A UNIVERSAL RESEARCH DESIGN FOR STUDENT AFFAIRS SCHOLARS AND PRACTITIONERS

Edlyn Peña
California Lutheran University

Lissa Stapleton
California State University, Northridge

Kirsten R. Brown
Edgewood College

Ellen Broido
Bowling Green State University

Katherine Stygles
Bowling Green State University

Susan Rankin
Pennsylvania State University

Research on the experiences of college students with disabilities and the extent to which student affairs practitioners and scholars are meeting their needs is sparse. This article advances the concept of Universal Research Design (URD) by discussing the application of universal design principles to research on college students. Four critical considerations that student affairs practitioners and scholars should address when conducting disability research include (a) language and operational definitions, (b) accessing participants, (c) data collection for both qualitative and quantitative research, and (d) researcher's positionality and just representation. We demonstrate how URD can be used to make research on students with disabilities more inclusive, accessible, and accommodating.

One in ten college students in the United States reports having a disability (U.S. Department of Education, 2016). The community of students with disabilities[1] in higher education is growing (U.S. Department of Education, 2013). While many studies have been conducted about the collegiate experiences and campus climates for other specialized populations, research on the experiences of people with disabilities and the extent to which institutions are meeting their needs is significantly lagging (Evans, Broido, Brown, & Wilke, 2017; Peña, 2014). Discussions about the opportunities and challenges in disability research—including ableism (systemic discrimination against disabled people), definitions of disability, representation of voice, the researcher's agenda, participant access, and inclusion—remain scarce. The absence of these topics likely reflects a systemic problem in postsecondary institutions; that is, the voices of people with disabilities in higher education are marginalized on college and university campuses (Peña, 2014). Consequently, student affairs practitioners and scholars have inadequate information about disabled students and how to study their experiences.

Further, since students with disabilities are a portion of the broader collegiate population, inclusive research practices are vital, even if the focus of the study is not related to disability. Without the proper methodological guidance, student affairs practitioners and scholars are unequipped to employ accessible or socially just research designs. Consequences of inaccessible research design include sampling bias and lack of validity resulting in the unintentional exclusion or inaccurate representation of students with disabilities from research studies. Failure to use inclusive research design creates barriers to participation and could potentially omit students with disabil-

ities from the larger body of student affairs research (e.g., studies on student retention or engagement) or institution specific assessments (e.g., campus housing or service learning assessments).

The purpose of this article is to discuss the application of Universal Design (UD) principles to research on college students. The two questions that guided this article are: 1) What are the historical and theoretical challenges associated with disability research? and 2) What are promising practices when using UD in implementing research? We represent a mix of disabled and temporarily abled researchers. By engaging in this critical and necessary conversation, we aspire to animate socially just, ethical, and responsive approaches to disability-inclusive research. Toward this end, we begin this article with an overview of common research challenges regarding the experiences of people with disabilities. We draw on our own research studies to illustrate the decisions and lessons learned in conducting research on disability.

Historical and Theoretical Challenges

Multiple challenges exist in conducting research on disability. To begin, a lack of consensus exists on what constitutes a disability—with stark differences among those who identify as cultural minorities, those who self-identify as having a disability, those receiving benefits or accommodations because of impairments, and those with functional impairments (Grönvik, 2009). Further, research design and "methodological issues have been more or less ignored" (Grönvik, 2009, p. 13) in disability-focused research, limiting the ability of student affairs practitioners to develop a comprehensive understanding of the experiences of disabled people. This has negative consequences for how "disability is theorized, conceptualized, and presented" (Smith-Chandler & Swart,

---

[1] For the purpose of this paper, except when citing others' works, we use the language people with disabilities and disabled people interchangeably to honor both identity and person foci.

2014, p. 420), and, we argue, may result in unjust campus practices for students with disabilities.

Historically, research on disabled people has been written by "health care practitioners, policy makers, and caregivers" (Kroll, Barbour, & Harris, 2007, p. 690), rarely including the voice of people with disabilities (Gere, 2005). Consequently, disabled people began to view research as benefitting researchers more than people with disabilities themselves. Oliver (1997) wrote that "there was increasing anger, hostility[,] and suspicion amongst organizations of disabled people that much that passed for 'disability research' was nothing more than a 'rip-off'" (p. 15). Student affairs practitioners and scholars can disrupt these socially unjust research practices by recognizing that "research needs to follow the research agenda set by disabled people" (Shakespeare, 2006, p. 195) so as not to (re)produce ableist ideas and practices. As such, participant voice, agenda, agency, and inclusion are critical components of socially just disability research.

