.19) than socially conservative (M = 1.87, SD = .93).

The CFA measurement models of faculty member’s contact with the military, on-the-job contact with student veterans, attitudes toward student veterans versus other students, treatment of military-related matters in the classroom, and willingness to help student veterans are presented in Table 2. The overall model fit was within the guidelines specified above. Each CFA model had a reference indicator fixed at 1.0 to establish the metric for the latent factor, and each additional indicator was a significant predictor of the latent factor.

Next, the relationships among the latent factors were explored using structural equation modeling (SEM). The two dependent CFA models were how military issues are treated in the class and how willing instructors are to help student veterans. The unexplained variance in each of these CFA models was allowed to co-vary. All the predictors, including the other three CFA models and the faculty characteristics presented in Table 1, were regressed on each dependent CFA model. Predictors that were known to be significantly correlated with the outcomes but did not have direct pathways predicting them in the SEM
model were explored to see if they were indirectly related to the outcomes. For example, contact with the military was not directly related to willingness to help student veterans in the SEM model. However, tests of alternative models revealed that it was indirectly related to willingness to help via a mediator (i.e., how well the faculty member knew student veterans). The final model included both direct and indirect pathways that were identified through the modeling process as significant predictors of how the military comes up in class and faculty members’ willingness to help student veterans. Predictors that were neither directly nor indirectly related to the outcomes were removed from the model and not included in the final results.

The SEM findings are displayed in Figure 1. The overall model fit was within the set guidelines. Two-headed arrows indicate the covariance estimated between exogenous variables (that are not predicted by other variables) and the two endogenous, dependent CFA models.

Standardized coefficients are presented with their level of statistical significance indicated by asterisks. Exogenous factors in the model included faculty member’s contact with the military, teaching at the community college (vs. the university), and attitudes toward student veterans.

The results of the SEM are summarized as follows. The more contact with the military a faculty member had outside of academia, the more often military-related issues came up in class. In addition, faculty members who had more contact with the military were more likely to know student veterans well, and the better acquainted faculty members were with student veterans, the more willing they were to help them. Furthermore, the more highly faculty members thought of student veterans, the more likely it was that military issues came up in class, and the more likely it was that the faculty member was willing to help student veterans. It is important to note, however, that faculty members who reported being helpful to student veterans may have been more helpful to all students, including student veterans, than faculty who did not report being helpful. Finally, faculty members who taught at the community college as opposed to the four-year university were more willing to help student veterans. Most of the faculty characteristics were unrelated to the two outcomes, including gender, age, job rank, years teaching, political party affiliation, fiscal conservatism, and social conservatism.

Discussion

The purpose of the study was to explore the predictors of academic faculty members’ treatment of the military in the classroom and their willingness to help a special population of students taking their classes (i.e., student veterans). Most existing research on veterans in postsecondary institutions has focused on the students themselves. The current study is only the second study to focus on faculty. Student veterans are at-risk of having academic difficulties, in part because of the health consequences of military service such as PTSD and depression. Given that student veterans, especially those coping with health problems, have cited issues with their professors as a source of feeling alienated on campus, it is important to analyze the complex issues surrounding student veterans in postsecondary institutions from the perspective of those who teach them and the environment in which they are taught.

The results of this study highlight the importance of faculty members’ contact with the military outside of academia. Prior contact with the military leads faculty members to get to know student veterans better, which in turn increases their willingness to help student veterans succeed in college. Such faculty members were also more likely to teach at a community college, and community college instructors in general tend to be more willing to help student veterans. While it is true that faculty members who taught at community colleges tended to have more contact with the military than university faculty, the two are not causally related and their influences (whether direct or indirect) on willingness to help student veterans are independent of one another. It is important to bear in mind that our findings reflect relative, not absolute, differences between faculty and that there most certainly are some faculty at four-year universities as well as faculty without any military experience who are willing to help student veterans.

Another important predictor of willingness to help student veterans was overall attitudes toward them, such as believing that they were more deserving of a college education given their military service. These results have important implications on how to improve student veterans’ experiences on college campuses. Because student veterans may enter the academic environment with special needs, we recommend that colleges and universities committed to student veterans’ success consider training their faculty on the military culture, as well as common experiences of those who have been in the military. Veteran Ally training (Osborne, 2014), for example, offers strategies for developing an informed and supportive network
of faculty and staff to serve as liaisons for student veterans on campus.

Postsecondary institutions across the nation have begun offering training for faculty and staff on topics related to military services, such as mental health and physical health issues, as well as transitions from military to civilian life (Queen & Lewis, 2014). As they develop such programs, postsecondary institutions should enlist their disability resource centers in increasing faculty sensitivity to student veterans whose disabilities are often not visibly apparent. Such training could urge faculty to include statements in their syllabi that encourage student veterans to privately self-identify and self-advocate with their instructors early in the semester. In addition, the training could potentially change misconceptions faculty may hold that predispose them to view veterans negatively, thus improving faculty-student interactions, faculty members’ attitudes toward student veterans, and, in turn, their willingness to help them. In sum, training of faculty should emphasize how to help student veterans who qualify for disability services, yet enhancing faculty understanding of issues faced by student veterans in general, including those who are not disabled, may be broadly beneficial.

In addition to training faculty and staff, the overall university environment should be adaptable for all students, including those with disabilities. The principles of UD stress the importance of making an environment flexible and equitable for all individuals, with minimal need for adaption (Center for Universal Design, 1997). These principles hold true when serving students with disabilities, including student veterans. In 2001, the Association on Higher Education and Disability (AHEAD, n.d.) launched the Universal Design Initiative in support of constructing equitable and collaborative postsecondary learning environments that promote access to diverse populations.

Several universities across the nation are making great strides in UD for instruction. The University of Connecticut, for example, uses this approach when serving students with disabilities at their postsecondary institution. The Center for Postsecondary Education and Disabilities strongly suggests that learning environments should be infused with the Principles of Universal Design for Instruction (Scott, McGuire, & Shaw, 2001). This approach is based on the following nine principles: (1) equitable use, (2) flexibility in use, (3) simple and intuitive, (4) perceptible information, (5) tolerance for error, (6) low physical effort, (7) size and space for approach and use, (8) a community for learners, and (9) instructional climate. These principles, individually or in combination, emphasize planning and delivery of instruction to serve a diverse group of learners. For instance, creating an environment that is ‘simple and intuitive’ allows students to understand clearly how they will be graded in the course. An instructor who utilizes UDI Principles may provide his or her students with a grading rubric to clarify course expectations (Scott, McGuire & Shaw, 2001). By providing students with such information, students can focus entirely on learning the information being presented rather than making the task unnecessarily complicated.

It is important for faculty to be cognizant of the diversity of the student body they serve and be prepared to instruct students with special needs without compromising academic standards of the courses. For this reason, the University of Washington’s Center for Universal Design in Education (UDE) has played a pivotal role in developing resources for faculty, including curriculum and assessment on how to best apply UD to the classroom. Burgstahler (2012) offers guidance on eight performance indicator categories for employing UD instruction. These indicators include: (1) class climate, (2) interaction, (3) physical environments and products, (4) delivery methods, (5) information resources and technology, (6) feedback, (7) assessment, and (8) accommodations. Class climate and interaction, for example, ensure an environment that encourages students to communicate their disabilities and needs with their instructor. Physical environment and delivery methods also support the UD philosophy by guaranteeing that classroom facilities and equipment are easily accessible to all students, and making sure that course content and materials are offered in multiple modes (e.g., lecture, field work, internet-based activities, etc.). In line with delivering content in multiple ways, Burgstahler (n.d.) describes how to integrate webpage development into course curriculum, including concerns faculty and students should keep in mind when developing webpages for diverse audiences (e.g., those who cannot operate a mouse, have audio impairments, etc.). Burgstahler (2012) also stressed the importance of providing students with regular feedback on their performance. For example, faculty could consider allowing students to submit sections of a complex project prior to its final due date for critique by the instructor or fellow students.

In line with Burgstahler’s work, the American Council on Education (ACE, n.d.) recommends incorporating UD into learning environments for student veterans. For example, ACE recommends allowing audio recording devices in class to act as aids for students with concentration/memory problems, or giving short breaks during class sessions to minimize stressful
situation from arising (ACE). Branker (2009) suggests looking at the university environment, including the classroom, strategically. First and foremost, Branker emphasizes the importance of understanding the challenges that student veterans face in higher education. Once challenges are identified, Branker suggests brainstorming solutions, testing these ideas, evaluating their effectiveness, and implementing them on a larger scale. Branker goes on to stress the importance of merging good teaching and learning practice with UD principles for veteran-friendly postsecondary institutions, including components such as engagement efforts, mentoring, peer support, and leadership experiences needed for successful integration into student life. Many postsecondary institutions have begun to renovate existing features on their campuses to conform to UD principles, as well as provided opportunities for students, faculty and staff to give input during the planning stages (Raue & Lewis, 2011). Postsecondary institutions, however, did cite barriers to implementing UD features, including limited resources for training, costs associated with technology changes, and lack of incentives for faculty to alter their current teaching practices (Raue & Lewis, 2011).

Engagement of student veterans is crucial for their success in school. Recent data suggest that student veterans in their senior year were less engaged than their non-veteran peers and also viewed the campus environment as less supportive (National Survey of Student Engagement, 2010). In order for student veterans to thrive in postsecondary institutions, Lighthall (2012) stressed the importance of a supportive, informed and engaged faculty. Without a doubt, faculty behaviors and attitudes profoundly impact students’ collegiate experience (Umbach & Wawrynski, 2005).

The greater willingness of community college instructors to help student veterans may reflect cultural differences between the two types of institutions of higher education, such as community college instructors being completely focused on teaching in contrast with university instructors who are often divided between teaching and scholarship. Although community colleges could improve their services for student veterans by streamlining them (Persky & Oliver, 2010), the structure of these educational settings are still better equipped to serve the needs of non-traditional students such as military veterans (Runmann, Rivera, & Hernandez, 2011). While there is only limited research on the differences between faculty members who teach at two-year community college versus four-year universities related to the student veteran population, research on transfer students suggests that students view community college and university faculty differently, with community college faculty being perceived as more helpful and interested in their students in comparison to university faculty (Bauer & Bauer, 1994; Townsend, 1995; Vaala, 1991). One factor that may differentiate how community college and university faculty are perceived is the size of their classes. Typically, community colleges have a smaller student-faculty ratio allowing for more personal interactions between students and faculty members. Research has also shown that transfer students often have difficulty making social connections with fellow students and faculty at larger four-year institutions (Britt & Hirt, 1999; Vaala, 1991). It is important to note, however, that community college students tend to be non-traditional students (i.e., older, more likely to be working and have more interruptions to their enrollment) (Britt & Hirt, 1999), all of which may influence whether students develop social connections on campus.

Our study also highlighted predictors of the classroom environment in terms of how often military-related issues came up in class. We found that faculty who had more contact with the military outside of academia and who had more positive attitudes toward student veterans discussed military-related issues in class, including being sure to share their views on the post-9/11 wars. These findings were unexpected given that we were attempting to capture the uncomfortable experiences that some student veterans have reported having with their instructors, which we expected would be more common among instructors with negative attitudes towards the military. In retrospect, our measures of the classroom environment were probably not subtle enough to differentiate between positive and negative student experiences in the classroom. As such, the results do not really explain what causes the uncomfortable aspects of the classroom that student veterans have cited. However, they did reveal that faculty members who were most familiar with the military through contact with it outside of academia were the most likely to address military-related issues in the classroom, including sharing their viewpoints on the post 9/11 wars.

Future Research and Limitations

Future research on faculty treatment of military-related matters should ask more detailed questions on a range of in-class behaviors that differentiate between course material that is perceived as supportive, neutral, or critical of the very wars in which the student veterans recently served, as well as of the veterans of those wars. It may be that faculty members who have greater contact with the military are better able to address the military in class in a manner that does not
alienate student veterans. In contrast, faculty with little contact with the military may not be equipped to address military-related issues in a way that is perceived as inclusive of, rather than dismissive of, student veterans. Again, training faculty on differences between the military and academic culture as well as the often traumatic experiences student veterans have recently had could address these types of problems.

Despite the unique contributions of this study, it is not without its limitations. The sample size was small \( n = 160 \), with a response rate of 51%, and it may have over-represented faculty who had served in the military and those at community colleges. Therefore, the findings cannot be generalized to all faculty, or to the institutions from which the data were collected, let alone community college and university faculty throughout the U.S. Additionally, the survey data are cross-sectional so the causal predictions highlighted in our model are only tentative, and must withstand the test of longitudinal panel data in which cause precedes effect in time. Finally, the survey was the first of its kind and therefore can be improved in several ways for future research on this subject. More information is needed on the ways in which military-related issues come up in class, as well as how faculty who know student veterans interact with them. Ideally, future research should link data from faculty to student outcomes so as to learn whether faculty can actually diminish (or exacerbate) the impact of military-related health problems on student veterans’ academic success. Nonetheless, this study is a step toward connecting what is known about student veterans with the academic environment in which they often struggle to succeed.

**Conclusion**

In conclusion, this study highlighted several factors that are related to the classroom environment and faculty members’ willingness to help a special population of students with disabilities, student veterans. Having a connection with the military (i.e., through personal experience or the experiences of family members and friends) and having good impressions of student veterans is positively associated with how often military-related issues came up in class, and with the willingness of faculty to assist student veterans. However, only a minority of faculty has served in the military, so it is important to increase faculty members’ knowledge and understanding of military culture and the consequences of war on veterans. The goal of training should not be to change faculty members’ opinions regarding the military and its activities. Rather, the goal should be to sensitize faculty to the presence of student veterans in their midst, some with disabilities, who may react badly to wholesale criticism of the military and its veterans and who may need extra help succeeding in college. In so doing, faculty may play a key role in assisting veterans through the complex transition from military service to civilian life by maximizing their opportunity for academic achievement.

**References**


Association on Higher Education and Disability. (n.d.). *Universal design*.


Cate, C. A. (2014). Million records project: Research on Student Veterans of America. Student Veterans of America, Washington, DC.


---

**About the Authors**

Carlene Gonzalez received her B.A. degrees in psychology and sociology from California State University, Northridge and Ph.D. from University of Nevada, Reno. Her experience includes working as a social psychologist for the National Council of Juvenile and Family Court Judges. She is also lectures for the Department of Human Development and Family Studies at the University of Nevada, Reno. Her research interests include the social determinants of health and well-being in relation to special populations, including military families. She can be reached by email at: CAgonzalez55@yahoo.com.

Marta Elliott received her Ph.D. in Sociology from The Johns Hopkins University in 1994 and is a Professor of Sociology at The University of Nevada, Reno. Her research and teaching focuses on the social determinants of health and well-being, and links to her scholarly publications can be found at www.martaelliott.com.

---

**Footnotes**

1 For the purpose of this paper, student veterans are defined as active-duty service members, members of the National Guard and Reserve, and veterans.

2 Monroe (2008) defined “wounded warriors” as students enrolled in postsecondary institutions after serving in OIF, OEF or Operation Desert Storm.

3 Although educators use the UDI acronym for UD for Instruction, the authors will use the acronym for all aspects of a UD environment, including instruction.
Table 1

Descriptive Statistics of Faculty Participants

<table>
<thead>
<tr>
<th>Sample Characteristics (N=160)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0</td>
<td>1</td>
<td>50.3%</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>24</td>
<td>83</td>
<td></td>
<td>50.10 (13.94)</td>
</tr>
<tr>
<td>Job Title (adjunct, instructor, professor)</td>
<td>1</td>
<td>4</td>
<td></td>
<td>2.01 (.75)</td>
</tr>
<tr>
<td>Teaches at a community college</td>
<td>0</td>
<td>1</td>
<td>70.0%</td>
<td></td>
</tr>
<tr>
<td>Years teaching</td>
<td>1</td>
<td>47</td>
<td></td>
<td>13.10 (10.39)</td>
</tr>
<tr>
<td>Democrat</td>
<td>0</td>
<td>1</td>
<td>51.4%</td>
<td></td>
</tr>
<tr>
<td>Independent</td>
<td>0</td>
<td>1</td>
<td>13.0%</td>
<td></td>
</tr>
<tr>
<td>Republican</td>
<td>0</td>
<td>1</td>
<td>12.3%</td>
<td></td>
</tr>
<tr>
<td>Other/no political party</td>
<td>0</td>
<td>1</td>
<td>23.3%</td>
<td></td>
</tr>
<tr>
<td>Fiscal Conservative</td>
<td>1</td>
<td>5</td>
<td></td>
<td>2.85 (1.19)</td>
</tr>
<tr>
<td>Social Conservative</td>
<td>1</td>
<td>5</td>
<td></td>
<td>1.87 (.93)</td>
</tr>
</tbody>
</table>

Note. Model fit: RMSEA=.039; CFI=.90; Chi2/df=3.04; * p < .01; ** p < .001

Figure 1. Structural equation model of classroom environment and helpfulness.
### Confirmatory Factor Analysis (N=160)