Divergent theoretical perspectives about disability which have emerged in different disciplines and shaped the ways in which disability is framed also complicate matters. Disagreement exists about the extent to which researchers should prioritize the study of attitudinal and physical environmental barriers (e.g., inaccessible buildings, ableist microaggressions, inadequate accommodations) over individuals' experiences of impairment (Shakespeare, 1999). The medical model, for instance, is a dominant paradigm in which scholars and practitioners frequently view disability from an ableist and deficit-based perspective. Those who operate from the medical model perpetuate the idea that disability is an individual experience (Smart & Smart, 2006) and that ". . . the expert's job is to return the individual to 'normalcy'" (Aune, 2000, p. 55). By focusing only on biological constraints, the medical model disregards social and environmental components of disability. In contrast, individuals who operate from the social constructionist lens view impairment as a part of natural human variation (Denhart, 2008). This lens "shifts an analysis from one focusing primarily on the disability itself to one recognizing the intersection of individual and societal factors" (Jones, 1996, p. 349). Disability is socially constructed by societal discourse and beliefs. The danger in operating strictly from a social constructionist lens, warned Shakespeare (2014), is that scholars and practitioners then ignore the fact that impairments (e.g., physical limitations, pain) are real and not always socially constructed. Shakespeare proposed a critical realist paradigm to transcend the medical-versus-social model binary. The critical realist paradigm recognizes the complex interplay between the experiential reality of having an impairment (ontological) and beliefs or attitudes about disability (epistemological). The multiple ways in which researchers make meaning and understand disability has led to starkly incongruent research approaches, with dominant paradigms viewing disability as solely an individual physical phenomenon, or exclusively a social phenomenon (Smith-Chandler & Swart, 2014). As such, researchers must take into account multiple mechanisms and contexts to understand experiences of people with disabilities. The sections that follow illuminate major methodological considerations for more socially just and responsive research practices from a UD perspective.

Principles of Universal Research Design

The concept of UD has application to various aspects of the research process. Coined by Ron Mace in the 1970s, UD is broadly defined as "the design of products and environments to be useable by all people, to the greatest extent possible, without the need for adaptation or specialized design" (Center for Universal Design, 2008b, n. p.). Since its proposal, there has been a plethora of literature written on the ways in

which UD is and should be used in the assessment of learning (e.g., Ofiesh, Rojas, & Ward, 2006); in technology, pedagogy, and curriculum (e.g., King-Sears, 2009); on institutional and departmental websites (e.g., Harper & DeWaters, 2008); and in programs and services (e.g., Higbee, 2004; Steinfeld & Jordana, 2012).

The Center for Universal Design (2008a) outlined seven principles that have been widely used to guide the application of UD to higher education (Burgstahler, 2013). UD provides nondiscriminatory inclusion for all participants by proactively designing research to be accessible to all people without modification. Although UD was originally developed to address disability-related functional limitations, UD principles also benefit people who do not have disabilities or functional limitations. Furthermore, UD principles support inclusion by removing isolating or inequitable processes of accommodating disability. The seven key principles of UD are:

1. Equitable Use–The design is useful and marketable to people with diverse abilities.
2. Flexibility in Use–The design accommodates a wide range of individual preferences and abilities.
3. Simple and Intuitive Use–Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.
4. Perceptible Information–The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
5. Tolerance for Error–The design minimizes hazards and the adverse consequences of accidental or unintended actions.
6. Low Physical Effort–The design can be used efficiently, comfortably, and with a minimum of fatigue.
7. Size and Space for Approach and Use–Appropriate size and space is provided for approach, reach, manipulation, and use, regardless of user's body size, posture, or mobility (Center for Universal Design, 2008a).

These key principles provide a starting point in which to understand and conceptualize other ways in which to make life accessible outside of architecture and pedagogy. The application of UD to research was first introduced by Williams and Moore (2011). They proposed the following guidelines for a Universal Research Design (URD):

(i) plan multiple options for people to learn about, respond to, and arrive at opportunities to participate in research… ; (ii) provide multiple means to communicate the information in research instruments and instructions for participants… ; and (iii) provide multiple means of responding to research instruments and interventions. (p. 4)

While these guidelines offer important suggestions to design research with UD principles in mind, we see them as a starting point to conceptualizing a more comprehensive URD. Below we advance Williams and Moore's proposed URD guidelines by contributing a discussion about promising practices for consideration by student affairs practitioners and scholars who conduct research.

URD Promising Practices

This section proposes additional URD considerations by describing promising practices for implementing URD : (a) language and operational definitions, (b) accessing students with disabilities, (c) data collection for both qualitative and quantitative research, and (d) researcher's positionality and just representation. We use examples from our own research to illustrate the real-world implications of URD within disability research. We advocate that URD principles should be employed within all research, rather than just those that focus on the substantive area of disability because failure to do so excludes the voices of students with disabilities.

Language and Operational Definitions

Student affairs practitioners and scholars must be mindful of the ways in which language around disability is socially constructed, and how this language lends itself to socially just and ethical research (Peña, Stapleton, & Schaffer, 2016). The debate around person-first (e.g., person with autism) versus identity-first language (e.g., autistic person) is prevalent among those working in social justice (Dunn & Andrews, 2015). Griffin, Peters, and Smith (2007) wrote, "More recently, a 'people first' movement has emerged . . . so as not to define people by a particular physical or mental condition" (p. 336). However, Dunn and Andrews (2015) and Griffin et al. (2007) also discussed the redefinition of identity-first labels and the reclaiming of formerly derogatory disability-related terms (e.g., cripple). Collier (2012) presented a multi-part series on the problems associated with person-first language. He noted, "It's supposed to promote the idea that personhood is not defined by disability or disease" (Collier, 2012, p. E939) despite that some people who identify as disabled feel person-first language does exactly that. Furthermore, linguistically speaking, "sticking a word in the shadow of a noun [e.g. individual with schizophrenia] can create the impression that there is something inherently wrong with it, that it should be hidden" (Collier, 2012, p. E939). Titchkosky (2011) also noted "The desire to shore up a firm separation between people and disability, by privileging the former and diminishing the latter, points to an image of disability as a kind of danger" (p. 53).

As a mix of disabled and temporarily abled researchers, our own personal preferences regarding language and our experiences related to linguistic use when conducting research are varied. For instance, in their qualitative study on disability leadership and activism among college students, Broido and Stygles (2016) negotiated the complexity of using language by focusing on the students' preferences and experiences.

Some participants expressed preference for identity-first language. On the one hand, they made statements like, "If you need to use person-first language to remind you that I'm a person, that's your problem," and "Nobody else is made to feel like their identity is a dirty thing that needs to be attached as an afterthought." For other participants person-first language represented a way of identifying themselves within a community, sharing a collective identity.

In all such cases, it is ideal to use the participants' preferred language. Rather than the researcher labeling individuals, participants may choose how they label and use language about themselves and their identities. Just as the language debate is prevalent in academia, it is prevalent among the disabled community. Both student affairs practitioners and scholars may find that using both disability-first and person-first language with an accompanying explanation on data collection and publicity materials would be more inclusive.

An important consideration in honoring participants' preferences for identity labels and in deciding the operational definition of disability itself impacts the interpretation of data across research studies. Inconsistent use of operational disability definitions creates divergent empirical outcomes; existing research on retention and graduation of college students with disabilities provides mixed results, in part because different studies define disability differently (Evans, et al., 2017). For example, several authors (e.g., Wessel, Jones, Markle, & Westfall, 2009) have reported comparable graduation rates between students with and without disabilities. Most of these studies are based on institutional analyses of data that included student self-identification, either to the researcher or to the institution. However, only about half of students who were identified as having a disability in high school disclose that identity to their college or university (Newman et al, 2009).

In contrast, through nationally representative longitudinal surveys (e.g., the

National Longitudinal Transition Study - 2 [NLTS-2]), the U.S. Department of Education found lower graduation and retention rates for disabled students (Newman et al, 2009). However, in the NLTS-2, a "student with a disability" was defined based on the students' high school records, in which the school identified which students were disabled. Thus, the Department of Education research operationally defined disability from the perspective of others whereas Wessel, Jones, Markle, and Westfall (2009) constructed disability via self-definitions. This distinction should be taken into consideration when examining the disparity in findings.

Accessing Students with Disabilities

A common challenge to conducting research on disability is accessing potential participants. Three specific areas of access are 1) securing IRB approval, 2) recruiting and building connections with potential participants, and 3) engaging in socially just research with students who have experienced historical and structural discrimination.

First, particular challenges exist in gaining IRB approval when practitioners and scholars aim to study the experiences of students with disabilities. Per the United States Department of Health and Human Services' Protection of Human Subjects (2014) regulations, some people with disabilities are considered to be a vulnerable population (i.e., "vulnerable to coercion or undue influence" [§46.111(b)]) requiring extra safeguards in research. These safeguards include IRB full reviews and additional assurances from the researcher that participants will not be coerced to participate in any way. In order to traverse challenges in gaining IRB approval, researchers can consider modifying the scope and focus of the study (e.g. study institutional policies or cultural practices rather than students) or arguing that not all people with disabilities have cognitive impairments and have the capacity for decision making. Additionally, researchers can navigate IRB processes at multiple institutions by recruiting participants via reputational recruiting (via listservs, social media, disability advocacy groups, etc.) rather than recruiting at the institutional level.

Once IRB approval is granted, gaining access to and securing participation from disabled students in research studies requires cultivating participants' trust (Andrews, 2005). Given that many students with disabilities have been put under the microscope during medical exams, assessments, and diagnostic appointments, they may be less likely to want to participate in a study. In addition, historical and current issues of oppression against disabled people may make it difficult to trust a researcher without a disability who seemingly intends to judge and evaluate them (Andrews, 2005). This can reduce a researcher's ability to collect rich and meaningful data from participants who are historically marginalized. Our recommendations are for researchers to connect with institutional gatekeepers, such as coordinators of disability services, and establish rapport.

Gatekeepers who already have a relationship with students with disabilities can become a critical resource in gaining access to participants. Peña turned to parents as gatekeepers after having difficulty identifying at least 10 potential participants for her study on the experiences of college students with autism. After months of failed attempts to recruit college student participants, Peña reached out to parents and caregivers—a group of parents who tend to be heavily involved in supporting their autistic children to succeed in college (Peña & Kocur, 2013). Forty-one families participated once parents and caregivers became the target participants.