<table>
<thead>
<tr>
<th>Faculty member's treatment of military-related issues in class</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrees that student-veterans should know their position on post-9/11 wars</td>
<td>1.72 (0.83)</td>
<td>4</td>
<td>1</td>
<td>97%</td>
</tr>
<tr>
<td>Agrees that views on post-9/11 wars shared in class are never &quot;One&quot; or &quot;Other&quot;</td>
<td>2.03 (0.18)</td>
<td>4</td>
<td>1</td>
<td>71%</td>
</tr>
<tr>
<td>How often does the military come up in class (never to &quot;One&quot;)</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's contact with military veterans (vs. other students)</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>How well do they know individual student veterans (&quot;None&quot; to &quot;Very Well&quot;)</td>
<td>2.06 (0.92)</td>
<td>3</td>
<td>0</td>
<td>56%</td>
</tr>
<tr>
<td>How many student veterans do they know (&quot;None&quot; to &quot;More than Five&quot;)</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's treatment of military-related issues in class</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrees that student-veterans have a greater understanding of global issues</td>
<td>1.51 (0.71)</td>
<td>4</td>
<td>1</td>
<td>85%</td>
</tr>
<tr>
<td>Agrees that student-veterans are more serious about learning</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
<tr>
<td>Agrees that student-veterans are more deserving of a college education</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's contact with military veterans (vs. other students)</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>How well do they know individual student veterans (&quot;None&quot; to &quot;Very Well&quot;)</td>
<td>2.06 (0.92)</td>
<td>3</td>
<td>0</td>
<td>56%</td>
</tr>
<tr>
<td>How many student veterans do they know (&quot;None&quot; to &quot;More than Five&quot;)</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's contact with military veterans (vs. other students)</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrees that veterans are more serious about learning</td>
<td>3.14 (0.71)</td>
<td>4</td>
<td>1</td>
<td>85%</td>
</tr>
<tr>
<td>Agrees that veterans have a greater understanding of global issues</td>
<td>2.86 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
<tr>
<td>Agrees that veterans are more deserving of a college education</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's treatment of military-related issues in class</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrees that student-veterans have a greater understanding of global issues</td>
<td>1.51 (0.71)</td>
<td>4</td>
<td>1</td>
<td>85%</td>
</tr>
<tr>
<td>Agrees that student-veterans are more serious about learning</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
<tr>
<td>Agrees that student-veterans are more deserving of a college education</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's contact with military veterans (vs. other students)</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>How well do they know individual student veterans (&quot;None&quot; to &quot;Very Well&quot;)</td>
<td>2.06 (0.92)</td>
<td>3</td>
<td>0</td>
<td>56%</td>
</tr>
<tr>
<td>How many student veterans do they know (&quot;None&quot; to &quot;More than Five&quot;)</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's contact with military veterans (vs. other students)</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrees that veterans are more serious about learning</td>
<td>3.14 (0.71)</td>
<td>4</td>
<td>1</td>
<td>85%</td>
</tr>
<tr>
<td>Agrees that veterans have a greater understanding of global issues</td>
<td>2.86 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
<tr>
<td>Agrees that veterans are more deserving of a college education</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's treatment of military-related issues in class</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrees that student-veterans have a greater understanding of global issues</td>
<td>1.51 (0.71)</td>
<td>4</td>
<td>1</td>
<td>85%</td>
</tr>
<tr>
<td>Agrees that student-veterans are more serious about learning</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
<tr>
<td>Agrees that student-veterans are more deserving of a college education</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's contact with military veterans (vs. other students)</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>How well do they know individual student veterans (&quot;None&quot; to &quot;Very Well&quot;)</td>
<td>2.06 (0.92)</td>
<td>3</td>
<td>0</td>
<td>56%</td>
</tr>
<tr>
<td>How many student veterans do they know (&quot;None&quot; to &quot;More than Five&quot;)</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's treatment of military-related issues in class</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agrees that student-veterans have a greater understanding of global issues</td>
<td>1.51 (0.71)</td>
<td>4</td>
<td>1</td>
<td>85%</td>
</tr>
<tr>
<td>Agrees that student-veterans are more serious about learning</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
<tr>
<td>Agrees that student-veterans are more deserving of a college education</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Faculty member's contact with military veterans (vs. other students)</th>
<th>Mean (SD)</th>
<th>Min</th>
<th>Max</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>How well do they know individual student veterans (&quot;None&quot; to &quot;Very Well&quot;)</td>
<td>2.06 (0.92)</td>
<td>3</td>
<td>0</td>
<td>56%</td>
</tr>
<tr>
<td>How many student veterans do they know (&quot;None&quot; to &quot;More than Five&quot;)</td>
<td>2.22 (0.97)</td>
<td>4</td>
<td>1</td>
<td>80%</td>
</tr>
</tbody>
</table>
The science, technology, engineering, and mathematics (STEM) professions are not limited to bench scientists and engineers with bachelor’s and graduate degrees. A more inclusive, holistic definition of STEM includes engineering technicians, systems administrators, computer specialists, and others whose skills may be obtained at the sub-baccalaureate level (Rothwell, 2013). The need to prepare students for entry into this expansive STEM workforce cannot be underestimated, as the number of STEM jobs is projected to grow by 17 percent between 2008-2018, compared to just 10 percent for non-STEM occupations (Carnevale, Smith, & Mellon, 2011). Thirty-five (35) percent of all STEM jobs will be held by people with less than a bachelor’s degree by 2018, and wages paid to these individuals will exceed their non-STEM peers (Carnevale, Smith, & Mellon, 2011).

Students with disabilities historically have been excluded from postsecondary STEM education, as these students face significant barriers to access and inclusion in such programs. Although these individuals may not represent the traditional profile of STEM professionals, they may possess interest and ability in STEM and should be strongly encouraged to persist into STEM careers. Unfortunately, the outcomes data on the participation and persistence of underrepresented community college students with disabilities in STEM programs is dismal, especially when the definition of “underrepresented” is extended to include students from minority racial and ethnic groups and women (NSF, 2011). For the purposes of the research presented in this study, we define “underrepresented” as demographic groups that historically have been excluded, whether intentionally or unintentionally, in STEM fields across dimensions of race and ethnicity (Alaska Natives, Native Americans, Blacks or African Americans, Hispanics, Native Hawaiians and other Pacific Islanders), gender (women), and disability. Underrepresentation in STEM should be understood within the context of efforts to “broaden participation” in STEM (NSF, 2008), and it should be noted that the identification of a specific group as “underrepresented” may vary by discipline and may include additional groups such as non-traditional aged college students.

Persistence in STEM is a continuous learning process that influences the educational goal aspira-
tions of an individual (NRC, 2012). Here, we define “persistence” as the progression of an individual through education, including critical transition points, to graduation or degree completion. Persistence may include retention but goes further to stress educational attainment. In addition, the federal initiative “Pathways to Success” identifies the significant role of higher education in the educational attainment of underrepresented populations (Advisory Committee on Student Financial Assistance, 2012), including the imperative of addressing barriers to persistence faced by academically vulnerable populations. Research has documented the high correlation between persistence and a learner’s academic performance (Kahn & Nauta, 2001). However, identifying specific academic indices (e.g., GPA) to measure persistence outcomes has generated inconsistent evidence (Bergman, Gross, Berry & Shuck, 2014; Gigliotti & Huff, 1995). Contemporary researchers of motivation recognize the importance of the learner’s environment, relationships, and broader social and cultural experiences in affecting persistence and suggesting constructs with greater depth than only GPA (Anderman & Anderman, 2000; Markel, 2015).

Electronic mentoring (e-mentoring) represents one effective practice for supporting the retention, persistence, and graduation of underrepresented post-secondary students with disabilities in STEM majors (Sowers, Powers, & Shpigelman, 2012). As more students use online learning for instruction, virtual student support services such as e-mentoring may improve student engagement and retention (Britton & Rush, 2014). How best to provide a socially valid means of defining e-mentoring continues to be a challenge for researchers (Crisp & Cruz, 2009; Jacobi, 1991). In particular, defining e-mentoring requires researchers to incorporate ever-changing communication platforms (Headlam-Wells, Gosland, & Craig, 2006). Recently, Dawson (2014) suggested that the best means to circumvent this “definitional crisis” reported across the literature is for researchers to describe the framework identifying their mentoring intervention. As she notes, providing a “framework for designing, communicating, and studying mentoring may advance research beyond generically defining mentoring toward concisely specifying it” (p. 144).

The prevalence and positive outcomes of mentoring, in general, have resulted in a significant body of research (Crisp & Cruz, 2009). Evidence suggests that effective mentoring experiences are influenced by multiple factors, including the purpose (Eby, Allen, Evans, Ng, & DuBois, 2008), the relationship between the mentor and the mentee (Schwartz, Rhodes, Chan, & Herrera, 2011), the consistency in the mentoring relationship (Grossman & Rhodes, 2001), and the mentoring objectives (DuBois, Holloway, Valentine, & Cooper, 2002). Factors such as gender, race/ethnicity, and disability can also influence the mentoring relationship (Headlam-Wells, Gosland, & Craig, 2005). Taken together, evidence suggests that mentoring may be a key strategy for support educational persistence, including within STEM for students with disabilities.

But less is understood about e-mentoring, specifically, and the potential advantages and disadvantages of e-mentoring versus face-to-face mentoring have received minimal attention (Ragins & Kram, 2007). Ensher and colleagues (2003) identify some advantages associated with e-mentoring: (a) access to mentors, particularly where geographic and time barriers are concerned; (b) reduced cost; and (c) equalization of status and decreased stereotype threat. Regarding disadvantages, Ensher et al. recognize the following challenges: (a) difficulty communicating nonverbally; (b) slower development of relationships; (c) wide-range of written communications skills; and (d) technology barriers. However, there presently are no randomized controlled studies investigating the differences between these two types of mentoring for populations with or without disabilities.

STEM learning environments present students with expectations and demands unique to other disciplines. Recognizing the possible relationship between STEM environments and student persistence, Toker, Youca, and Ackerman (2012) investigated specific constructs critical to student retention in STEM. They found that associations with intention to persist, intention to choose a complex occupation, college major satisfaction, and STEM-related GPAs were associated with STEM persistence. However, their sample population consisted of very few underrepresented groups (e.g., non-traditional age, disability). This study builds upon those findings to explore factors influencing the participation of underrepresented community college students with disabilities in a STEM e-mentoring program.

Methods

The authors have led a five-year, multi-institutional project to implement and determine the efficacy of e-mentoring for students with disabilities. This article presents the findings from one of the project’s studies, which examines a cohort of underrepresented community college students with disabilities enrolled in STEM majors. To augment project data focusing on e-mentoring efficacy and changes in internal characteristics related to educational persistence, we undertook a qualitative case study methodology (Yin, 2009). A
qualitative multiple case study approach and the content analysis it offers have allowed us to gain a deeper understanding of the associated factors that influence the persistence of students with disabilities in STEM majors participating in an e-mentoring program. The study received institutional review board approval.

E-Mentoring Program

Study participants were selected from the aforementioned project to provide e-mentoring to students \( (n=188) \) in order to increase their persistence in secondary (three school districts) and postsecondary settings (one community and two research universities) within STEM disciplines. Mentors were recruited from postsecondary faculty, staff, graduate students, and business leaders. All mentors had expertise in a STEM field. The project staff matched mentors to students based on a set of criteria: STEM interest and experiences of mentor with diverse learning styles (disability consideration; expertise of mentor in STEM academic coursework; mentor preference for secondary or post-secondary). In addition, all the candidates selected to participate as mentors underwent an application process that included a telephone interview. Upon acceptance as a project mentor, all mentors were required to complete two online mentor training modules. The criteria for mentee selection for this study required that a student be enrolled in a community college, have a documented disability, and demonstrate an interest in pursuing a STEM major.

The key components of the e-mentoring intervention included provision of online learning and training practices, access to virtual environments, use of social media platforms to promote networks of support, and virtual linkage to STEM resources. All mentors and mentees were required to virtually meet with each other at least 10 times per semester, complete required project modules, return online survey evaluations, and participate in all virtual group activities. Essential to the mentor and student engagement was the collaborative use of the online STEM learning modules. All modules included universally-designed online, mobile device, and Second Life formats. An e-mentoring session was defined and recorded using the following standardized criteria: (1) digital voice communication was the length of time in Second Life, phone, video chat; and (2) text-based communication was a progressive communication interchange addressing a relevant mentoring subject (i.e., dialogue sequence of emails or social media posts, SL chat posts, text message conversation threads).

Research Study Participants

The research reflected in this article focuses on a subset of community college students who participated in the e-mentoring project during the 2013-2014 academic year. The community college partnering with the e-mentoring program is an open-enrollment two-year institution (or “access college”) with approximately 26,000 students located within a few miles of a large southern city. In line with this article’s concern about addressing barriers faced by students belonging to multiple underrepresented groups, 68% of the students belong to a minority race or ethnic group.

Mentor/mentee pairs for this study were selected as participants based on purposive sampling (Merriam, 2009). Pseudonyms were used for the participants. Four mentor/mentee pairs \( (n = 8) \) were recruited to participate in the study. Table 1 provides descriptive information for the mentoring pairs participating in the study.

Two of the mentees demonstrated learning disabilities, one visual impairment, and one a physical disability (rheumatoid arthritis). Three of the mentees who participated were female and one was male. Three of the four mentees were nontraditional age students. Nontraditional status was defined by the single criterion age (i.e., 25 years and older) as supported by previous research (Markel, 2015). Two of the mentors and three of the mentees represented minority backgrounds. In addition, there were two male and two female mentors who participated in the project. The mentors were adult professionals working in STEM including academia, engineering, and consulting.

Persistence Survey

As part of the broader project, all mentees were administered a survey prior to beginning any of the e-mentoring activities and again at the end of the second semester. The survey provided a measure of five constructs strongly related to persistence in STEM and self-determination related to pursuit of learning (Toker, et al., 2012; Shogren, Palmer, Wehmeyer, Williams-Diehm, & Little, 2012). The program staff drew upon an extensive literature to develop scales measuring the five constructs, which have been tested for validity and reliability. Individual items were chosen for their relevance to the design and goals of the program and the age range of the participants.

1. Intent to Persist: the likelihood to persist by pursuing further education or a career in STEM. The eight-item scale was adapted from Toker (2010) and Williams, Wiebe, Yang, Ferzli, & Miller (2002).
2. Self Determination: the ability to act as the primary causal agent in one's life and set goals and make decisions that are free of undue external influence or interference. This also involves making informed decisions and taking responsibility for those decisions (Wehmeyer, 1996). The 17 items in this construct were drawn from the work of Wolman, Campeau, DuBois, Mithaug, and Stolarski (1994) as well as Field and Hoffman (1994).

3. Self-Advocacy: the ability to effectively communicate, convey, negotiate or assert one's interests, desires, needs, and rights. The 12 items on this scale were primarily drawn from Miller (2006).

4. Science Affect: feelings associated with science. Previous research has found significant positive correlations between science affect and reported high school preparation in science and college science GPA (Glynn & Koballa, 2006).

5. Math Affect: feelings associated with mathematics. Math affect has been shown to involve complex factors such as feelings of pressure, performance inadequacy and test anxiety that interfere with solving math problems (Bai, Wang, Pan, & Frey, 2009).

As a measure of reliability to assess the internal consistency of the Persistence Survey, Cronbach’s alphas were computed for each of the five scales. In addition, the “Cronbach’s Alpha if Item Deleted” effect on the scale was examined for each survey item. This represents the scale’s Cronbach’s alpha reliability coefficient for internal consistency if the individual item is removed from the scale. An alpha of .80 or higher is considered to have achieved very good measurement reliability; an alpha of .65 is considered acceptable (Field, 2009). Each scale achieved very good reliability. The positive science affect scale (α = .827) had the lowest alpha and negative math effect (α = .924) had the highest. The item deletion analysis revealed that removing any of the items within a scale would not lead to a large increase in the Cronbach’s alpha for any of the scales. At the time of the analyses, 146 mentees had completed the survey.

Mentee Semester Survey
The Mentee Semester Survey was an online instrument developed and administered to the mentees at the end of each of the semesters in this study. The purpose of this survey was to evaluate mentees’ interactions with the e-mentoring experience across five different constructs; (1) satisfaction: mentees’ sense of fulfillment in the relationship; (2) support seeking: how much mentoring provides academic and personal support; (3) personal responsibility: how much mentors value activities focused on mentees' maturation and psychosocial development; (4) communication: how satisfied the mentor and mentee are with frequency and duration of their communications; and (5) engagement: what types of communication platforms are utilized, with what frequency, and with what level of satisfaction with the medium. The instrument reliability was examined by measuring internal consistency of scales using Cronbach’s alpha. Analyses of data from two semesters (Fall 2012 and Spring 2013) reveal very good measurement reliability using the mentee survey. The lowest Cronbach’s alpha was .87 for the personal responsibility scale and the highest was .98 for the communication quantity scale.

Mentor Monthly Survey
All mentors were required to complete a Mentor Monthly Survey providing feedback about each of their assigned mentees. The primary purpose of this survey was to investigate the number of mentoring sessions, the communication platform mediums used for mentoring, and the length of mentoring sessions when certain mediums were used. Mentors also reported on mentees participation in other project activities.

Interviews
Interviews specific to the study presented here were conducted with the four mentors and four mentees selected. The interviews followed a semi-structured format with opportunities for open-ended responses and follow-up questions. Each participant was interviewed individually for 40-90 minutes. Interviews were audiorecorded and transcribed verbatim. We engaged in frequent member checking (Patton, 2002).

Data Analysis
Following data collection, all interviews were transcribed and read again using close reading. To move from one stage of analysis to another, researchers identified potential items “of interest” and noted these with memos to assist in the coding and characterization process (Maxwell & Miller, 2008). Transcripts were coded using summative phrases. We then used a constant comparative analysis in order to yield an accurate portrayal of the mentoring. After each interview, the interview data were analyzed amongst the other sets of data to find comparable and tentative categories (Maykut & Morehouse, 1994). The initial coding and
categorization of the data were subjected to a thematic analysis. We strictly adhered to case study procedures for reliability (Merriam, 1998). The participants reviewed their individual data. Survey data for each of the participants were collected and used as a form of data triangulation (Denzin, 2012).

**Interview Findings**

**Factors Associated with Student Choice of Virtual Environments and Social Media Settings**

Since we were interested in understanding more about mentor/mentee relationships within the context of e-mentoring, investigating how virtual environments and social media tools influence the mentoring relationship was essential. The e-mentoring sessions were provided through either digital voice communication platforms (e.g., Second Life voice, smart phone, video calls) or text-based communication platforms (e.g., emails, social media posts, Second Life chat posts, text message conversation threads). We examined the reflections of the participants across these different communication platforms. Table 2 provides the participants tool usage data.

**Digital voice tools-Second Life.** The e-mentoring island in Second Life is a virtual platform where individuals interacted with each other through avatars. Avatars communicated through voice (use of a microphone) or by chat threads (written communication). The e-mentoring island was an environment with small mentoring nooks, large classrooms, amphitheater, floating cafes and lounge areas, STEM related resources, internet access points, and green space. To ensure that mentors and mentees had access to communication platforms other than the e-mentoring island, participants were provided options for social network sites such as Facebook, Google, Skype, Twitter, YouTube, and/or a virtual learning environment on the program website, including virtual learning modules, a blog, and other support resources. Mentoring pairs were encouraged to find a platform that was beneficial to their mentoring activities.

The participants reported that the e-mentoring island initially presented challenges. Learning the keyboard and mouse commands for avatar movement, camera controls, and communication tools posed learning barriers for some of the participants. Although the interaction with the avatar is based on uniform video game commands, several of the study participants did not have video game background to make interaction within the e-mentoring island more user-friendly. The participants reported on ways that they integrated a variety of social media platforms into their e-mentoring sessions. Selecting a communication platform for e-mentoring was a decision made by each mentoring pair, and the platform often changed depending on personal preference, availability, ease of use, and convenience.

Given the initial learning curve required to easily participate on the e-mentoring island, it is interesting that this experience provided an impetus for relationship building for many of the participants. They reported that working together to learn the e-mentoring island prompted open discussions and the decision to incorporate other social media tools into e-mentoring activities.

The decision whether to use the e-mentoring island often varied by a student’s functional limitations. One of the study participants (Mahalia), who maintained a high level of island activity, valued the platform because it allowed her not to be hindered by a physical disability. Another participant, Karen, chose not to use the e-mentoring island (Second Life) due to the platform’s incompatibility with the assistive technologies she used to accommodate her blindness. Several of the mentor/mentee pairs made the decision to use the e-mentoring island for group training activities, but chose different social media sites for other e-mentoring functions. As the mentoring relationships progressed, many of the mentors and mentees found the social media tools that were the best fit for the aims of their e-mentoring activities (see Table 3). Some mentees did, however, choose to increase their participation on the e-mentoring island suggesting that the platform was effective for them. Interestingly, Mahalia, who is a non-traditional age student, became proficient on using the e-mentoring island. Age-bias did not appear to hamper her learning and use of such a communication platform.

**Text-based tools.** Text-based communication tools are electronic messages that are typed and sent to another user. Formats like email, Facebook chat, Twitter, text messaging, and blog posts are among the most common. Given the availability ease of these platforms to participants, it is important to examine their use of text-based media. All of the participants with the exception of one mentor/mentee pair transitioned to using digital text-based tools as their primary means of conducting e-mentoring activities. The quick accessibility and familiarity with digital text made the process of contacting mentors and mentees less cumbersome than the e-mentoring island.