Several strategies can increase access to participants with disabilities. Student affairs practitioners and scholars are encouraged to get assistance from disability coordinators and directors to pass on study recruitment information to students with disabilities. Researchers may also consid-

er contacting families and students through disability-oriented organizations (Andrews, 2005). In addition to using social networks, student affairs practitioners and scholars should consider the use of social media focused on students with disabilities. Groups on Facebook, Instagram, and Twitter may be willing to share or post recruitment announcements. Snowball sampling is also effective, as recruitment through people with personal relationships to potential participants (e.g., disability-related student group) can go a long way in encouraging participation (Merriam, 2009). When using recruitment strategies like snowball sampling through influential individuals such as parents, faculty, and administrators, researchers are encouraged to be mindful of keeping students from feeling coerced to participate.

The second important consideration to engaging participants and cultivating their trust involves building rapport. The ways in which student affairs practitioners and scholars build rapport with historically marginalized populations varies depending on their positionality, their social identities, and the community in which they are working. This is particularly important for students with disabilities given the historical abuse within disability research and the large number of research studies conducted on disabled communities by nondisabled researchers. Stapleton's (2014) experiences as a hearing person conducting research with the Deaf community required that she be intentional in building a trusting relationship from the recruitment stage to the final product. Similar to Peña and Kocur's (2013) study, that sought out gatekeepers to address recruitment difficulties, Stapleton's (2016) study with Black Deaf college alumni faced recruitment challenges. Participants rarely responded to passive and impersonal recruitment efforts, so Stapleton worked closely with gatekeepers, included a picture of herself with a short biography in announcements, and used accessible language. These steps helped to demystify the unknown and potentially elitist feel of the research process.

Thoughtfulness and authenticity are methods of building trust. As a hearing researcher, Stapleton (2014) took time before starting her research projects with Deaf participants to answer the following questions for herself: (1) Why is it that I am engaged in the present study? (2) What personal assumptions do I bring with me to this study? (3) What is my relationship with those in the study? (Jones, Torres, & Arminio, 2014). She shared her responses to these questions with potential Deaf participants during an introductory FaceTime or Skype meeting before they committed to working with her. This process of reflection and sharing creates a foundation in which transparency, authenticity, and dialogue can grow. Other recommendations to build rapport with potential research participants with disabilities include using language respectful of and used by the disability community in recruitment efforts, building rapport with disability community organizations on and off campus to establish networks with potential participants, advertising participant recruitment announcements in safe or private spaces, and directly addressing any issues of mistrust, such as maintaining confidentiality (Ellard-Gray, Jeffrey, Choubak, & Crann, 2015).

Data Collection

We encourage student affairs practitioners and scholars to take special considerations when collecting both qualitative and quantitative data. Following principles of UD, the considerations we outline below point to more ethical and responsive research methods for both qualitative and quantitative data collection.

Qualitative data. Qualitative research is a powerful approach to understanding the postsecondary experiences of disabled students because of the nature of the data collected—rich, descriptive stories, perceptions, and experiences. Documenting these narrative insights is particularly important

given that the voices of students with disabilities historically have not been included in higher education research (Peña, 2014). Under the principles of universal design, it is imperative to consider both synchronous and asynchronous data collection methods as a method to enhance inclusion.

Synchronous data collection, or data collected in real-time, is beneficial because one can immediately ask follow-up questions to clarify or expand on participants' prior responses in the moment. However, face-to-face interviews are neither always practical nor ideal for qualitative research with participants with disabilities. For instance, under principles of universal design, Broido and Stygles (2016) employed multiple methods of data collection when they interviewed 11 college or recent students who engaged in disability leadership or activism during their undergraduate careers. They conducted most interviews via Skype with one in-person interview, one telephone interview, and one real-time text interview. This accommodated participants whose preferences were to avoid face-to-face interaction or who had limited access to a computer or restricted bandwidth. Use of multiple methods of data collection can help participants feel more comfortable about their participation in studies. This also may allow researchers to gain richer data, allowing multiple ways of processing information and responses.

Giving participants access to the language of their choice is also a critical step during the interview process. While conducting a study on Black Deaf college experiences, Stapleton (2015) asked the participants what language they preferred for their interviews and how they wanted to be interviewed. Most interviewees requested American Sign Language and to have the interviews face-to-face. Additionally, each participant also received the interview questions written out in English. In line with Deaf epistemology (Holcomb, 2010), these steps provided two methods of communication during the interview and a more comfortable interviewing experience for the participants. Providing interview questions before the interview may also increase participants' comfort and ability to process interview questions in advance.

Due to functional limitations in communication and processing auditory information, students with autism, cerebral palsy, speech and language delays, and auditory processing disorders may prefer not to answer questions in a face-to-face or real-time format (Ison, 2009). As such, asynchronous forms of data collection are beneficial in allowing disabled students to participate in research studies in meaningful ways. Researchers can consider email interviews, asynchronous chat forums, or discussion threads to accommodate participants who prefer more time to process and deliver their responses. After all, "Offering an alternative to traditional verbal interviews can increase opportunities for participant involvement and enhance the quality and inclusiveness of research data" (Ison, 2009, p.161).