The mentors’ monthly surveys provided evidence that text-based tools were often the most frequently used e-mentoring tools across both social and academic activities. It appears that one of the main reasons for using text-based tools was the practicality, user-friendliness, and availability of the platforms. Several of the participants also remarked about the reliability of
texting, email, and Facebook chat feature for allowing them to have access to their mentor or mentee. Email and chat platforms offered instant access to the participants, and their monthly surveys revealed that mentors and mentees spoke regularly through these mediums.

Due to the ease of connecting on social media platforms, many of the participants reported that the closeness of the e-mentoring relationship tightened, and the frequency of contacts increased across semesters. The majority of the participants chose digital tools that were easily accessed on their smart phone. For instance, the chat feature on social media sites such as Facebook was used frequently as a way to type quick messages between participants. Those messages, whether engaged in a real time chat or for leaving an electronic message, allowed the participants to engage in unscheduled, quick-response, and private one-on-one mentoring. One mentor reported that he used Facebook’s chat feature (i.e., digital text tool) immediately at the beginning of the e-mentoring relationship with his mentee. As the relationships progressed, the mentor reported a substantial increase in the digital voice features of Facebook. This mentor talked about an interesting advantage using the chat feature to talk with his mentee:

Bob (Mentor): And using something like Facebook, as opposed to Second Life, I have a log of everything that we’ve ever discussed. So I can always go back and look at my previous notes.

By having a log of “everything,” this mentor was able to recall conversations, comments, and guidance that could prove to be helpful and consistent throughout the mentoring process.

The interview and mentor survey data indicated that the participants chose communication platforms and specific features of social media tools that best fit specific e-mentoring activities. Ease of use, availability, and disability accommodation needs all played a role in the determination of what type of communication tool to use and when to use it. Age, race/ethnicity, or gender did not appear to factor into the choice of a specific communication tool. Platforms such as Skype, the e-mentoring island, and Google Hangout have both text-based and voice communication functions that allowed participants to have real-time conversations. When asked what social media tools they used most frequently, participants referred to multiple platforms and specific features within a platform, again indicating that e-mentoring pairs used more than one type of platform to connect:

Billy (mentor): I use Skype and now Google Plus. I had too many issues with Second Life.

John (mentee): I typically like Skype. For me, I talk more than I do write. But, you know, it kind of allows, you know, flexibility in terms of time.

Mahalia (mentee): You just go, and you know, you load it. You know, like there’s ways you can record in Skype, you know. And there’s ways you can send stuff out. There’s ways you can bring up your desktop. You know, and let people see what you’re doing… And I can see where it would come in handy.

Karen (mentee): With this one in particular (Skype), I think it would be a fun way for us instead of like replacing our phone call, we could like see each other’s face.

The interview and survey data suggests that while the mentoring pairs decided on a primary platform for communication, all made use of the variety of text-based and voice communication tools across many platforms. Table 3 documents the usage patterns for the participants across digital voice and text-based communication tools. All the mentees chose to use a wide range of both digital voice and text-based communication tools to connect with their mentor. This finding suggests that no one type of communication tools is effective for all e-mentoring activities. However, the smartphone appears to be the most frequently used communication tool.

**Factors Associated with Development of Mentor/Mentee Relationships**

Our e-mentoring program was designed to foster a relationship through which experienced persons share knowledge and perspective, and to encourage students with disabilities to persist in STEM majors. We observed that the mentoring roles described by the participants appear complex and multifaceted, contributing to a dynamic rather than static mentoring model. The implicit and explicit roles defined by the mentor and mentee, the closeness of their relationship, the regularity and the quality of the e-mentoring contacts all contributed to the successful outcomes. One participant in the study, Bob, a STEM professional and mentor in the study, remarked that he has had worked with a variety of mentors through different developmental periods of his life.
Bob (mentor): While I was a college student, while I’ve been an undergrad, you know. When I’ve been in grad school, of course. You have very strong mentorship...they’re there to listen. They’re there to help. They’re there to give, you know, advice. But of course, limited advice.

Bob explicitly recalls that the prior experience with having a mentor directly influenced how he mentored others. He was very careful to mention his past mentors provided “limited advice” to him. His belief that mentors should only “give assistance, not direct advice” is congruent with the same practice he offers to his mentee.

As noted by the mentee comments below, the e-mentoring experience braided together many different aims and purposes for the participants.

Karen: Oh. It’s helped me as far as studying because I used to try to do it all at one time. And then I would get horribly depressed about it and I wouldn’t do anything else.

Mahalia: I would not be where I was today if people hadn’t mentored me, believed in me, and didn’t see me as a...person with a disability whose life was ripped off. You know, but they saw who I was inside. What my vision was.

John: You know, I really wouldn’t be, I don’t think I would be in school today, you know, if somebody hadn’t, you know, talked me through and said basically, you know you can do whatever the...heck your mind, you set your mind to.

These mentees were clear that the presence of a mentor greatly impacted their personal and academic lives. Each participant reflected on different aspects of e-mentoring such as developing better study skills, living successfully with a disability, and continuing to persist in their major. However, they all mentioned the importance of having a close mentoring relationship. From the survey data, both the mentors and mentees reported strong satisfaction with the quality and quantity of their communication.

The participants also reflected on their definition of a mentor, and how mentors fulfill their roles within a mentoring relationship. They frequently mentioned that trust and support were essential for building strong learning experiences. In the excerpts below, trustworthiness and support come in the form of approachability of the mentor, and relevant advice shared reciprocally from the mentor to the mentee.

John (mentee): Somebody you can, you know, go to and ask, you know different questions, you know, about a variety of different subjects and kind of receive advice from a different point of view.

Michelle (mentee): That’s somebody who believes in you. And encourages you, you know. And really is in your corner for you to succeed.

Karen (mentee): Someone that you can talk about different things and get decent advice...like you can look up to them. It’s like -- it’s knowing that it’s advice that you can actually follow.

Mentees expressed different but specific aims necessary for successful participation in e-mentoring. Those aims differed as it related to academic and personal advice. Through the growth of the e-mentoring relationship, the mentor became more aware of the needs of the mentee and tailored their advice to match those aims. In recognizing the needs of a mentee, the mentors were able to quickly assess whether their mentoring experiences were effective. While the majority of participants said that they discussed topics connected with major or study habits, they also used the mentoring time to give advice about personal matters. It appears that the mentors in our study often positioned themselves as listeners. One mentor reported:

Billy (mentor): Generally, a lot of times they just kind of want to vent to me. I’m totally fine with that, and you know when they want to vent, I let them air it all out, and then I just give them a lot of inspiration to keep moving forward. Another mentor talked about finding balance between providing mentoring advice that she thought would be effective for her mentee,

Katherine (mentor): Whether a professor didn’t understand that she was having difficulty, or what her disabilities were, and you know, how to make sure that they knew that she wasn’t trying to slack because she had a disability.

Mentors served in the capacities that their mentees identified important for academic and/or developmental needs. Whether it was to be a listening ear or to teach the intricacies of dealing with STEM professors, the mentors were able to assist their mentees with advice that served their mentees’ needs. Although the mentor and mentee entered into the dynamic of a mentoring relationship, those roles, at times, were reversed. In
one mentoring pair, the mentee took on the position of mentor when the subject of her particular disability entered into conversation. The participant said:

Mahalia (mentee): She’s [Karen] has been open to me coaching her [laughter]. Some things she may suggest to me, you know, I will look at. And especially around assistive technology because that’s my forte. I had to...coach her on to how that was going to factor into my success.

Katheryn (mentor): I have learned that I felt like she [Mahalia] challenged me in my perception of disabilities. And my perception of student’s difficulty in school. It even encourages me to like design with all people in mind.

Within this exchange, the mentor and mentee describe how the mentee’s abilities and perspectives make the mentor and mentee switch roles. The mentor role appeared fluid during the e-mentoring process as evidenced by a shifting position between the participants. This fluidity is dependent upon who is more knowledgeable about the content of the conversation.

Factors Associated with the Increase of Mentee Persistence in STEM

Motivation, persistence, and engagement are terms defined differently across the literature depending upon a researcher’s theoretical perspective. As previously noted, both the project and study emphasize persistence because of its emphasis on measurable progression to graduation or degree completion. Two indices often reported in the literature to measure academic persistence are GPA and degree completion (Markel, 2015). Over the year that the students in this study participated in e-mentoring, their GPA remained stable. One would not expect GPA to change significantly within one academic year. At the end of the e-mentoring data-collection, two of the students (Mahalia and Michelle) had graduated in a STEM major. The other two students (John and Karen) were still completing their coursework and continue to participate in the e-mentoring program. While we consider GPA and graduation rate important markers related to persistence in a STEM major, we were most interested in which specific psychological constructs influenced the students participating in the e-mentoring intervention. The five persistence constructs we explored included: intent to persist, self-determination, self-advocacy, science affect, and math affect. For this subset of students across two semesters, there were pre-to-post gains in self-determination ($p<.23$) and self-advocacy ($p<.27$). These findings may not meet the criteria for statistical significance, due to the small sample and limited terms.

As a group, however, the e-mentoring participants in our program consistently demonstrated greatest pre-to-post gains on the self-determination ($p<.01$) and self-advocacy constructs ($p<.001$) while meeting the standards of statistical significance.

**Intent to persist.** The intent to persist construct was defined as the likelihood to persist by pursuing more education or a career in STEM. Three mentees, Mahalia, John, and Karen, rated themselves low on the intent to persist construct while Michelle rated herself very high on intent to persist. This finding provides support for the need of mentoring as a resource for supporting college students with disabilities engaged in STEM learning environments. One mentee, John, revealed that he was not going to persist in his STEM major, but he still wanted to maintain a connection to the STEM field. John, a student with a learning disability, could not complete the math requirements of his major even with accommodations and e-mentoring. His difficulty with the math requirements might reflect the academic demands of a STEM major, the effectiveness of his accommodations, and critical e-mentoring practices for students with cognitive-based disabilities (Gregg, 2009). Interestingly, despite changing his major, John plans to persist in a career that will still incorporate his interest in STEM. He plans to graduate with a business degree but seek a job in a STEM-related company.

**Self-Determination.** Self-determination was defined in this study as the ability to act as the primary causal agent in one’s life, to set goals, and to make decisions that are unrestricted from undue external influence or interference. On our persistence survey, all the mentees rated themselves very high on self-determination. In addition, all four of the mentees discussed during the interviews about making informed decisions related to their disability, and described how they participate in a world that often does not accommodate individuals with disabilities. Two of the participants reported using accommodation features built into the digital voice and text communication tools that were examples of universal design features providing greater access to learning.

One mentee, Karen, is legally blind. As a non-traditional student who attends a two-year community college, it became critical for her to pursue outside work while still attending school. However, she had great difficulty locating work as a result of discrimination and barriers due to her disability. Both mentor (Lucy) and mentee (Karen) are African American women of approximately the same age. Lucy reports in the monthly surveys that Karen is determined to find
suitable work and continue in school with the goal of
graduation in a STEM major. Lucy provides a glimpse
of Karen’s attempt to find work:

Lucy (September survey): Karen got a lead for a
job with Rivers Bank. This has helped her confi-
dence.

Lucy (October survey): Karen passed her evalua-
tion and will be training to work for Rivers bank
next year.

Lucy (November survey): Karen is excited about
the opportunity. She is also reevaluating her career
plans and options.

Lucy (January survey): Karen is back in school
and taking courses.

Based on these excerpts, it is clear that Karen is
demonstrating many of the persistence constructs we have
discussed throughout this article (i.e., intent to persist,
self-determination, and self-advocacy) despite stereo-
type threats and barriers.

Self-Advocacy. Self-advocacy was defined in this
study as the ability to effectively communicate, convey,
negotiate or assert one’s interests, desires, needs, and
rights. All four mentees rated themselves as very high
on self-advocacy. Mentees often referred to themselves
as disability advocates during the interview process.
Self-labeling as a disability advocate was instrumental
to how mentees viewed themselves and could possibly
be attributed to their successful mentoring relation-
ships and persistence in school. During the interviews,
participants described how they provide support for
another student who shared the same disability.

Karen (mentee): For me, I feel like I'm a good per-
son to talk to. I don't like dwelling on a problem.
I'm more of, ‘Okay, we know what the problem
is now so let's find a solution to this thing.’ So I
could be of help to another disabled person. I'm
kind of like a blind advocate in a way. So if I did
do it I’m sure I would do that one because I feel
like that's where I can be the most help.

Mahalia (mentee): And my interests is to make
sure, you know, be a vehicle and an advocate, you
know, a peer advocate for users of informational,
you know, services.

Both Karen and Mahalia presented themselves as a
potential resource for others who need assistance with
locating services or advice on how to deal with certain
problems. This ability to reflect on what others in simi-
lar situations may need could come from their previous
experience as mentees. According to survey results
and interview data, the participants often expressed a
desire to continue in mentoring by becoming a mentor
to other students who identified as having a disability
and are attempting to attend college. Moving towards
advocacy is one way that these students are persisting
in their studies as STEM majors.

The interviews revealed that both the mentors and
mentees frequently brought up issues surrounding the
topic of disability. These discussions about disability
could best identified as a discourse of disability (Bakhtin,
1986). While mentees were not obligated to speak in
detail about their disabilities with their mentors, the
discourse of disability became part of their regular
conversations. These conversations happened in various
times throughout the course of the relationship.

Bob (mentee): I knew I was going to be working
with, like, individuals who had some kind of dis-
ability. I think that he actually told me in his email.
Basically when we first started, we had to send
letters to each other.

Others decided to wait until the relationship progressed
before divulging their disability.

Katherine (mentor): I wouldn’t say that she brings
it up freely. I think she’s one of those people who
likes to not be associated based on her disability.
I don’t even know if she really addressed it until
I finally met her, and then she – afterwards –she
started to talk more openly about it.

The constant exposure to students with disabilities
and the services they receive are helpful to mentors
and how they address these topics with their mentees.
In one situation, a mentor also revealed that he had
a learning disability, and expressed how this shared
experience influenced his mentoring strategies.

Bob (mentor): I have an accommodation plan
for myself. So when they come to me with that
paperwork, I know what it’s all about. I’ve been
there. I’m going to be the one that says, no, you
can’t do this.

In another case, a mentor discussed how she worked
with the mentee on learning how to ask a teacher to
help access an accommodation needed for a class as-
signment.
Katherine (about Mahalia): Receiving extra time on assignment because she spoke to a teacher about needing accommodation.

In a variety of examples, participants divulged specifics about their disability as the relationship progressed. Once the discourse of disability was introduced, the mentors and mentees exchanged ideas, initiated discussions, and shared personal instances of how their disabilities were reflected in their personal lives.

**Science and math affect.** Each of the mentees provided a self-report of their affective perceptions of science and math. None of the mentees reported significant anxiety, general confusion and/or uneasiness related to solving math problems despite the fact that John changed majors as a result of difficulty completing a math requirement. Only one mentee (Karen) had a negative perspective on the usefulness of math in her future career. In relation to science anxiety, three of the mentees reported significant anxiety related to performing well in science exams, reported uneasiness when doing science experiments, and described science to not be useful for their career goals. Only Michelle, an African American engineering student, did not report science anxiety and found science useful for her career.

**Discussion**

Identifying practices to enhance the persistence of underrepresented community college students with disabilities in STEM careers is critical for their success in the workforce. We were interested in one such practice, e-mentoring. A growing literature base is available describing e-mentoring programs and their usefulness in educational, business, human resources, and social environments (Single & Single, 2005). Scholars taking a sociocultural perspective have established a number of basic learning principles relative to the outcomes of our e-mentoring study. First, learning is enhanced when it is embedded in practices such as individuals working together to solve problems during STEM e-mentoring activities. The evidence for this conclusion is robust (NRC, 2012). Second, learning typically depends on interactions with more knowledgeable others (Vygotsky, 1986). This interaction may take the form of explicit apprenticeships or knowledge may be acquired as novices interact with a diverse population of experts and peers, wherein the novices observe the practice of experts and slowly take on tasks over time (Lave & Wenger, 1998). Through our interviews with the STEM mentors and mentees, we observed each of these learning principles.

Investigating the usage patterns of different communication platforms during e-mentoring provides one means of better understanding the specific resources critical for such a practice. Our findings strongly suggest that a variety of social media platforms are easily utilized during e-mentoring. Virtual worlds (e.g., Second Life) require more advanced skills and resources to use successfully during e-mentoring (Edirisingha, Salmon, & Nie, 2009; Gregg, Galyardt & Todd, 2015; Warbuton, 2009). Yet, our e-mentoring island, equipped with mentor lounges, study rooms, auditoriums, and many other STEM resources, often provided opportunities not available on the other platforms. The participants discussed how relationships became richer as mentors and mentees spent time together on the e-mentoring islands. However, the participants increasingly turned to mobile computing platforms to stay connected, with the most commonly-used devices being smartphones. Smartphones provided the students 24/7 Internet access to their course work, libraries, support services, and discipline resources. In addition, students used other features such as instant messaging (IM), e-mail, video, and chat capabilities in and outside of their STEM classrooms.

Race, gender, and disability often have different effects on the ability of individuals to attract mentors (Ragins, 2007). An e-mentoring program provides a means to cross the barriers of demographics and geography. However, the matching of the mentors and mentees is one of the most critical factors for relationships to have successful outcomes (Ensher & Murphy, 2007). The criteria we followed for matching the mentors and mentees was important to the quality and quantity of the mentoring experience. Interestingly, the mentees often took on the role of mentor in relation to discussions surrounding disability access and accommodations. Past experience with mentoring is a strong predictor of an individual seeking future mentoring relationships (Ragins, Cotton, & Miller, 2000). One of the essential outcomes of the study was the recognition that the mentees gained a number of positive benefits during the mentoring, including the development of trusting and supportive relationships. On the mentor surveys all of the participants reported that the e-mentoring experience helped them learn and grow as a STEM student. As a result of their e-mentoring experiences, the mentees in this study might be more willing in the future to seek out opportunities for engaging in e-mentoring programs throughout their STEM academic and work environments.

The five STEM persistence constructs (i.e., intent, self-determination, self-advocacy, and anxiety) we investigated provide support for future research with
underrepresented community college students with disabilities, particularly nontraditional age individuals. Interestingly, the students interviewed identified self-determination and self-advocacy skills as strengths for them prior to beginning the e-mentoring program. Such a finding might be the result of participant selection bias as all of the mentees were referred through disability service offices, and all had long histories working with support services where self-advocacy and self-determination is often discussed. However, all the participants reported the greatest pre-to-post gains on the self-advocacy and self-determination constructs of our survey, indicating the e-mentoring experience did influence their growth as a STEM student. There is a significant amount of research documenting that promoting self-determination and self-advocacy has positive academic and career benefits for students with disabilities (Shogren, et al., 2014).

**Limitations**

As a single-site study drawing upon students from one community college, there may be limits to the generalizability of the research findings. Reliance upon this one site, as well as the limited number of underrepresented students with disabilities who fit the criteria, directly informed our selection of a qualitative research method designed to provide contextually rich data. We note the difficulty in undertaking rigorous studies that include postsecondary students with documented disabilities utilizing randomized controlled or even quasi-experimental designs. We offer these findings as starting point in the hopes that the field-at-large may be able to build upon them and confirm or disconfirm our conclusions about the efficacy of e-mentoring practices.