Quantitative data. A quantitative approach to understanding disability provides student affairs practitioners and scholars with the ability to ask sensitive questions in an anonymous manner and the potential to identify factors that influence outcomes or test the predictive variables (Creswell, 2013). For example, Brown, Peña, and Rankin (2017) were able to research the highly personal topic of unwanted sexual contact for students with autism and other types of disabilities by including a question about disability in the demographic section of a larger quantitative instrument. Accessing larger groups of disabled students is vital as it adds voices to a collective; this is particularly important because disability is frequently conceptualized as an individual experience. Including demographic questions about disability in quantitative instruments that measure institutional outcomes allows for information from randomly collected samples to be generalized to a broader population, data to be disaggregated in

ways that make findings more meaningful, and the use of predictive modeling.

Surveys are one of the primary methods of quantitative data collection; following the URD guidelines outlined by Williams and Moore (2011), surveys should be universally designed so all potential respondents can participate. However, several challenges in designing web-based and hardcopy surveys must be taken into consideration. With regard to web-based surveys, many pre-existing platforms for online surveys (e.g., SNAP, Qualtrics, and Survey Monkey) employ graphics or question routing functions that are not fully accessible for individuals using screen readers. The second challenge associated with creating a web-based survey is that those using screen readers (including visually impaired people and people with reading impairments) do not constitute a homogeneous group; individuals have varying degrees of central vision, peripheral vision, light perception, and color perception, and these differences in impairment have specific implications for the data collection process. If the technology has limitations that make the survey inaccessible to participants, we suggest including a statement with researchers' contact information at the beginning of the survey for people who want to take the survey in an alternate format.

Universally designed surveys, whether web-based or hardcopy, should attend to specific formatting issues. First, the survey introduction must include information about the number of questions and number of pages in the full survey. This is helpful for people with peripheral vision loss (tunnel vision) who find it difficult to get an overview of a page. Additionally, adding a footer at the bottom of each page indicating the current page and total number of pages (e.g., page 1 of 6), and including in the question header instructions on how to answer the question (e.g., mark one or mark all that apply) are useful inclusive techniques. Second, survey designers should provide navigation and orientation aids so that question and answer options are distin-

guishable from one another. For example, one recommendation is to utilize horizontal lines to delineate groups of questions. To provide greater visibility, survey designers should maintain appropriate color contrast and brightness, particularly those with color-blindness. The third design strategy is to streamline the answering process, allowing visually impaired respondents to complete the survey in a timely manner. One recommendation is to place the answer fields to the immediate right of a response. This allows for a response directly after reading the question without having to skip to a new line or return to the beginning of the question for the response choices.

Once the survey is designed, assistive technologies can assist prospective visually impaired students with responding to web-based surveys. For instance, surveys must be screen-reader compatible to ensure blind students can independently access the instrument. The most common and versatile extension for online surveys to assist blind and low vision students is Javascript. To apply visual design principles, standard input browser controls such as radio buttons and checkboxes are replaced with images with Javascript. Blind and low vision students use many technological aids. A listing of recommended assistive technologies is available from the U.S. Department of Education (U. S. Department of Education Assistive Technology, 2014). When designing web-based surveys, researchers should follow Web Content Accessibility Guidelines (WCAG) 2.0 AA guidelines and ask people with visual impairments to pilot their survey using a screen magnifier and screen reader.

Positionality and Just Representation

The positionality of the practitioner or scholar conducting the research influences all methodological approaches. These considerations are less often considered among quantitative researchers, though that is slowly changing with the emergence of socially just and critical quantitative researchers (Vaccaro, Kimball, Wells, & Osti-

guy, 2015). This section details important considerations about positionality in disability research, in both qualitative and quantitative research designs.

Researcher's positionality. In qualitative research, student affairs practitioners and scholars must be aware of personal biases, values, and experiences (Creswell, 2013), in addition to considering their own and participants' social identities (Jones, Torres, & Arminio, 2014). Jones, Torres, and Arminio (2014) argued, "the relationship between the researcher and her participants and the researcher and her topic… is one of the fundamental considerations" (pp. 26-27). The ways in which researchers shape questions regarding disability are inherently affected by their social location, particularly their disability status; Titchkosky (2011) explained, "How people do and do not think about accessing questions of body and social space is related to the issue of 'positionality'" (p. 111).

In addition to the relation between self and others, issues of power or privilege, lived experience, and intersectionality are important components of positionality in qualitative disability research. Positionality is a lived experience: "We don't just stand or sit in our identities and choices; we inhabit them—and they inhabit us" (Titchkosky, 2011, p. 112). Intersection of multiple positions/identities is significant, particularly in disability research; Goodley (2011) noted, "disability cannot be considered independently of age, ethnicity, sexuality, class and gender" (p. xii). Therefore, the questions of when and how to share researcher positionality with participants and within publications deserve consideration.