In addition, we note the study’s reliance upon self-report measures collected using an online survey instrument. The lack of real-time measures not dependent on recall, linguistic skill, and interest could have influenced the responses from both mentors and mentees. In addition, the higher ratings of the students on several of the persistence constructs could be a function of the tool and/or issues related to stereotype threats (Inzlicht & Schmader, 2012). The suggestion that over-estimation of academic and social competence is related to ego protection has received attention in the literature and illustrates the correlation between self-efficacy and self-concept (Alvarez & Adelman, 1986). At the same time, however, we stress that e-mentoring is intended to address students’ internal characteristics related to persistence rather than STEM content knowledge, and that self-report measures remain appropriate.

**Broader Implications**

The implications from this research to disability service providers working daily with postsecondary students with disabilities are important findings from the study. From a research standpoint, this study seeks to inform approaches to motivate engagement and persistence in STEM learning for postsecondary students with disabilities, especially those students from other demographically underrepresented groups. From a practitioner standpoint, however, this study also underscores the need to appreciate the mentoring relationship as key to efficacious e-mentoring practices. Prescriptive practices for e-mentoring have placed more emphasis on technology considerations, such as selection of social media tools and virtual platforms. While important, affect and motivation to persist even in the face of physical, linguistic and cognitive challenges are important considerations. However, equally important is recognizing the strong relationship between aspects of persistence (e.g., self-advocacy, self-determination, anxiety) and academic performance.

Finally, the results of this study certainly provide support for the importance of e-mentoring relationships and other similar student virtual support systems for motivating students with disabilities to persist and succeed in academic and career environments. Disability service providers in postsecondary educational settings generally have been concerned with the provision of classroom and testing accommodations. However, e-mentoring programs may create an opportunity to take a more inclusive, holistic approach to student success. Certain accommodations are just that—accommodations—designed for overcoming specific barriers encountered because of a student’s disability. However, the broader goal of supported, inclusive learning through the provision of e-mentoring may address barriers to persistence, such as self-advocacy and self-determination, which are no less important. Based on the important findings surrounding self-advocacy and self-determination in this study, postsecondary disability service professionals may want to consider integrating a formal approach to developing self-determination and self/advocacy skills into their service operations. As online learning opportunities increase, student support for virtual learning and social media settings requires on-going change and modification specific to the needs of students with disabilities across STEM disciplines.


Williams, L., Wiebe, E., Yang, K., Ferzli, M., & Miller, C. (2002). In support of paired programming in the introductory computer science course. *Computer Science Education, 12,* 197-212


**About the Authors**

Noel Gregg received her M.S. degree in learning disabilities and visual impairment from the University of Virginia and her Ph.D. in language disorders from Northwestern University. She is a Distinguished Research Professor at The University of Georgia (UGA). Over her tenure at UGA, she created and directed the UGA Learning Disabilities Center and the UGA Regents’ Center for Learning Disorders. In addition, her experience includes working as associate dean of research and directing several major research grants. Her areas of specialization include adolescents and adults with learning disabilities and AD/HD, accommodations, electronic mentoring, assessment, and written language disorders. She can be reached by email at: ngregg@uga.edu.

Gerri Wolfe received her M.S. degree in psychology and Ph.D. in rehabilitation and special education from Auburn University. Dr. Wolfe brings 25 years of experience in higher education and has developed a solid record of achievement in the areas of administration, disability services, teaching, grant writing, policy, and program development. She collaborates with related agencies to advance equal access for students with disabilities through the development of local and statewide policy and initiatives. She is currently the liaison for the Regents’ Center for Learning Disorders, an initiative from the University System of Georgia. Her research interests include effectiveness of disability accommodations, e-mentoring, and online education support services. She can be reached by email at: gwolfe@uga.edu.

S. Patrice Jones received her B.A. degree in philosophy from The University of Pittsburgh and is currently a doctoral candidate from The University of Georgia. Her experience includes working as a high school English teacher for Atlanta Public Schools and serving as literacy coach. She is currently a graduate student in the Department of Language and Literacy Education. Her research interests include teacher education and literacy practices of African American youth. She can be reached by email at: spjones@uga.edu.
Acknowledgement

The research reported here was supported by the National Science Foundation (NSF) through Grant 1027635 to the University of Georgia and 1027655 to the Georgia Institute of Technology. The opinions expressed are those of the authors and do not represent the view of NSF.

The authors would like to thank members of our research team, Jana Thompson and Scott Pollock, for their contributions to this study. Their attention to detail, contributions to our thinking, and kindness in quickly responding to our requests were greatly appreciated. In addition, the authors thank the anonymous reviewers who provided valuable feedback on the manuscript.

Nathan W. Moon received his B.A. degree in history from Georgia College and Ph.D. from the Georgia Institute of Technology. His experience includes working as a research scientist in the area of accessible education, information and communications technology access, and workplace accommodations. He is currently the Associate Director for Research at the Center for Advanced Communications Policy. Moon’s research interests include student success in STEM education and career advancement of people with disabilities. He can be reached by email at: nathan.moon@cacp.gatech.edu.

Robert L. Todd received degrees in psychology and rehabilitation counseling from Georgia State University, and digital media from the Georgia Institute of Technology. His experience includes working as a Senior Research Scientist and Director of the Accessible Education and Information Laboratory at the Georgia Institute of Technology and serving as a consultant on online accessibility and new learning models for private and government entities. He is currently the Director of Policy and Partnership Development at the Board of Regents of the University System of Georgia. His research interests include new learning models and educational policies for post-secondary education, including mobile and competency-based innovations. He can be reached by email at: robert.todd@usg.edu.

Chris Langston received his B.S. degree in Science, Technology, and Culture and M.S. degree in Digital Media from the Georgia Institute of Technology. His experience includes working as a coordinator and researcher for the NSF SciTrain and DoE SciTrainU projects, online course development for the University System of Georgia, and graduate instruction in Georgia Tech’s Industrial Design program. He is currently a Research Scientist II with the Center for Assistive Technology & Environmental Access. His research interests include web accessibility and online education for students with disabilities. He can be reached by email at: chris.langston@coa.gatech.edu.
Table 1

*Mentorship Pair Descriptive Characteristics*

<table>
<thead>
<tr>
<th></th>
<th>Mentor</th>
<th>Mentee</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pseudonym</strong></td>
<td>Katherine</td>
<td>Mahalia</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>29</td>
<td>67</td>
</tr>
<tr>
<td><strong>College Major</strong></td>
<td>Assistive technology</td>
<td>Science technology</td>
</tr>
<tr>
<td><strong>Pseudonym</strong></td>
<td>Bob</td>
<td>Michelle</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>34</td>
<td>38</td>
</tr>
<tr>
<td><strong>College Major</strong></td>
<td>Bioengineering</td>
<td>Engineering</td>
</tr>
<tr>
<td><strong>Pseudonym</strong></td>
<td>Billy</td>
<td>John</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td>Black</td>
<td>White</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>32</td>
<td>21</td>
</tr>
<tr>
<td><strong>College Major</strong></td>
<td>Computer engineer</td>
<td>Electrical engineer</td>
</tr>
<tr>
<td><strong>Pseudonym</strong></td>
<td>Lucy</td>
<td>Karen</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td>Black</td>
<td>Black</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>24</td>
<td>27</td>
</tr>
<tr>
<td><strong>College Major</strong></td>
<td>Engineering</td>
<td>Science education</td>
</tr>
</tbody>
</table>
Table 2

E-mentoring Communications Tools reported by Mentees

<table>
<thead>
<tr>
<th>Digital Voice Tools</th>
<th>Text-based Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Life</td>
<td>Smart Phone</td>
</tr>
<tr>
<td>Michelle</td>
<td>√</td>
</tr>
<tr>
<td>John</td>
<td>√</td>
</tr>
<tr>
<td>Karen</td>
<td>-</td>
</tr>
<tr>
<td>Mahalia</td>
<td>√</td>
</tr>
</tbody>
</table>

*Note.* Data analyzed from the Mentee Semester Surveys.

Table 3

Number of Mentoring Sessions by Communication Platform

<table>
<thead>
<tr>
<th>Digital Voice Tools</th>
<th>Text-Based Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Life</td>
<td>Smart Phone</td>
</tr>
<tr>
<td>Michelle</td>
<td>-</td>
</tr>
<tr>
<td>John</td>
<td>-</td>
</tr>
<tr>
<td>Karen</td>
<td>-</td>
</tr>
<tr>
<td>Mahalia</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
</tr>
</tbody>
</table>

*Note.* Data analyzed from the Mentor Semester Surveys.
Assessing Faculty Perspectives About Teaching and Working with Students with Disabilities

Sandra Becker¹ & John Palladino¹

Abstract

This study presents a unique assessment of faculty perspectives about teaching and working with students with disabilities against the backdrop of the Individuals with Disabilities Education Act (IDEA) and the Americans with Disabilities Act (ADA). A randomized sample of 127 faculty from a large Midwest comprehensive university completed the survey, Faculty Perspectives about Teaching and Working with Students with Disabilities, an instrument the authors created and based on selected items from the Patterns of Adaptive Learning Scales (PALS) (Midgley et al., 2000) and The Accommodation of University Students with Disabilities Inventory (AUSDI) (Wolman, McCrink, Rodriguez, & Harris-Looby, 2004). Results confirmed the survey’s potential utility throughout the academy. Essential findings presented in this article regard faculty’s (a) general approach to teaching and (b) specific attitudes and behaviors about accommodating students with disabilities. Follow-up discussion points out the efficiency of administering the survey and its applicability to other university settings. Implications for survey replication, faculty professional development, and subsequent and corroborating research are included.

Keywords: efficacy, attitudes, perceptions, professional development, Americans with Disabilities Act

Postsecondary students with disabilities often encounter challenges (Houck, Asselin, Troutman, & Arrington, 1992; Ryan, 2007), including the need to self-advocate with respective universities’ administrative offices responsible for their accommodations. Whereas the administrative office is the gatekeeper through which students must pass, actual faculty members are the ones with whom students need to interact the most in order to gain access to knowledge and have fair opportunities to demonstrate their learning. This process, however, appears to not achieve the ideal outcome of degree completion when considering graduation rates among individuals with disabilities. Walker (1980) put forth such a portrayal of the higher education landscape more than 30 years ago: “Support services can make it possible for the [disabled] student to enter the postsecondary setting physically, but only faculty can provide access to knowledge and ways of knowing” (p. 54). The current outplay is no different, as Grieve, Webne-Behrman, Couilou, and Sieben-Schneider (2014) reported in their analysis of the 2009 National Center for Education Statistics dataset: “While postsecondary students who disclosed a disability comprise 11 percent of the total postsecondary population, graduation statistics indicate the college students with disabilities are underrepresented in students who earn a degree” (p. 19).

Throughout the postsecondary education literature, students have reported experiences with faculty they considered as non-accommodating and unapproachable, or well-intentioned in their responses to accounting for students’ disabilities, albeit downplaying the need for accommodation within their respective courses (e.g., Quinlan, Bates, & Angell, 2012). When students encounter such difficulties with faculty, they may withdraw from a university or be less likely to seek accommodations in future courses, thereby damaging their chances of completing their degrees and/or pursuing certain types of careers (Hill, 1996). Such a deleterious outcome should be a rally call for higher education to ascertain faculty members’ dispositions toward embracing this subpopulation of college students and respond with professional development opportunities aimed at thwarting any negativity.

The quest is both timely and necessary given the ever increasing number of high school students with disabilities projected to enroll in college programs. Calculating specific numbers and percentages of such students can be tricky due to the construction of data parameters the federal government uses to document

¹ Eastern Michigan University
college students’ disabilities, mainly through its National Longitudinal Transition Study (NLTS). For example, in their quantitative analysis about the number and demographic characteristics of students with Autism in Science, Technology, Engineering, and Mathematics (STEM) programs documented in the NLTS, Shattuck et al. (2014) warned that “readers should interpret [our] findings of statistical significance with caution” (p. 4). Yet, at the same time, NLTS’s overall data portray the significant presence of students with disabilities in postsecondary settings, as Hamblet (2014) pointed out:

Data from a longitudinal study in 2011 examining students with disabilities’ post-high school outcomes indicated that 15.5% of those who were enrolled at 4-year institutions were identified as having LD [learning disability]. ADHD [attention deficit hyperactive disorder] was not listed as a disability category, but it may have been included in the 19.5% of students who were identified as having “other health impairments.” (p. 53)

Concurrent discussions in the postsecondary education literature indicate the likelihood of these rates increasing in the years to come, as Cook, Hayden, Wilezenski, and Poynton (2015) pointed out: “The idea of students with ID [intellectual disabilities] accessing PSE [postsecondary education] is gaining popularity among institutions of higher education and the students themselves” (p. 52).

Prior to enrolling in colleges and universities, students with disabilities would have accessed K-12 accommodations through either the Individuals with Disabilities Education Act (IDEA) or Section 504 of the Rehabilitation Act of 1973. As a federal law, IDEA governs all special education and related services for students with federal-identified disabilities (i.e., Autism, specific learning disability, speech or language impairments, emotional disturbance, traumatic brain injury, visual impairment, hearing impairment, and other health impairments) that impede educational performance, as summed up in Section 601(d) of the Act (2004):

To ensure that all children with disabilities have available to them a free appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education (emphasis added), employment, and independent living, [and] to ensure that the rights of children with disabilities and parents of such children are protected. (n.p.)

In contrast, Section 504 is a civil rights law, one that prohibits discrimination on the basis of disabling conditions, as the Council for Exceptional Children (2002) posted:

This statute does not require the federal government to provide additional funding for students identified with special needs. Schools must provide these children with reasonable accommodations comparable to those provided to their peers. Section 504 does provide for enforcement of the mandate: A school that is found by the Office of Civil Rights to be out of compliance with Section 504 may lose its federal financing. (p.1)

Regardless of the means by which students with disabilities accessed accommodations in K-12 settings, “it is crucial that students become knowledgeable about their rights and responsibilities in postsecondary education because, although protections exist, the student has considerably more responsibility to request and design their own accommodations” (Leuchovius, 2003, p. 1).

Titles II and III of the Americans with Disabilities Act (ADA) define the scope of accommodations to which postsecondary students are entitled. Like Section 504 of the Rehabilitation Act of 1973, ADA is a civil rights law and its Titles II and III apply to schools that receive any form of federal funding, including universities, community colleges, and vocational schools (Leuchovius, 2003). Such institutions must ensure that their programs and extracurricular activities are accessible to students with disabilities. Upon receipt of imposed and required documentation from a student that verifies disability status and/or prior accommodations in a K-12 setting, the college or university must ensure with “reasonable accommodations” for which it is afforded much power and control in interpreting (see Vickers, 2010). Specific to the present study, “reasonable accommodations” for courses within higher education may not fundamentally alter programs of study or overall content and objectives (Eckes & Ochoa, 2005).

Faculty members may not be familiar with the nuances associated with ADA, but are nevertheless important figures for universities who must comply with ADA and determine the manner in which its intent is fulfilled in their specific courses (Scott & Gregg, 2000). Even if the university’s compliance officer (i.e., Office of Students with Disabilities) provides a legal accommodation letter outlining a specific student’s ADA entitlement, such communication often lacks enough detail to help each faculty member personalize his/her course in accord with each student’s specific disability.
In the absence of a clear understanding of what “reasonable accommodation” means, an essential criterion for ADA services in the postsecondary setting, and specific directions for day-to-day instruction, faculty may default to limited ways of fulfilling their responsibilities, such as providing extended time on tests.

Discussions about faculty attitudes regarding ADA accommodations for students exist within the literature. In such scholarship, authors have noted faculty willingness to help students (e.g., Nelson, Dodd, & Smith, 1990), but with limits. For example, Lindstrom (2007) reported that faculty typically only employ one or two types of accommodations, a limit that might stem from a dearth of literature that would otherwise inform them of alternative and expanded approaches for helping students with disabilities. Other scholars have noted faculty unwillingness to explore innovative or technological accommodations beyond simplistic ones because of the work or time involved in implementing them (e.g., Utschig, Moon, Todd, & Bozzrog, 2011).

Differences in faculty attitudes are also linked to specific academic disciplines and types of disability. Some researchers have found that faculty have lower expectations of students with learning disabilities and view them as having limited options in terms of majors and career goals (Houck et al., 1992; Scott & Gregg, 2000). Faculty in Arts and Sciences and in Business have been found to be less willing to accommodate students and less familiar with the laws than faculty in Colleges of Education (Leyser, Vogel, Wyland, & Brulle, 1998; Nelson et al., 1990), which could be particularly problematic for students intending to pursue studies in the sciences or in business. In addition, faculty have been found more willing to accommodate students with vision and hearing impairments or a physical disability, than for students who disclose that they have learning and/or emotional-behavior disabilities (Leyser, 1989; Wolman et al., 2004). We remind the reader that attention deficit hyperactive disorders (ADHD) are typically classified as a learning disability or other health impairment (see Hamblet, 2014).

In sum, one could argue that faculty dispositions toward students with documented disabilities and/or their professional opinions about accommodations in higher education might enhance or diminish the true spirit of the aforementioned Acts. If such a perception is legitimate, methods for assessing faculty perspectives should ensue so as to inform the fulfillment of ADA. Ignoring faculty dispositions would only perpetuate trite accommodation provisions that may not be realistic for students with disabilities. We responded to the need with the design of a unique survey that could quickly and proactively assess faculty dispositions about accommodating students with disabilities, a tool that could then best inform faculty professional development.

Method

In order to secure a robust number of responders necessary for piloting this survey and providing meaningful results to the academy, we used a randomized table to identify 600 of 1409 tenure-track and tenured faculty and lecturers at a Midwest comprehensive university. We first informed potential participants about our study and their selection to participate via a postcard notice. We then followed up with an email communication that sought their consent to accept our invitation and included a link to our online survey. A total of 127 faculty members representative of each college on the campus completed the survey (21% response rate), the majority of whom (56%) had been teaching at the postsecondary level for more than seven years (See Table 1).

Specifically, each consenting participant completed the instrument Faculty Perspectives about Teaching and Working with Students with Disabilities that the principal author compiled for the present study and administered through the online platform Qualtrics (see the Appendix). The survey was designed to provide an efficient method for gathering information about faculty attitudes and experiences with students with disabilities, as well as general information about their approaches to teaching. Each respondent anonymously completed the survey during a one-week period of time during which we made it available. Thus, certain participants might have responded to questions based on accommodation matters they were addressing at the time of survey administration. Most of the participants (66%) completed the survey in less than ten minutes.

As noted in the Appendix, the survey contained two groups of 5-point Likert-scale items used in prior research, as well as additional questions to assess faculty experiences and practices with students with disabilities. For the first group of Likert-scale questions, the principal author purposefully selected 16 items from three subscales of the Patterns of Adaptive Learning Scales (PALS) (Midgley et al., 2000): (1) teaching efficacy, (2) performance approach to teaching, and (3) mastery approach to teaching. Example selected statements relevant for the present study included: (1) “I am good at helping all the students in my class make significant improvement” (teaching efficacy subscale) and (2) “I consider how much students have improved when I give them final grades” (mastery ap-
approach to teaching subscale). Participants responded to these items on a scale from (1) strongly disagree to (5) strongly agree. Midgley et al. (2000) previously confirmed that the Cronbach’s alphas reported for these subscale items ranged from 0.69 to 0.74.