Researchers working with students with disabilities must consider their own disability status and the ways participants in the study perceive their status. Even if the researcher identifies as a disabled person or as a person with a disability, participants might not perceive that status, and thus may not feel an affinity or connection with the researcher. Brown, for instance, identifies as a person with a disability; she is dyslexic. In this manner, she negotiates linguistic issues by simultaneously using person-first language and seeing disability as part of her identity. Brown dwells in a space where viable, correct spelling options include dewl, dewll, or dwel, and, culturally, she inhabits a land where her White, able, female body and educated middle class positions provided cover for grammatical "mistakes." Although Brown has experienced learning differently, she does not identify as a person with the type of disability that her mixed methods research engaged (Brown, 2017; Brown & Coomes, 2016). Brown addressed this complexity by making it transparent that her research on policies and practices that support students with autism spectrum disorder (ASD) was conducted by someone who is not on the autism spectrum (Evans, Broido, Brown, & Wilke, 2017). Brown intentionally stated that her research did not represent individuals with autism or the ASD community. Rather, Brown acknowledged her position as a person advocating for a broader understanding of how we learn (particularly regarding the social components of learning) with awareness of "valued" knowledge, and within a community that embraces neuro-diversity and learning differently.

Data representation. Positionality is explicitly called for in qualitative methodology; however, in quantitative studies transparency regarding operational definitions, coding, data cleaning, and statistical techniques also is necessary. The absence of substantive interpersonal interaction does not mean that the positionality of the student affairs practitioner or scholar has vanished. Behind the impersonal survey, Excel spreadsheets, and SPSS functions are bodies and minds, abled and disabled. It is important to know if the individual creating computer coded operational definitions is the parent of a disabled child, or perhaps a person with a disability themselves.

Who we are and how we understand disability influences the types of survey ques-

tions we create and the ways in which we construct operational definitions. Goodley (2011) described divergent outcomes that occurred when survey questions "conflate impairment and disability" or "the phrasing of the questions of the survey were based upon individualistic concepts of disability" (p. 25). Goodley noted that researchers perceiving disability through an individualistic lens wrote very different survey questions than researchers who understood disability from a social perspective. In another example, when designing logistic regression models, Brown intentionally created multiple operational definitions for the construct of ASD support programs because her background in sociology combined with a personal awareness that some types of interventions (e.g., oral processing and a quiet environment) addressed her dyslexia better than others (e.g., use of a word bank). The anonymity of quantitative methods does not erase the importance of position in disability research; rather, it makes illuminating positionality even more important. Further, Vaccaro, Kimball, Wells, & Ostiguy (2015) argued that critical quantitative research—scholarship with roots in critical disability theory that underscores "empowerment, agency, and social change" (p. 26)—will not only produce more thorough knowledge of disability but will inform policies and practices that contribute to equitable educational outcomes for students with disabilities.

The Future of Disability Research

In this article, we address the challenges associated with disability research, particularly how disability is theoretically perceived versus actually lived, and how these differences impact accurate research. Using the spirit and overarching principles of UD, we advance the concept of URD by expanding on the guiding principles proposed by Williams and Moore (2011) through our promising practice examples. Fundamentally, we argue for a UDR that respects the desires and interests of people with disabilities, that involves them in the design and implemen-

tation of research, that is fully accessible, and that is attentive to the dynamics of privilege and oppression that are inherent in all human interactions. Encouraging student affairs scholars and practitioners to use URD does not eliminate the need for accessibility accommodations (e.g., hiring interpreters, fully accessible software), as intended respondents need to be able to participate. Thus, the spirit of UD, more than the specific guidelines, informs the suggestions we have provided for qualitative and quantitative research with disabled communities.

We invite student affairs practitioners and scholars to continue building onto this conversation. In particular, what are other ways in which research can be informed by UD principles? How can research be useful, flexible and accommodating, accessible, and protect participants from harm? We also urge student affairs practitioners and scholars using any methodological approach to recognize that their research constructs a particular view of disability. They must assess whether their analysis reproduces dominant depictions. "The rationale of the emancipatory disability research paradigm is the production of research that has some meaningful practical outcome for disabled people" (Barnes, 2003, p. 12). Research conducted with disabled people must ultimately benefit the community through the improvement of federal, state, and institutional practice, policy, or services. In addition, the research should seek to highlight the diversity within the community by addressing specific disabilities, including their unique needs, achievements, and perspectives.

We acknowledge the concept of URD does not hold all the answers. Specifically, we still hold questions about positionality, and how it influences the research process. In what ways does it matter whether a student affairs practitioner or scholar identifies as having a disability or whether participants know the researchers' disability status? Additionally, Peña, Stapleton, and Schaffer (2016) raise questions about the inter-

sections of identity. How do other aspects of identity, including, among others, race, gender, culture, disciplinary orientation, influence how we approach our research and how participants see us? For example, Taylor-Ritzler, Suarez-Balcazar, Balcaza, and Garcia-Iriarte (2008) found that maintaining participant involvement was a particular challenge with racially minoritized individuals with disabilities.

Finally, we recognize that conducting a URD may entail expenses and time not incurred in less inclusive research. Interpreters, accessible software not supported by one's institution, and collaborative research often require additional resources. Such resources might be acquired through grant funding from disability, educational, and community organizations. Institutional grants might also be available to support smaller-scale research projects. We believe the imperative to conduct inclusive, accessible, socially-just research justifies these efforts and invite all higher education student affairs practitioners and scholars to join us in creating designs that support the success of students with disabilities and the creation of campuses where all members can learn and contribute fully.

References

Andrews, J. (2005). Wheeling uphill? Reflections of practical and methodological difficulties encountered in researching the experiences of disabled volunteers. *Disability & Society, 20*(2), 201-2012.

Aune, B. (2000). Career and academic advising. In H. A. Belch (Ed.), *Serving students with disabilities* (New Directions for Student Services, No. 91, pp. 55-67). San Francisco, CA: Jossey-Bass.

Barnes, C. (2003). What a difference a decade makes: Reflections on doing 'emancipatory' disability research. *Disability & Society, 18*, 3-17.

Broido, E. M., & Stygles, K. S. (2016). De-*velopmental outcomes of students' disability leadership and activism*. ACPA: College Student Educators International: Montreal, Canada.

Brown, K. R. (2017). Accommodations and support services for students with autism spectrum disorder: A national survey of disability resource providers. *Journal of Postsecondary Education and Disability, 30*(2), 141-156.

Brown, K. R. , Peña, E. V., & Rankin, S. (2017). Unwanted sexual contact: Students with autism and other disabilities at greater risk. *Journal of College Student Development, 58*(4), 771-776

Brown, K. R. & Coomes, M. D. (2016). A spectrum of support: Current and best practices for students with autism spectrum disorder (ASD) at community colleges. *Journal of Community College Research and Practice, 40*(6). 465-479. doi: 10.1080/10668926.2015.1067171

Burgstahler, S. (2013). Introduction to universal design in higher education. In S. Burgstahler (Ed.), *Universal design in higher education: Promising practices.* Seattle, WA: DO-IT, University of Washington. Retrieved from www.uw.edu/doit/ UDHE-promising-practices/part1.html

Center for Universal Design (CUD). (2008a). *The principles of universal design.* Retrieved from https://www.ncsu.edu/ncsu/ design/cud/about_ud/udprinciplestext. htm

Center for Universal Design (CUD). (2008b). *About UD*. Retrieved from https://www. ncsu.edu/ncsu/design/cud/about_ud/ud-history.htm

Collier, R. (2012). Person-first language: Laudable cause, horrible prose. *CMAJ: Canadian Medical Association Journal, 184*(18), E939-E940. doi:10.1503/ cmaj.109-4338

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: Sage.

Denhart, H. (2008). Deconstructing barriers: Perceptions of students labeled with learning disabilities in higher education. *Journal of Learning Disabilities, 41*(6), 483-497.

Dunn, D. S., & Andrews, E. E. (2015). Person-first and identity-first language: Developing psychologists' cultural competence using disability language. *American Psychologist, 70*(3), 255–264.

Ellard-Gray, A., Jeffrey, N. K., Choubak, M. & Crann, S. E. (2015) Finding the hidden participant: Solutions for recruiting hidden, hard-to-reach, and vulnerable populations. *International Journal of Qualitative Methods 14*(5), 1-10.

Evans, N. J., Broido, E. M., Brown, K. R., & Wilke, A. (2017). *Disability in higher education: A social justice approach*. San Francisco, CA: Jossey-Bass.

Gere, A. (2005). Seeing is/not believing: Visibility, invisibility, and Disability Studies in education. In S. L. Gable (Ed.), *Disability Studies in education: Readings in theory & method* (pp. 53-63). New York, NY: Peter Lang.

Goodley, D. (2011). *Disability studies: An interdisciplinary introduction*. Thousand Oaks, CA: Sage.

Griffin, P., Peters, M. L., & Smith, R. M. (2007). Ableism curriculum design. In M. Adams, L. A. Bell, & P. Griffin (Eds.) *Teaching for diversity and social justice* (2nd ed., pp. 334-358). New York, NY: Routledge.

Grönvik, L. (2009). Defining disability: Effects of disability concepts on research outcomes. *International Journal of Social Research Methodology, 12*, 1-18. doi:10.1080/13645570701621977

Harper, K. A. & DeWaters, J. (2008). A quest for website accessibility in higher education institutions. *Internet & Higher Education, 11*(3/4), 160-164. doi: 10.1016/j.iheduc.2008.06.007

Higbee, J. L. (2004). Universal design principles of student development programs and services. In J. L. Higbee & E. Goff (Eds.), *Pedagogy and student services of institutional transformation: Implementing universal design in higher education* (pp. 195-204). Minneapolis, MN: National College Learning Center.

Holcomb, T. K. (2010). Deaf epistemology: The Deaf way of knowing. *American Annals of the Deaf, 154*(5), 471-478.

Ison, N. (2009). Having their say: Email interviews for research data collection with people who have verbal communication impairment. *International Journal of Social Research Methodology, 12*(2), 161-172.

Jones, S. R. (1996). Toward inclusive theory: Disability as social construction. *NASPA Journal, 33*(4), 347-354.

Jones, S., Torres, V., & Arminio, J. (2014). *Negotiating the complexities of qualitative research in higher education: Fundamental elements and issues* (2nd ed.). New York, NY: Routledge.