For the second group of Likert-scale items, the principal author compiled six items from previously published and validated measures to gather information about faculty attitudes and assumptions toward students with disabilities. The first source included two items from the Accommodation of University Students with Disabilities Inventory (AUSDI) (Wolman et al., 2004) subscale regarding assumptions about students (e.g., “Many students with disabilities expect special treatment.”). The second source included items adapted from Houck et al.’s (1992) survey that assessed faculty attitudes (e.g., “As an instructor, I think special course accommodations for students with disabilities are unfair to other students in the class.”). The principal author also crafted two additional survey questions using specific language from the ADA (1990) relative to higher education settings: (1) “Students with physical or mental disabilities should be able to fully participate in all aspects of university life” and (2) “Faculty should make academic adjustments for students with disabilities” (see Table 3, items number 1 and 2).

Although beneficial to understanding faculty perspectives and attitudes, the above selected items cannot fully portray faculty strengths and shortcomings regarding accommodations for students with disabilities. We supplemented our original questions with items that would paint a more complete picture and allow for potential correlations to be noted and accounted for when determining professional development implications. Our questions included items related to a recent experience with a student with a disability (e.g., “Did you have a conversation with the student about how you could accommodate his/her needs?”) and items related to resource use and training (e.g., “Have you ever taken a course or seminar, or pursued professional development opportunities about disability accommodations for students in higher education?”).

We specifically wanted to collect anecdotal qualitative data as a final open-ended prompt for the survey. Our review of the literature did not yield any previous studies about faculty self-describing their primary roles as either compliant with administrative directives and/or ADA about student accommodations. Therefore, we asked respondents to describe what they consider to be their most essential role in providing students with disabilities access to a postsecondary education. Self-reported information from one open-ended question cannot be considered rigorous qualitative data. Yet, as Creswell and Clark (2007) suggested, this type of qualitative data can be used to more broadly interpret selected quantitative data. We report how our collected anecdotal qualitative data was beneficial in better understanding our quantitative findings.

Results

We present the results in three sections. In the first section, we provide descriptive data about the faculty participants’ responses to questions regarding their (a) general approach to teaching and (b) specific attitudes and behaviors about accommodating students with disabilities. In the second section, we report the results of group difference analyses to determine the present-day relevance of Nelson et al.’s (1990) finding that faculty willingness to accommodate students is based on certain academic disciplines. Narration of these first two sections includes summative table information along with additional commentary. In the final section, we summarize the open-ended comments collected as a final survey prompt, insights that further corroborate the quantitative data and that offer additional insights necessary for informing future replications of the present survey study and professional development implications it exposes.

Descriptive Results

Table 2 contains the descriptive results for responses to the PALS items. Overall, participants demonstrated moderately high levels of mastery approach for teaching ($M = 3.38, SD = 0.74$) and teaching efficacy ($M = 3.43, SD = 0.60$), and lower levels of performance approach ($M = 2.18, SD = 0.64$) on the PALS items. Though PALS is more commonly used in K-12 settings, our participants had slightly lower averages on all three subscales than those found in prior research using these subscales with elementary and middle school teachers (Midgley, Anderman, & Hicks, 1995). Educators prepared for K-12 teaching might have somewhat higher efficacy due to possible coursework that would have prepared them for teaching a diverse population of students. Regardless, the overall pattern of results is consistent with prior studies in that instructors generally reported higher mastery than performance goals, and that mastery and efficacy averages tended to be about the same. Similar to findings in K-12 studies, present findings indicated that the participants generally focused on learning (as opposed to performance) and were reasonably confident in the power they have to reach all students, regardless of disability.
The individual Likert-scale items produced mixed results (see Table 3). At least 64% of the participants endorsed the two ADA-inspired items: (1) “Students with physical or mental disabilities should be able to fully participate in all aspects of university life,” and (2) “Faculty should make academic adjustments for students with disabilities.” Furthermore, 80% disagreed with the statement that accommodations for students with disabilities are unfair to other students. Respondents provided a high N of neutral responses (upwards of 33%) for statements regarding their awareness of how students with disabilities navigate disclosure options in higher education settings (e.g., “Students with disabilities are reluctant to disclose their disabilities.”)

The majority of participants (89%) indicated having a student with a known (reported) disability in a recent class, and nearly all of those participants stated that students typically bind their accommodation requests to those outlined for them by their university’s office responsible for fulfilling ADA disability services. For example, when asked to think about a recent student who requested accommodations, most of our participants said the student requested extended time and/or a quiet/alternative location (see Table 4). The focus on solely using extended time seemed commonplace, as only 25% of the participants reported having ever adapted an assessment tool (e.g., test) using any method other than extended time for a student with a documented disability. This finding suggests that our participants considered extended time and quiet location as adequate accommodations and did not implement other types, comparable to Lindstrom’s (2007) review of empirical research about faculty members’ accommodations for students with disabilities.

Only 24% of the survey participants reported ever having training or professional development about accommodating students with disabilities. The percentage was much higher (53%) among participants in the College of Education.

**Group Differences**

There were no differences on any constructs or individual questions within the Likert-scale items based on years of teaching, and only a few significant differences on those items between participants of the different colleges for which there was a large enough sample to note such differences. For example, consistent with the differences found in prior research (Nelson et al., 1990), participants within the College of Education were more likely to report that they provided several activities for students in class than faculty in three of the other colleges ($F(4,120) = 4.99, p = 0.001$).

However, significant group differences emerged on certain essential items when dividing the groups into tertiles based on the teaching efficacy subscale from PALS. Participants in the lowest efficacy group made up one-third of the sample but made up the majority of the 12 participants who disagreed that faculty should make academic adjustments (9 of the 12) and who were concerned that other students perceive accommodations as unfair (10 of the 12). In fact, there were significant mean differences between the efficacy groups across all four of the ADA- and fairness-related items in the second group of Likert-scale questions (Table 5).

**Anecdotal Qualitative Data**

At the end of the survey, instructors had the option to answer an open-ended question about their most essential role in providing accommodations for students with disabilities within their courses. Seventy-four percent of them accepted the invitation. As previously mentioned, our intent in collecting such anecdotal qualitative data was to further interpret the primary quantitative data. Given the legal nature of ADA, we had anticipated that our participants would most likely respond to our posed questions from a “what-I-am-required-to-do” stance with possibly skewed, if not contradictory, interpretations of ADA. Thus, we had hoped that the final open-ended prompt would elicit more personal ethos statements exceeding the legalities of ADA. We knew such insights would be necessary for the professional development implications we predicted the survey results would affirm as necessary within the academy.

Relative to the aforementioned quantitative data, the following anecdotal qualitative responses are noteworthy. First, while some of the responses referred only to following ADA-based “rules,” such as, “Meeting the accommodations requested,” or complained about the difficulty of accommodating learners’ needs (e.g., “Finding time to rewrite an exam is difficult and the task is very time consuming.”), most of the comments exceeded discussion about ADA mandates. Certain faculty, while acknowledging and adhering to students’ ADA accommodations, asserted that their advocacy for students’ success was broader than simply following through with prescribed accommodations, such as one business professor who stated: “I see my role as a facilitator of their success.” A second common theme regarded availability, ensuring that students with disabilities have optimal contact with professors in order to, as one respondent summed, “[make] sure the students understand the instructor is available and willing to help them succeed in the courses I teach.”
Most admirable were student-first statements of advocacy and individualization, such as one education professor’s quest to “try and make students feel safe in disclosing their need for accommodations.” Embedded in several of the frequent references to advocacy and referrals for support were purposeful statements about the need to focus more on students’ abilities versus their disability labels. Likewise, faculty noted the benefits students gain when professors employ an individualized approach (e.g., “Working with students on a case-by-case basis really helps;” “View each student and his/her needs individually”). Overall, the comments reflect a willingness to work with students with disabilities and recognition that faculty play a critical role in access to education for these students, an ethos worthy of acknowledging when remedying any ADA shortcomings and/or expanding the scope of accommodations it requires within the academy.

Discussion and Implications

The overall results of the present study suggest that faculty have experience with students with disabilities, particularly learning disabilities, and are willing to engage with such students and accommodate their needs beyond being required to do so, per the ADA. Yet, at the same time, most faculty participants reported only accommodating students with extended time on tests, and many were unsure whether students are reluctant to disclose their disabilities (see Table 3). In addition, a subgroup of participants had a negative perception of accommodations as unfair. All of these results highlight the utility of a survey instrument like ours to justify the need for targeted, evidence-based professional development opportunities for faculty.

Limited Accommodations

Our respondents alluded to documentation they received from their campus office responsible for ADA disability services as the official source specifying and stressing the accommodations of extended time for test completion and test administration in alternative, quieter locations. Despite the more all-encompassing purpose of accommodations they espoused and committed themselves to fulfilling, as noted in the anecdotal qualitative comments, many did not indicate utilizing other ways and means for accommodating students. It was evident that they warranted professional development that would tap into their positive regard for students with disabilities and offer more in-depth, alternative ways of accommodating students’ disabilities in more beneficial ways. For example, at no time did our participants mention pre-instruction/post-instruction, essay, or project assignment accommodations, let alone in-class accommodations for discussion with peers and instructors. Here again, our survey tool’s utility is noteworthy; replications of our study might expose different professional development needs.

We specifically point out that the limited accommodations mentioned by our respondents across several survey items may not adequately address the needs of students with mental health disabilities. The literature (e.g., Collins & Mowbray, 2005; Souma, Rickerson, & Burgstahler, 2012) is not silent about the presence of mental health intervention needs among college students. The ADA is not bound to disabilities or areas of accommodations that are strictly learning-based. Students with depression, anxiety, and other internal/external mental health disabilities are entitled to request ADA accommodations. It would appear as if our participants’ ethos would welcome such a conversation, but such a predication could only be verified in follow-up professional development opportunities.

Low Efficacy Correlation with Negative Perceptions

We must also account for certain differences in attitudes connected with teacher efficacy that the survey exposed. Faculty who reported low efficacy were less likely to endorse ADA-related items and more likely to point to accommodations as being unfair. For this particular group of participants, follow-up professional development opportunities would have to account for how teacher efficacy impacts instructional practice. Previous research at the K-12 level has indicated that teachers with low efficacy tend to have negative attitudes about students and give up quickly on those who have difficulty learning (Brownell & Pajares, 1999). In the postsecondary education literature, Park, Roberts, and Stodden (2012) found that faculty who have received professional development, via a summer institute, reported greater self-efficacy and greater willingness to work with students with disabilities after learning some specific strategies. Such a response to the professional development needs of certain faculty would be appropriate given our results.

Survey Replication

Our brief (10 minute completion time) survey tool allows higher education institutions to quickly assess instructors’ awareness about ADA accommodations for students with disabilities and their efficacy in implementing them. Its utility further allows colleges and universities to target a specific group of instructors or multiple/all groups of faculty. Additionally, the survey utilizes a combination of previously validated survey subscales and unique items that offer the potential for
collecting informative data for postsecondary institutions, as reported in the present study. Options exist for individual colleges and universities to personalize the unique items for their own institutional data collection needs.

Other institutions choosing to administer the survey need to consider to whom it should be administered (e.g., tenured and tenure-track faculty; lecturers), as well as when and how to administer the survey. We recommend administering it to all types of instructors, as all are likely to encounter students with disabilities and impact those students’ experiences. We administered the survey in the middle of a fall semester, which was late enough to allow faculty to settle into the semester and have some experience with students needing accommodations that semester, but early enough to not conflict with the busy end of semester. We received a robust response within one week of administering the survey. Future replications with similar prompt responses would allow for immediate remediation of any global, campus-wide ADA shortcomings before the end of a given semester.

We further opted for and recommend an online format for administering the survey. Our data were immediately available for ongoing monitoring and was outputted in a format that we could quickly analyze. Given that one outcome of administering this survey would be the identification of professional development needs that could immediately impact students’ accommodations, this type of quick assessment was essential in moving forward with a professional development plan. Replicating our survey may yield comparable or varying results to the ones we received. Regardless of the outcome, the overarching data will pinpoint among whom increased faculty efficacy needs to occur through professional development opportunities and among whom other interventions and training would be appropriate.

Limitations

While our survey results helped guide thinking and planning regarding professional development, as designed, we recognize that further revision of the survey instrument and additional types of studies or conversations could provide even more depth and value to this process. The survey instrument contains some newly-worded items that should be further validated with a larger sample and items that may raise concerns about inconsistency in wording (e.g., asking about all students with disabilities versus asking about only students with learning disabilities). Therefore, some slight wording changes may be needed to improve clarity and focus.

Our brief survey instrument also contains limited opportunities for faculty to share their unique insights, experiences, and classroom practices. Follow-up studies could include more open-ended questions or interviews, which would improve the usefulness of the data gathered and could potentially enhance the validity of the findings.

Perhaps most importantly, the survey results provide a somewhat limited snapshot of the views of those faculty members who were willing to respond and therefore may have excluded other voices that should be included in this process. For example, faculty members who have strong negative views about inclusion may have ignored or avoided our requests altogether, and their perspectives would be important to consider and address through professional development opportunities. In addition, students with disabilities and disability services staff were not included in our study at all, and their experiences are necessary to consider in any plan to improve equity and access for students with disabilities.

Professional Development

Recent scholarship related to our study concurs with our recommendation to consider professional development as a viable and first choice response to increased enrollments of students with disabilities. For example, Longtin (2014) challenged colleges and universities who admit students on the Autism Spectrum (ASD) to provide professional development for faculty who will instruct these students:

Many college and universities have centers for teaching and learning that could provide a venue for faculty and staff development in ASD. Suggested topics include recognizing the behaviors of students [with ASD], the process of referral to the disabilities office, the role of executive function in academic success, and the social challenges of ASD. A broader in-service training that consists of a series of workshops could be open to administrators, students, and staff, and members of the faculty. (p. 69)

Specific to our research site, all faculty could benefit from high-quality professional development opportunities through which they could learn about and apply accommodations beyond ones for test taking.

Numerous general resources exist for planning high-quality, evidence-based professional development for teachers, and they include recommendations for examining student needs, evaluating teacher knowledge and skills, and building community while planning
and implementing these opportunities (Maryland State Department of Education, 2008; National Education Association, 2006). Specific to professional development in response to this survey instrument, representatives from disability services and faculty development offices should consider both the quantitative results and the write-in responses as a way to understand faculty prior knowledge, experiences, and attitudes so they can plan training that is responsive to those factors. They may wish to invite students with disabilities and faculty participants into the planning conversations to further explore student needs and to allow for dialogue about the survey responses as well as other concerns and questions. Together, these various parties could determine the format, location, content, and depth of professional development opportunities as well as strategies for drawing faculty members to the training. On some campuses, and with some groups of faculty, brief presentations at a faculty meeting or webinars may be the best or only options. In other situations, full-day or multi-day intensive training options during the summer could yield large benefits (as in Park et al., 2012).

The impact of high-quality professional development for faculty could be quite far-reaching, with long-term benefits for students with disabilities. Park et al. (2012) found that professional development increased teacher efficacy, and other research suggests teacher efficacy influences willingness to try new ideas in class (Ross & Bruce, 2007). Previous research at the K-12 level of students’ perceptions of their classroom environment indicated direct links from teacher-student interactions to student efficacy and performance (Fast et al., 2010). We depict this complete and optimal pathway from instructor professional development to student performance in Figure 1. It illustrates what is possible when change is supported and encouraged through purposeful professional development opportunities for faculty.

We welcome additional efforts for replicating our survey administration and/or complementary research. Specifically, a more robust qualitative component that includes individual and/or group interviews could elicit rich data about faculty beliefs beyond the anecdotal data collected from one anonymous, open-ended question at the close of our survey tool. These inquiries into faculty experiences, perspectives, and practices could spur an essential connection that improves the experience of both faculty and students with disabilities.

References


About the Authors

Sandra Becker received two M.A. degrees from Eastern Michigan University, in mathematics and in educational psychology. She teaches math part-time at EMU and also works on grant projects related to education, psychology, and survey research. Her research interests including equity/access in higher education, teacher efficacy, and student efficacy. She can be reached by e-mail at: sbecker@emich.edu.

John Palladino received his Ph.D. in Administration, Curriculum, and Instruction from the University of Nebraska-Lincoln and is currently a Professor of Special Education at Eastern Michigan University where he instructs and researches in the areas of emotional-behavior disability and special education administration. Additional scholarly passions include school bullying policies, secondary special education, and the educational plight of youth in foster care. He brings to the role experiences as a former teacher and school administrator. He can be reached by e-mail at: john.palladino@emich.edu.
### Table 1

**Participant Characteristics**

<table>
<thead>
<tr>
<th>Years teaching in higher education</th>
<th>16%</th>
<th>28%</th>
<th>56%</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 3 years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 to 7 years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 7 years</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>College</th>
<th>58%</th>
<th>3%</th>
<th>15%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts and Sciences</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and Human Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 2

**Means and Standard Deviation of the PALS Subscales**

<table>
<thead>
<tr>
<th>PALS Subscales</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Efficacy</td>
<td>3.43</td>
<td>0.60</td>
</tr>
<tr>
<td>Mastery Approach to Teaching</td>
<td>3.38</td>
<td>0.74</td>
</tr>
<tr>
<td>Performance Approach to Teaching</td>
<td>2.18</td>
<td>0.64</td>
</tr>
</tbody>
</table>
Table 3

Endorsement of ADA and Additional Items

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree %</th>
<th>Agree %</th>
<th>Neutral %</th>
<th>Disagree %</th>
<th>Strongly Disagree %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Students with physical or mental disabilities should be able to fully participate in all aspects of university life.(^a)</td>
<td>42.5</td>
<td>45.7</td>
<td>4.7</td>
<td>6.3</td>
<td>0.8</td>
</tr>
<tr>
<td>2. Faculty should make academic adjustments for students with disabilities.(^a)</td>
<td>27.0</td>
<td>37.3</td>
<td>26.2</td>
<td>7.1</td>
<td>2.4</td>
</tr>
<tr>
<td>3. Having interpreters in my class could be distracting for other students and/or myself.</td>
<td>2.4</td>
<td>13.4</td>
<td>19.7</td>
<td>37.8</td>
<td>26.8</td>
</tr>
<tr>
<td>4. Students with disabilities are reluctant to disclose their disabilities.</td>
<td>7.9</td>
<td>42.1</td>
<td>33.3</td>
<td>15.1</td>
<td>1.6</td>
</tr>
<tr>
<td>5. As an instructor, I think special course accommodations for students with disabilities are unfair to other students in the class.</td>
<td>1.6</td>
<td>4.0</td>
<td>10.3</td>
<td>50.8</td>
<td>33.3</td>
</tr>
<tr>
<td>6. I am concerned that other students in my class might think special course accommodations for students with disabilities are unfair.</td>
<td>1.6</td>
<td>7.9</td>
<td>20.5</td>
<td>44.1</td>
<td>26.0</td>
</tr>
<tr>
<td>7. Students with learning disabilities are able to perform as well as other students at the university.</td>
<td>21.3</td>
<td>44.9</td>
<td>25.2</td>
<td>7.1</td>
<td>1.6</td>
</tr>
<tr>
<td>8. Many students with disabilities expect special treatment.</td>
<td>0.8</td>
<td>11.9</td>
<td>29.4</td>
<td>42.1</td>
<td>15.9</td>
</tr>
</tbody>
</table>

\(^a\)Survey item wording based on specific ADA language; interpretation by participants is unknown.
Table 4

Experiences with Students with Disabilities

<table>
<thead>
<tr>
<th>Regarding a recent student with a disability, I:</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had a conversation with student</td>
<td>111</td>
<td>98%</td>
</tr>
<tr>
<td>Had enough information to accommodate the student</td>
<td>88</td>
<td>78%</td>
</tr>
<tr>
<td>Contacted the disability office about the student</td>
<td>24</td>
<td>21%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>In general, students with disabilities:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Request the same or fewer accommodations than disability letter specifies</td>
<td>102</td>
<td>90%</td>
</tr>
<tr>
<td>Ever adapted assessment other than extended time</td>
<td>28</td>
<td>25%</td>
</tr>
</tbody>
</table>

Table 5

Differences Between Efficacy Groups

<table>
<thead>
<tr>
<th>Survey Item</th>
<th>Highest Efficacy Group (n=38)</th>
<th>Lowest Efficacy Group (n=44)</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students with physical or mental disabilities should be able to fully participate in all aspects of university life.</td>
<td>4.45 0.89</td>
<td>3.98 0.90</td>
<td>3.29*</td>
</tr>
<tr>
<td>Faculty should make academic adjustments for students with disabilities.</td>
<td>4.11 0.98</td>
<td>3.45 1.15</td>
<td>4.83*</td>
</tr>
<tr>
<td>Having interpreters in my class could be distracting for other students and/or myself.</td>
<td>2.00 1.04</td>
<td>2.52 1.15</td>
<td>2.47</td>
</tr>
<tr>
<td>Students with disabilities are reluctant to disclose their disabilities.</td>
<td>3.45 0.89</td>
<td>3.43 0.87</td>
<td>0.33</td>
</tr>
<tr>
<td>As an instructor, I think special course accommodations for students with disabilities are unfair to other students in the class.</td>
<td>1.61 0.64</td>
<td>2.07 0.86</td>
<td>3.37*</td>
</tr>
<tr>
<td>I am concerned that other students in my class might think special course accommodations for students with disabilities are unfair.</td>
<td>1.89 0.83</td>
<td>2.50 1.15</td>
<td>5.00*</td>
</tr>
<tr>
<td>Students with learning disabilities are able to perform as well as other students at the university.</td>
<td>3.97 0.97</td>
<td>3.52 0.98</td>
<td>2.83</td>
</tr>
<tr>
<td>Many students with disabilities expect special treatment.</td>
<td>2.21 1.02</td>
<td>2.59 0.90</td>
<td>1.83</td>
</tr>
</tbody>
</table>

*Note. *p < 0.05
Figure 1. A model of the path from faculty professional development to improved student outcomes.
Appendix

Faculty Perspectives about Teaching and Working with Students with Disabilities

1. How long have you been teaching at the university/post-secondary level?
   - □ Less than 3 years
   - □ 3 to 7 years
   - □ More than 7 years

2. Which college do you teach in at the university?
   - □ College of Arts and Sciences
   - □ College of Business
   - □ College of Education
   - □ College of Health and Human Services
   - □ College of Technology

3. Please respond to the following statements using the scale below by circling a response based on your typical teaching style for an undergraduate class.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I give special privileges to students who do the best work.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>If I try really hard, I can get through to even the most difficult student.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I make a special effort to recognize students’ individual progress, even if they are not getting high grades.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Factors beyond my control have a greater influence on my students’ achievement than I do.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I am good at helping all the students in my classes make significant improvement.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I display the work of the highest achieving students as an example.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>During class, I often provide several different activities so that students can choose among them.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I consider how much students have improved when I give them final grades.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I help students understand how their performance compares to others.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Some students are not going to make a lot of progress this semester, no matter what I do.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I encourage students to compete with each other.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I point out those students who do well as a model for the other students.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I am certain that I am making a difference in the lives of my students.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>There is little I can do to ensure that all my students make significant progress this semester.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I give a wide range of assignments, matched to students’ needs and skill level.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I can deal with almost any learning problem.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
</tbody>
</table>
5. Have you ever taken a course or seminar, or pursued professional development opportunities about disability accommodations for students in higher education?

□ Yes. Please specify where:______________________________

□ No

6. Have you ever encouraged a student to seek services at the university office responsible for students’ disability accommodations?

□ Yes

□ No

7. Have you had a student present you with documentation from the university office responsible for students’ disability accommodations, indicating her/his need for accommodations?

□ Yes

□ No [skip to question 10]

Think of one recent student who requested accommodations (with documentation) as you answer the following five questions.

a. What types of disabilities did your student have? [Check all that apply.]

□ Vision impairment/Blindness

□ Hearing impairment/Deafness

□ Autism

□ Intellectual disability

□ Specific learning disability

□ Emotional-behavior impairment (such as anxiety or depression)

□ Physical impairment (such as being wheelchair bound)

□ Orthopedic impairment

□ Traumatic brain injury

□ Other physical impairment

□ Other health impairment (such as diabetes)

□ Other: _______________________________

□ Do not know

b. Indicate the types of accommodations recommended in the letter from the university office responsible for students’ disability accommodations about this student. [Check all that apply.]

□ Extended time on tests

□ Extended time for assignments

□ Alternative forms of test (e.g., multiple choice instead of essay)

□ Interpreter (such as a sign language interpreter)

□ Note taker in class

□ Oral exams/Reader for exams

□ Quiet location for exams

□ Excused absences or tardiness

□ Lecture notes provided by you

□ Other: _______________________________

b. Did you have a conversation with the student about how you could accommodate her/his needs?

□ Yes. Please check any of the following that apply in your case:

□ You recommended accommodations beyond what the letter from the university office responsible for students’ disability accommodations suggested.

□ You questioned the helpfulness or practicality of the accommodations in the letter.
□ The student asked how he/she could tailor accommodations to best meet your course expectation.
□ No

d. Did you feel as though you had enough information and/or resources to accommodate the student’s needs?
  □ Yes.
  □ No. Please explain:

e. Did you contact the staff at the university office responsible for students’ disability accommodations to discuss the student’s accommodation plan?
  □ Yes
  □ No

8. Please check the box below that best completes this sentence based on your experience:
   It has generally been my experience that students with disabilities request…
  □ …more accommodations than their accommodation letters specify.
  □ …fewer accommodations than their accommodation letters specify.
  □ …the same accommodations that their accommodation letters specify.

9. Have you ever adapted assessments (tests, homework, etc.) -- other than extended time -- for a student with a documented disability?
   o Yes. [Please explain in the box below]
   o No.

10. Please respond to the following statements using the scale below by circling one response.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students with physical or mental disabilities should be able to fully participate in all aspects of university life.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Faculty should make academic adjustments for students with disabilities.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Having interpreters in my class could be distracting for other students and/or myself.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Students with disabilities are reluctant to disclose their disabilities.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>As an instructor, I think special course accommodations for students with disabilities are unfair to other students in the class.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I am concerned that other students in my class might think special course accommodations for students with disabilities are unfair.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Students with learning disabilities are able to perform as well as other students at the university.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Many students with disabilities expect special treatment.</td>
<td>SA</td>
<td>A</td>
<td>N</td>
<td>D</td>
<td>SD</td>
</tr>
</tbody>
</table>
11. Describe what you consider to be your most essential role in providing accommodations for students with disabilities.
Face-to-Face Versus Online Tutorial Support in Distance Education: Preference, Performance, and Pass Rates in Students with Disabilities

John T. E. Richardson

Abstract
This study examined the experiences of students taking the same courses in the humanities by distance learning when tutorial support was provided conventionally (using limited face-to-face sessions with some contact by telephone and email) or online (using a combination of computer-mediated conferencing and email). The results showed that, given a choice between face-to-face and online tutorial support, students with and without disabilities were equally likely to choose online support rather than face-to-face support. There were no significant differences in the reasons given by students with and without disabilities for choosing online rather than face-to-face support, although there was a nonsignificant tendency for students with disabilities to refer to “another reason” (including disablement or chronic illness) as a reason for choosing online support. Students with and without disabilities obtained similar grades for their courses, and this was true regardless of whether they had chosen face-to-face or online support. Students with and without disabilities were also equally likely to pass their courses, regardless of whether they had chosen face-to-face or online support. Even so, there was a nonsignificant tendency for students with disabilities to achieve a lower pass rate than students without disabilities with face-to-face support, whereas with online support their pass rate was marginally higher than that of students without disabilities.

Keywords: attainment, disabilities, distance education, face-to-face tutorial support, online tutorial support

Recent years have seen a considerable growth in distance education, both in the United States and in other countries (Allen & Seaman, 2011). In distance learning, the curriculum was traditionally provided through correspondence materials. Nevertheless, most distance-learning institutions use various kinds of personal support in trying to narrow what Moore (1980) called the “transactional distance” with their students, most commonly through regular albeit limited tutorials. In recent years, there has been an increasing use of information technology in distance education, with a move from paper-based to electronic materials accompanied by a move from face-to-face to online tutorial support. As was originally predicted by Saba (1988), technology now plays a major role in supporting students in distance education (Gokool-Ramdoo, 2008; Wheeler, 2007). There have, of course, been parallel developments in conventional, campus-based forms of postsecondary education.

In these latter programs, the move from paper-based to electronic materials has often happened simultaneously with the move from face-to-face to online support. This makes it hard to disentangle their respective consequences for students’ experience and attainment. In distance education, however, there is usually a separation between the central design and production of instructional materials and the provision of tutorial support at a local level. It therefore becomes feasible to evaluate the impact of technological innovations on each of these two aspects of the curriculum in a quasi-experimental manner. This article is concerned with differences in student attainment in distance education when tutorial support is provided online rather than face-to-face but when the aims, content, and assessment demands of the relevant courses are held constant.

An early study found that students might encounter problems when attempting to access online tutorial support because of technological problems, ambiguity in the tutor’s advice and instructions, or the paucity of social and other contextual cues (Hara & Kling, 2000). For their part, even instructors who are very experienced in face-to-face support reported problems when
working online (Kitto & Higgins, 2003). In a large survey of students taking a distance-learning course, Price, Richardson, and Jelfs (2007) found that those who received online tutorial support reported poorer experiences than those receiving face-to-face support. They concluded that, to make online support successful, both tutors and students needed training in how to communicate online in the absence of the paralinguistic information that is available in face-to-face situations.

However, this latter study was concerned with students taking a multi-disciplinary course where the students had to grasp concepts, methods, and theories from several different academic disciplines. It is possible that the tutors were either less competent or less confident in supporting such a broad curriculum through online communication. Alternatively, the students who received online support might just have perceived their tutors as being less competent and as a result rated the quality of their tutorial support less positively. Two subsequent studies that involved courses within specific disciplinary areas found no significant differences between students who received face-to-face support and students who received online support in terms of their perceptions of the quality of the courses in question (Richardson, 2009a, 2009b).

There has been little research on the experiences of students with disabilities who receive online tutorial support. Most research has been concerned with the accessibility (or otherwise) of the various technologies that are used to deliver the course content rather than with the nature of their tutorial support (see Fichten, Asuncion, & Scapin, 2014, for a recent review). The study by Richardson (2009b) concerned two courses that were taken by significant numbers of students with disabilities, and so the opportunity was taken to examine the preference of students with and without disabilities for face-to-face versus online tutorial support and to compare the attainment of students with and without disabilities who had received face-to-face or online tutorial support. There were three research questions:

- Do students with and without disabilities tend to give different reasons for choosing online rather than face-to-face tutorial support?
- Do students with and without disabilities tend to obtain different grades when they receive online rather than face-to-face tutorial support?
- Do students with and without disabilities differ in their pass rates when they receive online rather than face-to-face tutorial support?

\section*{Method}

\subsection*{Context}

The Open University was created in 1969 to provide degree programs by distance education across the United Kingdom. It accepts all applicants over the normal minimum age of 16 without imposing formal entry requirements. Originally, nearly all of its courses were delivered by correspondence materials, combined with television and radio broadcasts, video and audio recordings, tutorial support at a local level, and (in some cases) residential schools. In more recent years, however, the Open University has made increasing use of computer-based delivery such as CD-ROMs, dedicated websites, and computer-mediated conferencing. Most of the University’s courses are worth 30 or 60 credit points, on the basis that full-time study would consist of courses worth 120 credit points in any calendar year. Students may register for two or more courses at a time up to a maximum load of 120 credit points.

Tutors are appointed by the University to provide support for groups of 10–20 students taking a particular course. Their role is a formal, contractual one (usually described as “associate lecturer”). They are employed to lead tutorials (whether face-to-face or online), to grade and to provide detailed written feedback on the students’ assignments, and to offer individual support by telephone, e-mail, or computer conferencing, both in general terms and more specifically in helping students to prepare for examinations or other major forms of assessment.

\subsection*{Courses}

This study was concerned with two courses in the humanities. One was an introductory course, A103: An Introduction to the Humanities, aimed at students who were entering higher education for the first time or after a long break. By the end of the course students should:

1. have gained experience and knowledge in each of the individual disciplines and their methodologies, and have learnt how to apply their knowledge to interdisciplinary study in the Arts;
2. feel confidence that they have the basis upon which they can expand their academic horizons;
3. be able to develop an argument and support judgments and views with appropriate evidence;
4. be able to write well-argued essays which demonstrate the ability to analyze texts and their contexts;
have acquired some feeling for cultural diversity;
6. understand a range of appropriate concepts which provide a foundation for study in the Arts;
7. have gained enthusiasm for the subjects which they have studied.

The second was an advanced undergraduate course, A300: 20th Century Literature: Texts and Debates. Its aims and objectives were stated as follows:

1. To enable students to explore the variety and distinctiveness of 20th-century literature through a selection of texts from different genres (poetry, prose fiction, and drama).
2. To introduce students to the different historical and cultural contexts in which the 20th-century literary texts were produced, and encourage students to explore the relation between literary texts and their contexts.
3. To introduce students to theoretical perspectives on literature that have been extensively debated and/or repeatedly contemplated in the 20th century.

Both courses were of nine months’ duration, were assessed solely by coursework, and were worth 60 credit points (thus equating to 50% of full-time study). Both were presented in two versions. In one version, tutorial support was provided by means of limited face-to-face sessions (totaling 14 and 16 hours, respectively) with some contact by telephone and email. In the second version, tutorial support was provided online through computer-mediated conferencing and email. The student contact time was equated between the two versions of each course, but the tutors had considerable discretion in how they made use of that time.

The tutors responsible for online support were experienced in face-to-face support (often on the same course), and some had previously tutored a wholly online introductory course aimed at familiarizing distance-learning students with the use of computers and the Internet. These tutors received online briefing and training activities and contributed to their own closed online support forum. The face-to-face tutorials typically involved small-group activities and general discussion focused on the coursework requirements. Similar activities were employed in the online tutorials, but these were asynchronous, often extending over a week. On the one hand, this meant that the students required more explicit structure and prompting from the tutors with regard to particular tasks and the general conduct of online tutorials. On the other hand, it meant that students could make more reflective contributions when freed from the immediacy of face-to-face interactions.

Participants
In 2006–2007, 3,944 students had registered for A103, of whom 3,052 had chosen face-to-face tutorial support and 892 had chosen online tutorial support; 570 students had registered for A300, of whom 491 had chosen face-to-face tutorial support and 79 had chosen online tutorial support. Across both courses, 292 students had identified themselves as having one or more disabilities, of whom 183 (or 63%) had identified themselves as having two or more disabilities. In those who identified themselves as having just one disability, the most common forms were mental health difficulties (33 students), dyslexia or other specific learning difficulties (24 students), other disabilities (12 students), and fatigue or pain (10 students). This left fewer than 10 students who had identified themselves as having each of the following forms of disability: blind or partially sighted; deaf or hard of hearing; restricted mobility; restricted manual skills; impaired speech; and unseen disabilities.

Materials and Procedure
Richardson (2009b) distributed a postal survey in March 2007 to students who had taken these courses and who were available to be surveyed under the Open University’s procedures, which among other things prohibit any student being asked to take part in more than two research surveys in a calendar year. The survey was distributed to random samples, each of 400 students, from among those who had taken the face-to-face and online versions of A103 and the face-to-face version of A300. The randomization procedure involved an algorithm applied to the numerical portion of the students’ personal identifiers (used for registration purposes), which are in turn assigned to students in a largely unsystematic manner. The survey was also distributed to all 64 students who had taken the online version of A300 and were available to be surveyed.

The survey began by asking the students why they had chosen the face-to-face or online version of their course. Students who had chosen face-to-face support were given the response alternatives “Because I prefer face-to-face tuition,” “Because I did not know about [the online version],” “Because I do not have reliable access to the Internet,” and “For another reason (please specify).” (In U.K. English, “tuition” is synonymous with “tutorial support,” not with “tuition fees.”) Students who had chosen online support were given the
response alternatives “Because I prefer online tuition,” “Because I did not know about [the face-to-face version],” “Because other commitments prevent me from attending tutorials,” and “For another reason (please specify).” In both cases, students could choose more than one response alternative. The survey contained other sections that are not reported here due to limited space.

Data Analysis

Information concerning students’ choice of face-to-face or online tutorial support, their reasons for this choice, and their pass rates took the form of multiway contingency tables based on frequency data. These were analyzed using chi-squared tests (for two-way contingency tables) and logit loglinear analyses (for three-way contingency tables). Both procedures yielded chi-squared ($\chi^2$) statistics (see Tabachnick & Fidell, 2013, pp. 915–969). Information concerning students’ attainment took the form of grades on a percentage scale where the passing grade was 40%. These data were analyzed using a factorial analysis of variance, which yielded $F$ statistics (see Tabachnick & Fidell, 2013, pp. 69–75).

Results

Preference for Face-to-Face Versus Online Tutorial Support

Across both courses, 3,543 students had chosen face-to-face tutorial support, and 971 had chosen online tutorial support; 232 (or 6.5%) of the former students had identified themselves as having one or more disabilities as opposed to 60 (or 6.2%) of the latter students. Equivalently, 20.5% of the students with disabilities had chosen online tutorial support, and 21.6% of the students without disabilities had chosen online tutorial support. A chi-squared test showed that the difference in these proportions was not statistically significant, $\chi^2(1, N = 4,514) = 0.17$, $p = .68$, which implies that the students with and without disabilities were equally likely to choose online rather than face-to-face tutorial support.