King-Sears, M. (2009). Universal design for learning: Technology and pedagogy. *Learning Disability Quarterly, 32*(4), 199-201.

Kroll, T., Barbour, R., & Harris, J. (2007). Using focus groups in disability research. *Qualitative Health Research, 17*(5), 690-698.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation.* San Francisco, CA: Jossey-Bass.

Newman, L., Wagner, M., Cameto, R., & Knokey, A. M. (2009). *The post-high school outcomes of youth with disabilities up to 4 years after high school. A report from the National Longitudinal Transition Study-2 (NLTS-2)*, Prepared for the U.S. Department of Education (NCSER2009-3017). Retrieved from http://www.nlts2.org/reports/2009_04/nlts2_report_2009_04_complete.pdf

Ofiesh, N. S., Rojas, C. M., & Ward, R. A. (2006). Universal design and the assessment of student learning in higher education: Promoting thoughtful assessment. *Journal of Postsecondary Education and Disability, 19*(2), 173-181.

Oliver, M. (1997). Emancipatory research: Realistic goal or impossible dream? In C. Barnes & G. Mercer (Eds.), *Doing disability research* (pp. 15-31). [on-line]. Leeds, UK: The Disability Press. Retrieved from http://disability-studies.leeds.ac.uk/files/

library/Barnes-Chapter-2.pdf

Peña, E. V. (2014). Marginalization of published scholarship on students with disabilities in higher education journals. *Journal of College Student Development, 55*, 30-40.

Peña, E. V. & Kocur, J. (2013). Parenting experiences in supporting the transition of students with autism spectrum disorders into community college. *Journal of Applied Research in Community Colleges, 20*(2), 5-12.

Peña, E. V., Stapleton, L. D., & Schaffer, L. M. (2016). Diverse and critical perspectives on disability identity. In E. S. Abes (Ed.). *Diverse and Critical Perspectives on Student Development Theory*. San Francisco, CA: Jossey-Bass.

Shakespeare, T. (1999). Advancing the sociology of disability. In C. Barnes, G. Mercer, & T. Shakespeare (Eds.), *Exploring disability: A sociological introduction* (pp. 211-227). Malden, MA: Blackwell.

Shakespeare, T. (2006). *Disability rights and wrongs*. New York, NY: Routledge.

Shakespeare, T. (2014). *Disability rights and wrongs revisited*. New York, NY: Routledge.

Smart, J. F., & Smart, D. W. (2006). Models of disability: Implications for the counseling profession. *Journal of Counseling & Development, 84*, 29-40.

Smith-Chandler, N., & Swart, E. (2014). In their own voices: Methodological considerations in narrative disability research. *Qualitative Health Research, 24*(3), 420-430. doi:10.1177/1049732314523841

Stapleton, L.D. (2014). *The unexpected talented tenth: Black d/Deaf students thriving within the margins.* (Unpublished doctoral dissertation). Iowa State University, Ames, IA.

Stapleton, L.D. (2015). When being deaf is centered: d/Deaf students of color navigating Deaf and racial identity in college. *Journal of College Student Development, 56*(6), 570-586.

Stapleton, L.D. (2016). Audism and racism: The hidden curriculum impacting Black d/

Deaf college students in the classroom. *The Negro Educational Review, 67*(1-4), 149-168.

Steinfeld, E., & Jordana, L. D. (2012). *Universal design: Creating inclusive environments*. Hoboken, NJ: Wiley.

Taylor-Ritzler, T., Suarez-Balcazar, Y. Balcaza, F. E., & Garcia-Iriarte, E. (2008). Conducting disability research with people from diverse ethnic groups: Challenges and opportunities. *Journal of Rehabilitation, 74*, 4-11.

Titchkosky, T. (2011). *The question of access: Disability, space, meaning*. Toronto, Canada: University of Toronto.

U.S. Department of Education, National Center for Education Statistics. (2016). *Digest of Education Statistics, 2015 (2016-014)*. Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=60

U. S. Department of Education Assistive Technology. (2014). *Technology tools.* Retrieved from http://section508.gov/technology-tools

U. S. Department of Education, National Center for Education Statistics. (2013). *Digest of Education Statistics, 2012 (2014-015)*. Retrieved from http://nces.ed.gov/fastfacts/display.asp?id=60

Vaccaro, A., Kimball, E., Wells, R. S., & Ostiguy, B. (2015). Researching students with disabilities: The importance of critical perspectives. In R. S. Wells & F. K. Stage (Eds.), *New Directions for Institutional Research: No. 163.* (pp. 25-41). San Francisco, CA: Jossey-Bass.

Wessel, R. D., Jones, J. A., Markle, L., & Westfall, C. (2009). Retention and graduation of students with disabilities: Facilitating student success. *Journal of Postsecondary Education and Disability, 21*, 116-125.

Williams, A.S. & Moore, S.M. (2011). Universal design of research: Inclusion of persons with disabilities in mainstream biomedical studies. *Science Translational Medicine, 3*(82), 1-10.