Of the 3,944 students taking A103, 22.6% had chosen online tutorial support; of the 570 students taking A300, 13.9% had chosen online tutorial support. A chi-squared test showed that the difference in these proportions was statistically significant, $\chi^2(1, N = 4,514) = 22.62$, $p < .001$, which suggests that students taking introductory courses are more likely to choose online tutorial support than are students taking more advanced courses. However, the difference between students with and without disabilities did not interact with the difference between the two courses in predicting the students’ choice of mode of tutorial support, $\chi^2(1, N = 4,514) = 0.05$, $p = .82$. This implies that students with and without disabilities were equally likely to choose online rather than face-to-face tutorial support on both of the courses.

In the survey carried out by Richardson (2009b), responses were provided by 33 students with disabilities and by 364 students without disabilities out of the 800 students who had chosen face-to-face tutorial support, and they are summarized in the top half of Table 1. The most common reason was “Because I prefer face-to-face tuition.” Those who chose “For another reason” often cited their need to have personal contact both with their tutors and with other students. In addition, older students often cited a lack of confidence or skills in computing.

Responses were also provided by 18 students with disabilities and 195 students without disabilities out of the 464 students who had chosen online tutorial support, and they are summarized in the bottom half of Table 1. The most common reasons were “Because I prefer online tuition” and “Because other commitments prevent me from attending tutorials.” Those who chose “For another reason” often mentioned the need for a flexible approach to studying to fit in with other commitments or the fact that they resided in rural areas or abroad. Some students also cited disablement or chronic illness. Because students could choose more than one response alternative, a separate chi-squared test was used to compare the proportions of students with and without disabilities who had given each of the eight responses shown in Table 1. These tests found no significant difference in the proportions of students with and without disabilities giving any of the eight responses, $\chi^2(1, N = 610) \leq 3.47$, $p \geq .06$ in each case. Thus, students with and without disabilities seemed to have similar reasons for choosing either face-to-face support or online support.

Performance with Face-to-Face and Online Tutorial Support

The students’ coursework was graded on a percentage scale where the passing grade was 40%. A final grade had not been recorded for 620 students, usually because they had withdrawn from their course or had been allowed to defer their assessment. The remaining 3,894 students obtained a mean overall grade of 57.65 with a standard deviation of 25.23. The 3,063 students who had chosen face-to-face tutorial support obtained a mean overall grade of 57.20. In this group, the 186 students with disabilities obtained a mean overall grade of 52.95, and the 2,877 students without disabilities obtained a mean overall grade of 57.47. The 831 stu-
students who had chosen online tutorial support obtained a mean overall grade of 59.31. In this group, the 50 students with disabilities obtained a mean overall grade of 58.64, and the 781 students without disabilities obtained a mean overall grade of 59.36.

An analysis of variance found that there was no significant difference between the grades obtained by the students who had chosen face-to-face support and the students who had chosen online support, \( F(1, 3886) = 0.06, p = .82 \), no significant difference between the grades obtained by the students with and without disabilities, \( F(1, 3886) = 1.66, p = .20 \), and no significant interaction between these two effects, \( F(1, 3886) = 0.00, p = .95 \). There was also no significant difference between the grades obtained by the students taking the two courses, \( F(1, 3886) = 0.01, p = .91 \), and there were no significant interactions involving this effect. In short, students with and without disabilities obtained similar overall grades with either face-to-face or online support.

Pass Rates with Face-to-Face and Online Tutorial Support

A final result was recorded for all but 86 of the 4,514 students: 3,048 passed their course, an overall pass rate of 68.8%. (Students who had withdrawn from their course were considered to have failed.) The pass rate for the 3,473 students who had chosen face-to-face tutorial support was 68.5%. Within this group, the pass rate for the 228 students with disabilities was 62.3% and the pass rate for the 3,245 students without disabilities was 68.9%. The pass rate for the 955 students who had chosen online tutorial support was 70.1%. Within this group, the pass rate for the 59 students with disabilities was 71.2% and the pass rate for the 896 students without disabilities was 70.0%.

There was no significant difference in the pass rate between the students who had chosen face-to-face support and the students who had chosen online support, \( \chi^2(1, N = 4,428) = 0.84, p = .36 \), no significant difference in the pass rate between the students with and without disabilities, \( \chi^2(1, N = 4,428) = 3.19, p = .07 \), and no significant interaction between these effects, \( \chi^2(1, N = 4,428) = 1.19, p = .28 \). Nevertheless, there was a nonsignificant tendency for the students with disabilities to achieve a lower pass rate than the students without disabilities with face-to-face support, whereas with online support their pass rate was marginally higher.

The pass rate on A103 was 68.0%, and the pass rate on A300 was 74.6%. The difference between these rates was statistically significant, \( \chi^2(1, N = 4,428) = 10.08, p = .001 \), suggesting that weaker students may not progress to more advanced courses. There was also a significant interaction between this effect and that of the mode of tutorial support, \( \chi^2(1, N = 4,428) = 8.30, p = .004 \). In the case of A103, the pass rate tended to be slightly higher with online support (70.7%) than with face-to-face support (67.2%). However, in the case of A300, the pass rate tended to be markedly lower with online support (63.3%) than with face-to-face support (76.5%). This suggests that online tutorial support may be less effective for more advanced courses. Even so, there was no three-way interaction involving the effect of disability, \( \chi^2(1, N = 4,428) = 0.05, p = .82 \), which implies that the pattern was similar for both students with disabilities and students without disabilities.

Discussion

The evidence presented in this paper is of interest because it was possible to examine the role of the mode of tutorial support (face-to-face versus online) while keeping both the curricula and the forms of assessment in the relevant courses exactly the same.

Findings of this Study

First, this study found that, given a choice between face-to-face and online tutorial support, students with and without disabilities were equally likely to choose online support rather than face-to-face support. Second, this study found no significant differences in the reasons given by students with and without disabilities for choosing online rather than face-to-face support. There was, however, a nonsignificant tendency for students with disabilities to refer to “another reason” (including disablement or chronic illness) as a reason for choosing online tutorial support. This reflects the important role of online learning as an opportunity for people with severe disabilities or chronic illness to access postsecondary education (Newell & Debenham, 2009).

Third, this study found that students with and without disabilities obtained similar grades for their courses, and that this was true regardless of whether they had chosen face-to-face or online tutorial support. Finally, students with and without disabilities were equally likely to pass their courses. This too was true regardless of whether they had chosen face-to-face or online tutorial support. Even so, there was a nonsignificant tendency for students with disabilities to achieve a lower pass rate than students without disabilities with face-to-face tutorial support, whereas with online tutorial support their pass rate was marginally higher than that of students without disabilities. This suggests that online tutorial support may be an effective way to support students with disabilities in distance education.
Limitations of this Study

The evidence presented in this paper was obtained from just two humanities courses, and in principle the results may not generalize to students taking other courses at the Open University or students at other institutions of postsecondary education. Students with disabilities constituted just 6.5% of the total number of students taking the relevant courses, and only 51 students with disabilities provided responses to the survey regarding why they had chosen the face-to-face or online versions of those courses. This precluded any more detailed analysis relating to students’ race, ethnicity, or gender. Two-thirds of the students with disabilities identified themselves as having two or more disabilities, and this made it difficult to focus on subgroups of students with particular disabilities.

Implications of the Study

The main conclusion from this study is that students with and without disabilities are similar both in terms of their preferences for face-to-face rather than online tutorial support and in terms of their subsequent levels of academic attainment with either face-to-face or online tutorial support. Both students with disabilities and students without disabilities tend to value face-to-face support for the personal contact with their tutors, but they also tend to value online support for its flexibility. Clearly, both students with disabilities and students without disabilities should have access to either face-to-face or online support. This conclusion is consistent with the notion of universal design, which has a straightforward application in educational contexts for both secondary and postsecondary students (Burgstahler, 2001, 2007).

Elias (2010) showed how the general principles of universal instructional design could be tailored to the needs of instructors and instructional designers in online environments. One such principle was that of the instructional climate. Elias argued that in online learning the instructor needed to be engaged in discussion forums, available for one-on-one consultation, and in regular contact with students. Clearly, these prescriptions for effective tutorial support apply equally when that support is provided face-to-face. By providing effective support in both modes, distance-learning institutions can seek to ensure that their programs are accessible both to students with disabilities and to students without disabilities.

References


Gokool-Ramadoo, S. (2008). Beyond the theoretical impasse: Extending the applications of Transactional Distance Education Theory. International Review of Research in Open and Distance Learning, 9(3).


**About the Author**

John T. E. Richardson received his B.A. degree in philosophy and psychology from the University of Oxford and his D.Phil. from the University of Sussex. He taught psychology at Brunel University for 26 years until 2001. He is currently the Professor in Student Learning and Assessment in the Institute of Educational Technology at the U.K. Open University. His main research interests are concerned with the relationship between students’ perceptions of their courses of study in higher education and the approaches to studying that they adopt on those courses. He can be reached by email at: John.T.E.Richardson@open.ac.uk

**Acknowledgement**

I am grateful to Clive Baldwin, Lynne Dixon, Ulrike Hill, and Clare Spencer for advice on the pedagogic strategies employed with face-to-face and online tutorial support; to Katrina Tompkins for providing the student attainment data analyzed in this paper; to Nick Haycox and his colleagues in the Open University’s Survey Office for preparing and distributing the survey and for processing the responses; to Beth Erling for examining the students’ comments; and to Chetz Colwell and Marc Marschark for helpful advice.
Table 1

Percentages of Students With and Without Disabilities Giving Different Reasons for Choosing Face-to-Face and Online Tutorial Support

<table>
<thead>
<tr>
<th>Reasons for choosing face-to-face tutorial support</th>
<th>Students with disabilities (n = 33)</th>
<th>Students without disabilities (n = 364)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Because I prefer face-to-face tuition</td>
<td>70</td>
<td>68</td>
</tr>
<tr>
<td>Because I did not know about [the online version]</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Because I do not have reliable access to the Internet</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td>For another reason</td>
<td>18</td>
<td>18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reasons for choosing online tutorial support</th>
<th>(n = 18)</th>
<th>(n = 195)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Because I prefer online tuition</td>
<td>61</td>
<td>53</td>
</tr>
<tr>
<td>Because I did not know about [the face-to-face version]</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Because other commitments prevent me from attending tutorials</td>
<td>39</td>
<td>52</td>
</tr>
<tr>
<td>For another reason</td>
<td>39</td>
<td>20</td>
</tr>
</tbody>
</table>
Inclusive Study Abroad Course for College Students with and Without Intellectual Disabilities (Practice Brief)

Kelly R. Kelley¹, Seb M. Prohn¹, & David L. Westling¹

Abstract
The development of postsecondary education programs for individuals with intellectual disabilities (ID) opens opportunities for inclusive study abroad experiences for students with and without ID. This article shares first-hand experiences based on a study abroad trip taken by students in the University Participant (UP) program at Western Carolina University (WCU) to London, England and Dublin, Ireland. Information is presented about initial planning, recruiting and selecting participants, course content and instructional procedures, organizations and agencies visited, providing travel support for students with ID, lessons learned, challenges, future research, and implications for practice.

Keywords: study abroad, intellectual disability, postsecondary education, inclusion

Study abroad programs, in which college students spend time in formal study activities in other countries, have become quite popular in recent years. According to the Institute of International Education (IIE, 2013), in 2012-13, more than 289,000 U.S. college students studied abroad for academic credit (up from about 60,000 in the late 1980s). Included in this number were almost 3,200 students with disabilities coming from 265 different institutions. Of the students with disabilities, about 28% of them were identified as students with “mental disabilities” (IIE, 2014). However the potential for an increase among students with intellectual disabilities (ID) to study abroad is likely to increase considerably in the coming years. According to the latest data from Think College (www.thinkcollege.net), there are now more than 268 postsecondary education (PSE) programs for individuals with ID. This means that colleges and universities now have greater opportunities not only to offer study abroad experiences for students with ID, but to do so in an inclusive manner so students with and without ID may pursue study abroad courses together.

For over 30 years Mobility International and other comparable organizations have been advocating for international exchange and partnerships for individuals with disability. However, the proportion of students with all types of disability studying abroad in 2012-2013 was only 5% (IIE, 2014). Opportunities remain limited despite the dissemination well over a decade ago of strategies for increasing international study for students with disabilities (Hameister, Matthews, Hosely, & Groff, 1999). When study abroad has been made accessible, students with disability have reported increased confidence, awareness of abilities, communication, and problem solving (Matthews, Hameister, & Hosely, 1998). The same students surveyed by Matthews et al. made abundantly clear that they favored inclusive study abroad opportunities.

In this paper, we share the strategies and tactics used to offer an inclusive study abroad course that included students with and without ID in May 2014, during which students visited London, England and Dublin, Ireland. We focus uniquely on creating components for an inclusive study abroad course for a heterogeneous group of students with and without ID associated with the University Participant (UP) Program at Western Carolina University.

Domestically, the UP Program also operates as a highly inclusive and individualized postsecondary education program for transition-aged students with ID. UP students live in inclusive on-campus residence halls, participate in 6-12 course hours of inclusive college classes each semester, work (often for pay) in inclusive jobs on and off campus, and otherwise access the same social opportunities as college students without disabilities. Through the two-year on-campus living
and learning opportunity, UP students strengthen the skills required for independent living and competitive employment in the communities they choose. For more information about this program and its components, visit up.wcu.edu.

**Institutional Application and Initial Planning**

Our university, like most institutions, requires that the faculty member(s) organizing the course and leading the trip make an application several months ahead of the travel experience. This application requested details about such considerations as destinations, timelines, activities, safety precautions, number of students expected to participate, and costs. In this part of the process, it was important for us to indicate that we would be including UP students as well as traditional college students. To address this, we informed the study abroad office how we would use our students without disabilities to provide support for the students with ID on the trip.

We found that communicating about this issue informally before submitting our formal application was helpful. We also found it helpful to discuss our trip with other colleagues familiar with the locations we planned to visit. Networking in this way provided us with useful information about lodging arrangements, local organizations to visit, passport information, cell phone use and costs, immunizations, cultural etiquette, safety precautions, transportation services, and how to conduct money exchanges.

Once the university approved our international travel course application, we established key dates and deadlines, especially those related to payment of fees and deposits. At the initiation of planning, it seemed important that both faculty and students needed to know as soon as possible the overall cost of the trip, when certain fees had to be made, and whether payments for different components of the trip should be made to the school or directly to the service provider.

**Recruiting and Selecting Course Participants**

The course and associated trip was initiated because of a UP student’s request for international experience and the recognition by the UP staff that many of our students could benefit from such an experience. However, we also realized that we did not want a segregated experience that would include only students with ID, so we designed a course that would include both students with and without ID and developed a recruitment plan to attract both groups.

Over the next few months we marketed the course to student populations both broad and specific. The Office of International Programs maintains a running list of faculty-guided study abroad options on their website. All interested students had the opportunity to compare our course against a variety of others, which spanned multiple areas of study and international destinations. We also actively recruited students with an affiliation with the UP program. In addition to creating and posting recruitment fliers in and around the UP offices, we emailed course announcements to all active program volunteers. We brought fliers to guide discussions of the international opportunity during person-centered planning meetings that included UP students, their parents, and program volunteers. Finally, we encouraged all potentially interested students to further discuss this opportunity with their families, including the trip details, costs, and payments schedules.

By stated deadlines, interested parties completed the university’s study abroad application that required, among other information, any charges or convictions of violations against the student code of conduct, current health conditions, and assumptions of risk. As an addendum to the university application, we required a one-page narrative describing the applicant’s voluntary involvement in the UP program and anecdotes of personal responsibility. Applications were used to scrupulously build a class with the greatest potential to benefit from course objectives and form a respectful, cohesive group.

We then reviewed application materials and notified students about their eligibility to participate in the trip. Accepted students were provided with cost and fee information and payment due dates. All students with and without disabilities who had submitted completed applications were selected. Our final group included six college students without disabilities and three UP students with ID. The authors comprised the faculty and staff who accompanied the students (see Table 1 for demographics).

**Course Content and Instructional Procedures**

The course was a special topics course whose primary objective was for students to develop knowledge about programs and services for adults with ID in England and Ireland. This topic was relevant to both students and faculty and would serve as the central theme of our course. Although the academic structure and activities were planned by the faculty and staff, all students were involved in planning course and travel details.

At an initial meeting, students and instructors collaboratively planned the travel itinerary and made
some key decisions. For example, we initially were eager to visit a great number of relevant organizations throughout England and Ireland, but ultimately decided as a group what was most feasible within the time we had. Based on our rather limited time, students decided to center the visit in London and Dublin with a quick side trip to the National University of Ireland (NUI) Maynooth.

Following this initial meeting, the course continued for several weeks in advance of our departure. We used the Internet to explore various disability related groups, agencies, and organizations located in and around London and Dublin that we might visit on our trip. Ultimately we identified the agencies and organizations listed in Tables 2 and 3, located in England and Ireland respectively.

The course topics identified were broad, but were very relevant to the organizations and places we were to visit. They included:

- Laws and policies in England and Ireland relevant to adults with ID;
- Definitions and terms used in the adult services systems in England and Ireland;
- Living arrangements for adults with ID in England and Ireland;
- Employment options for adults with ID in England and Ireland;
- Postsecondary education options for adults with ID in England and Ireland; and
- Attitudes toward people with ID in England and Ireland.

During the on-campus part of the course, we read relevant literature and reviewed other materials available on the websites of the targeted organizations. To make our learning more interesting, we also used scavenger hunts to find information on websites. Additionally, many formats and course assignments varied to meet diverse learning needs.

**Providing Travel Support for Students with ID**

Within the UP program on campus, students without disabilities volunteer their time to provide natural supports for our UP students with ID. When we began planning for our trip, we thought the same practice would be useful for traveling abroad. Therefore we aimed to recruit enough students without disabilities to serve as supports for the students with ID. We were successful in doing so, and this arrangement worked in numerous ways. We started before the trip by working in mixed ability teams to learn how to engage in various travel-related activities. For example, before departing, we encouraged the use of a buddy system and used direct instruction to teach students to use the navigational signs located in airports. We also watched and learned from YouTube videos how to go through security screening gates and practiced doing so before our departure. We also provided a packing list to students and their families based on Transportation Security Administration specifications so no disallowed items would present a problem.

Because persons with ID face challenges when traveling, such as the limited use of landmarks for navigation (Courbois, Blades, Farran, & Sockeel, 2013), we had pre-planned to meet the support needs of our UP students during the trip. When we arrived at the airport for departure, all the students helped each other through the screenings and navigated their way to the departure gate. As we prepared to board the plane, students provided support and encouragement to each other. Once on the plane, the supports continued. In-flight support included assistance reading menus, accessing entertainment devices, and providing reminders for movement and restroom breaks. Students also knew where instructors were seated if they had any questions during the flight. There were also many opportunities for incidental learning as our students interacted with other passengers throughout the flight.

We spent three and a half days in London, and the same amount of time in Dublin. In each location, we had pre-arranged travel from the airport to our accommodations, made planned visits to the sites listed in Tables 1 and 2, and allocated free time to explore area sites (see Figure 1 for itinerary). Just as we do on campus, we had assigned one or more supports for students with ID while in London and Dublin. Of course many times the entire group, or large sub-groups, traveled together to sites of common interest so support assignments were naturally embedded in the groups. In addition to supporting each other in travel, the students worked together to develop and make presentations to organizations and to produce daily video/journal blogs.

The new and different environments also presented important learning experiences. Students with and without ID learned together and gained confidence in using public transportation, experienced local restaurants and pubs, and took advantage of various cultural opportunities. As students gradually adapted to their new surroundings, they worked together to assure everyone was able to “mind the gap.”
Lessons Learned

All the students benefited from the rapport they built with each other prior to leaving for their transatlantic adventure. While traveling abroad together, students deepened their familiarity and trust as they shared new opportunities and experiences with each other. Inclusive travel gave all members of the class the opportunity to view physical, social, and political landscapes in ways that would be otherwise impossible. While we encountered a few differences with our international counterparts, primarily in language use and terminology, we were nevertheless able to make meaningful personal and professional connections through shared values about the importance of quality of life for individuals with disabilities. The collaboration, connections, and exchange of information were almost magical. Particularly memorable was the instantaneous connection that was forged between us and the faculty and students in the inclusive PSE program at NUI Maynooth. Many students in the Maynooth program quickly connected with the UP students and the natural supports. Some of the other organizations we visited also provided great resources and information about their services, but offered less opportunity for exchanges among individuals with ID.

Challenges

Many of the challenges we faced were challenges that would be faced with any international experience. Cost was a consideration for all students and families. The amount of time allowed for the trip, nine days, also presented a challenge. Additionally, because there were so many interesting organizations and groups to visit, the time went by quickly with many in the group thinking we lacked sufficient time to see the sights. In hindsight, a little more time on the trip and a little less time devoted to class activities may have been preferred.

Although our travels for the most part were uneventful, functioning in the airports presented us with some of our most challenging and unexpected issues. Despite using YouTube videos and studying and practicing our movements through security before the trip, we still had difficulties with some UP students who misunderstood some of the security requirements. For example, two UP students were subjected to full searches by airport security after bringing drink or liquid medicine bottles that were greater than the allowed carry-on capacities.

Finally, with families, despite the fact that we had developed a long-term sustained trust, there was still some anxiety and fear associated with the trip. Concerns were varied. Some families were worried about financial and security documents being lost or undertaking successful money exchanges. Others worried about uncontrolled spending by their son or daughter or limited phone availability for receiving daily updates. Still others were concerned about health and travel fatigue or medication management. Interestingly, upon return, parents commented that they had observed greater levels of confidence, decision-making, independence, and better money handling skills among their college students, similar to findings in McConkey and McCullough (2006).

Future Research

There have been numerous studies documenting the benefits of studying abroad for typical college students (Byram & Feng, 2006; Dwyer, 2004; Langley & Breese, 2005). However, we could find no such studies about students with ID who studied abroad and none about inclusive groups in study abroad courses. This is not surprising. But with the increase in inclusive college programs for students with ID, we can anticipate that more such opportunities will occur in the future and that these opportunities will be of an inclusive nature, such as occurred on this trip. That being the case, we can see important research being generated around these courses. Specifically, future research should identify institutional and international program strategies deemed most essential for creating inclusive study abroad opportunities for students with ID. Such recommendations should begin by synthesizing recommendation for inclusive study abroad for students with all disabilities and Think College’s standards, quality indicators, and benchmarks for inclusive higher education (Think College, 2012). At individual levels of analysis, greater attention to perception and development of students with and without ID will be necessary in order to create opportunities that are maximally beneficial for all who participate.

Implications for Practice

While there are no specific guidelines to prepare students with ID for study abroad opportunities, based on our experience, we offer these suggestions. First, because reading maps, paying for transportation, time management, literacy, and problem solving may be barriers to travel for adults with intellectual disabilities (Davies, Stock, Holloway, & Wehmeyer, 2010), it was important to organize a balanced, pre-planned natural support system. Undergraduate and graduate students worked with UP students to provide support with travel (airport security, customs, accessing the planes, bus, trains, tickets, correct bus numbers), leisure (sightsee-
ing and recreation agendas), academics (filming and transcribing daily journals, assisting with course readings and assignments, co-presenting to organizations), and daily routines (food options, morning and evening routines, packing, arriving and leaving on time). It is important to have an organized way to strategically plan and balance these supports so they also get opportunities to learn with and without students with ID.

A second consideration is the great connection made with a similarly structured PSE program in Maynooth due to multiple opportunities and pathways for information exchange across individuals with and without disabilities. Programs should continue to explore the possibilities available to increase opportunities for direct interactions between individuals with and without disabilities.

A third consideration is the need to create more incidental learning experiences among peers, especially more sightseeing. This may mean extending the trip length in order to provide more bonding time between students with and without disabilities during common leisure activities. Jones and Goble (2012) reported that students with and without disabilities benefit from collaboration during spontaneous leisure and social activities outside of events shaped by strict task orientation. By lengthening the duration of international trips, academic and recreational components will be better balanced allowing paralleled equity between the social roles of “support” and “friend.”

While it takes a collaborative team working together to plan and embark on study abroad experiences, the benefits and experiential learning far outweigh the challenges. The lessons learned and friendships made for those sharing these experiences together will last a lifetime and make the countless hours of planning the effort of travel worthwhile.

References


**About the Authors**

Dr. Kelly R. Kelley received her Ph.D. from the University of North Carolina at Charlotte. Since 2010, she has served as the University Participant (UP) Program Coordinator, Consultant, and now an Assistant Professor at Western Carolina University. Her research interests include secondary transition related to assistive technology, independent living, and inclusive postsecondary opportunities for individuals with intellectual disabilities. She can be reached by email at: kkelley@email.wcu.edu.

Dr. Seb M. Prohn received his Ph.D. in psychology from North Carolina State University. He has served as the academic and outreach coordinator for the University Participant (UP) Program at Western Carolina University. He now works with Virginia Commonwealth University’s Rehabilitation Research and Technology Center (RRTC), Center on Transition Innovations, and ACE-IT program. His research interests include social inclusion, independent living, and inclusive postsecondary opportunities for individuals with intellectual disabilities. He can be reached at: smprohn@vcu.edu.

Dr. David L. Westling joined the faculty at Western Carolina University as the Adelaide Worth Daniels Distinguished Professor of Special Education in 1997. Before arriving at WCU, Dr. Westling was on the faculty in special education at Florida State University. He received the Ed.D. Degree in Special Education from the University of Florida in 1976 with related areas of study in Applied Behavior Analysis and Educational Research. He is the co-author of Teaching Students with Severe Disabilities, Special Education for Today’s Teachers: An Introduction, and Inclusion: Effective Practices for All Teachers and has published more than 50 papers in refereed journals in special education. Dr. Westling is past-president of the Board of Directors for TASH, is co-director of the personnel preparation project in severe disabilities at Western Carolina University, and director of the Western Carolina University’s University Participant Program. Dr. Westling was a Fulbright Research Scholar in Salzburg, Austria in 1994. He can be reached at: westling@email.wcu.edu.
Table 1

**Student Travelers**

<table>
<thead>
<tr>
<th>Student/Age</th>
<th>Level/Disability</th>
<th>Race/Ethnicity</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Martin/24</td>
<td>UP Student/Down syndrome</td>
<td>Caucasian</td>
<td>Male</td>
</tr>
<tr>
<td>June/20</td>
<td>Undergraduate</td>
<td>Caucasian</td>
<td>Female</td>
</tr>
<tr>
<td>Meredith/23</td>
<td>Graduate</td>
<td>Caucasian</td>
<td>Female</td>
</tr>
<tr>
<td>Donnie/22</td>
<td>UP Student/Cerebral Palsy</td>
<td>Caucasian</td>
<td>Male</td>
</tr>
<tr>
<td>Monica/22</td>
<td>Undergraduate</td>
<td>Caucasian</td>
<td>Female</td>
</tr>
<tr>
<td>Veronica/23</td>
<td>Undergraduate</td>
<td>African American</td>
<td>Female</td>
</tr>
<tr>
<td>Marlene/19</td>
<td>Undergraduate</td>
<td>Asian</td>
<td>Female</td>
</tr>
<tr>
<td>Tessa/20</td>
<td>Undergraduate</td>
<td>Caucasian</td>
<td>Female</td>
</tr>
<tr>
<td>Cassandra/20</td>
<td>UP Student/Mild ID</td>
<td>Caucasian</td>
<td>Female</td>
</tr>
</tbody>
</table>

Table 2

**Organizations in England**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Location &amp; Transportation</th>
<th>Mission</th>
<th>Rationale for Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHANGE</td>
<td>Leeds via Underground and National Rail</td>
<td>Focus on human rights; employment; production of accessible materials</td>
<td>To explore accessible materials; employment for equal wages</td>
</tr>
<tr>
<td>British Institute of Learning Disabilities (BILD)</td>
<td>Birmingham via Underground and National Rail</td>
<td>Focus on human rights; funding and services supporting dignity and respect of individuals with disabilities</td>
<td>Shared value system of equal access and full participation in communities for individuals with ID</td>
</tr>
<tr>
<td>Westminster Society for People with Learning Disabilities</td>
<td>London via Underground</td>
<td>To provide quality services and new opportunities for individuals with learning disabilities</td>
<td>Shared services for community living and similar values of inclusion/support across a lifespan</td>
</tr>
<tr>
<td>Mencap</td>
<td>London via Underground</td>
<td>Advocacy and policy change for individuals with learning disabilities</td>
<td>Shared mission in advocacy efforts and greater quality of life</td>
</tr>
</tbody>
</table>
Table 3

Organizations in Ireland

<table>
<thead>
<tr>
<th>Organization</th>
<th>Location</th>
<th>Mission</th>
<th>Rationale for Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inclusive Learning Initiative (ILI) at the National University of Ireland (NUI) <a href="https://www.maynoothuniversity.ie">https://www.maynoothuniversity.ie</a></td>
<td>Maynooth via bus</td>
<td>Program going beyond theory and successfully integrating students into the university learning environment</td>
<td>Innovative practice and shared inclusive values in postsecondary education</td>
</tr>
<tr>
<td>National Institute for Intellectual Disabilities (NIID) Certificate in Contemporary Living (CCL) Program <a href="https://www.tcd.ie/ciid/">https://www.tcd.ie/ciid/</a></td>
<td>Trinity College in Dublin via walking</td>
<td>Focus on teaching, research, and innovation within the CCL program</td>
<td>Use of person centered approaches and applied research within a college program</td>
</tr>
<tr>
<td>University College Dublin (UCD) <a href="http://www.ucd.ie">http://www.ucd.ie</a></td>
<td>Dublin via bus</td>
<td>Expert researchers in intellectual disabilities with a focus on palliative care and respite</td>
<td>To explore medical care and complex support needs of aging adults</td>
</tr>
<tr>
<td>May 13, 2014</td>
<td>TIME</td>
<td>ACTIVITY</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>1:00 p.m.</td>
<td>Check in at Asheville Regional Airport (only if flying from Asheville)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:25 p.m.</td>
<td>Board US Airways 2733 to Charlotte and arrive between 3:18-3:30 p.m.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00 p.m.</td>
<td>Check in at Charlotte Airport and meet at the appropriate gate for flight</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:55 p.m.</td>
<td>Depart from Charlotte on US Airways 730 to London Heathrow Airport</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-------</td>
<td>Fly overnight and arrive in London the next morning (time difference of 5 hours ahead)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>May 14, 2014</th>
<th>TIME</th>
<th>ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:50 a.m.</td>
<td>Arrive in London Heathrow Airport</td>
<td></td>
</tr>
<tr>
<td>8:30-9 a.m.</td>
<td>Ground transportation from Airport Connect</td>
<td></td>
</tr>
<tr>
<td>9-10 a.m.</td>
<td>Transport to Flats in London. Drop luggage.</td>
<td></td>
</tr>
<tr>
<td>10 AM-2 p.m.</td>
<td>Explore surrounding area with walking tour as a group and eat lunch</td>
<td></td>
</tr>
<tr>
<td>2-3:30 p.m.</td>
<td>Pick up keys, settle in flats, unpack, quick power nap- may get in earlier if they have ready</td>
<td></td>
</tr>
<tr>
<td>3:30-4 p.m.</td>
<td>Travel to first seminar meeting at instructor’s flat</td>
<td></td>
</tr>
<tr>
<td>4-6 p.m.</td>
<td>Opening Seminar (covering sight visits, rules for traveling, important timeline of events) sightseeing</td>
<td></td>
</tr>
<tr>
<td>6-10 p.m.</td>
<td>Dinner and sightseeing as you wish</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>May 15, 2015</th>
<th>TIME</th>
<th>ACTIVITY -Groups Split-Two Organizations-Then Meet Again</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>7:00-7:35 a.m.</td>
<td>Meet at 7 a.m. to depart to CHANGE organization to Leeds by train (2 hrs, 12 min)</td>
</tr>
<tr>
<td>9:17-9:50 a.m.</td>
<td>Depart from train to taxi in route to CHANGE (taxi fee TBD)</td>
<td></td>
</tr>
<tr>
<td>10:15 AM-12:00 p.m.</td>
<td>Visit with CHANGE Unit 11, Shine, Harehills Rd, Leeds, LS85HS- Be prepared with presentation</td>
<td></td>
</tr>
<tr>
<td>12:00 p.m.-12:30</td>
<td>Travel to train station from CHANGE at Leeds back to Westminster Society.</td>
<td></td>
</tr>
<tr>
<td>GROUP 2</td>
<td>10:00-4:00 p.m.</td>
<td>Travel and visit with BILD by 2 p.m.; Travel back to meet with Westminster by 6 p.m.</td>
</tr>
<tr>
<td>6:00-8:00 p.m.</td>
<td>Visit with Westminster for football (soccer) group- Queens Park Rangers Club, Dinner together</td>
<td></td>
</tr>
<tr>
<td>9-10:30 p.m.</td>
<td>Travel from Westminster to Acorn Flats</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>May 16, 2014</th>
<th>TIME</th>
<th>ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30 a.m.-5 p.m.</td>
<td>Check- in seminar (debrief yesterday’s visits, plan for today’s visits)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Visit to Mencap in morning from 9:30 a.m.-11 a.m.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LUNCH and travel to Orchard Hill College by 2 p.m.</td>
<td></td>
</tr>
<tr>
<td>6 p.m.-8 p.m.</td>
<td>Group dinner in London if you choose to join</td>
<td></td>
</tr>
</tbody>
</table>
May 17, 2014

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sightseeing Opportunities – ALL DAY IN LONDON! Check back in with instructors by 11 p.m.</td>
</tr>
<tr>
<td></td>
<td>UP STUDENTS WITH SUPPORTS BASED ON YOUR COMMON INTERESTS- use whentowork</td>
</tr>
</tbody>
</table>

May 18, 2014

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 a.m.-10:00 a.m.</td>
<td>Breakfast, morning routine, and packing up all belongings to go to Dublin</td>
</tr>
<tr>
<td>10:30 a.m.-10:45 a.m.</td>
<td>Wait for van transport from flats to London Heathrow Airport</td>
</tr>
<tr>
<td>10:45 a.m.-11:45 a.m.</td>
<td>Travel to London Heathrow Airport</td>
</tr>
<tr>
<td>11:45 a.m.-1:00 p.m.</td>
<td>Check in, security, and proceed to gate for flight to Dublin with lunch on the way in the airport</td>
</tr>
<tr>
<td>1:00 p.m.-1:35 p.m.</td>
<td>Board Aer Lingus Flight 163 to Dublin</td>
</tr>
<tr>
<td>1:35 p.m.-2:55 p.m.</td>
<td>Flight from London to Dublin with arrival time at 2:55 p.m.</td>
</tr>
<tr>
<td>3:00 p.m.-4:00 p.m.</td>
<td>Pick up baggage; take ground transportation (Aircoach) from Dublin Airport to Harding Hotel; unpack</td>
</tr>
<tr>
<td>4:00 p.m.-5:30 p.m.</td>
<td>Opening Seminar in Dublin Harding Hotel lobby- go over details and visits for next few days</td>
</tr>
<tr>
<td>5:30 p.m.-</td>
<td>Dining and tourism</td>
</tr>
</tbody>
</table>

May 19, 2014

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30 a.m.-10:30 a.m.</td>
<td>Coach (66/66x) from city centre to Maynooth</td>
</tr>
<tr>
<td>11:00 a.m.-1 p.m.</td>
<td>Meetings and presentations with NUI Maynooth people</td>
</tr>
<tr>
<td>1:30 p.m.-2:30 p.m.</td>
<td>Coach (66) from Maynooth to Dublin</td>
</tr>
<tr>
<td>2:30 p.m.-10:00 p.m.</td>
<td>Tourism and dining on your own; complete reflections independently</td>
</tr>
</tbody>
</table>

May 20, 2014

<table>
<thead>
<tr>
<th>TIME</th>
<th>ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15 a.m.-11 a.m.</td>
<td>Walk to NIID building, 4th floor, 3 College Green (beside Starbucks) – this is only .6km from Harding hotel</td>
</tr>
<tr>
<td>11:00 a.m.-12:00 p.m.</td>
<td>Class with Dr. John Kubiak</td>
</tr>
<tr>
<td>12:00 p.m.-1:00 p.m.</td>
<td>Extended conversation with Dr. Kubiak- sharing research with Trinity’s CCL Program director</td>
</tr>
<tr>
<td>1:00 p.m.-2:00 p.m.</td>
<td>Lunch and site seeing on Trinity’s campus and surrounding area</td>
</tr>
<tr>
<td>2:00 p.m.-2:30 p.m.</td>
<td>Nassau St. Bus stop across from Fredrick St, take bus 39a to University College Dublin</td>
</tr>
<tr>
<td>3:00 p.m.-4:30 p.m.</td>
<td>Discussion and sharing with Dr. Suzanne Guerin and colleagues</td>
</tr>
<tr>
<td>4:30 p.m.-5:00 p.m.</td>
<td>Walk to UCD bus stop across from Sillorgan Rd. Bus 39a to Essex Quay near Fishamble St. Walk to Harding hotel from bus stop</td>
</tr>
<tr>
<td>TIME</td>
<td>ACTIVITY</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6 a.m.</td>
<td>WAKE UP AND PACK TO HEAD HOME</td>
</tr>
<tr>
<td>6:30 a.m.-7:15 a.m.</td>
<td>Travel by van or taxi from Harding Hotel to Dublin Airport (7 miles= about 30 minutes)</td>
</tr>
<tr>
<td>7:30 a.m.-9:00 a.m.</td>
<td>Customs, security, proceed to gate for flight departure</td>
</tr>
<tr>
<td>9:30 a.m.-12:50 p.m.</td>
<td>Depart Dublin on U.S. Airways 725 to Charlotte (flight time 8 hrs, 20 min), Collect baggage or wait on connection</td>
</tr>
<tr>
<td>2:50 p.m.</td>
<td>Depart from Charlotte on U.S. Airways 4288 to Asheville Regional Airport (48 mins)</td>
</tr>
<tr>
<td>3:38 p.m.</td>
<td>Arrive in Asheville, Collect Baggage and belongings- Go home and sleep</td>
</tr>
<tr>
<td>Before Mon 5/26</td>
<td>Complete all homework and assignments for SPED 493/593 course- grades in by 5/27</td>
</tr>
</tbody>
</table>

*Figure 1. Travel itinerary for England and Ireland.*
JPED Author Guidelines

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: JPED 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:
  o Your complete manuscript, prepared as directed above
  o 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 and 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.