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Experiences of Postsecondary Students with Physical Disabilities with Online Learning

Amanda Elizabeth Cole
Walden University

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Walden University

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Amanda Cole

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Dr. Kathleen Lynch, Committee Member, Education Faculty

Dr. Jennifer Lapin, University Reviewer, Education Faculty

Chief Academic Officer

Eric Riedel, Ph.D.

Walden University

2019

Abstract

Experiences of Postsecondary Students with Physical Disabilities with Online Learning

by

Amanda Cole

MS, Walden University, 2014

BSN, Cox College, 2012

BS, Southwest Baptist University, 2002

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Over one tenth of students in postsecondary education have a documented disability as defined by the Americans with Disability Act. However, faculty and course designers often lack understanding of these students' experiences, which leads to insufficient accommodations. The purpose of this basic qualitative study was to explore the experiences of students with physical disabilities (SWD) in online courses. The research was grounded in self-determination theory, which posits 3 basic needs for self-actualization: autonomy, competence, and relatedness. This theory in combination with universal design for learning provided a lens for exploring these experiences. Data collection included 8 interviews with postsecondary students with a physical disability. Data were coded using a combination of value codes and organized thematically. Major findings showed that SWD experience barriers in self-regulation, minimizing of their disabilities, pressure to overachieve, specific knowledge of available resources, isolation, and miscommunication. However, through proper online learning, SWD experience benefits in self-regulation, self-pacing, an increasing sense of confidence and pride, stamina, connection to peers, positive discussions, and advocacy for themselves and others. This research has implications for social change as an evidentiary tool for advocacy when exploring the benefits of taking online courses for SWD and as an awareness tool for teachers and other stakeholders in online education who wish to adapt to best practices.

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Dedication

This dissertation is dedicated to Katie Prager. Thank you for the friendship, the advice, and the support. You continue to inspire us all every day and we miss you.

Acknowledgments

Thank you to Chris, who provided ongoing support and encouragement when I needed it most. Thank you to my parents, who let me work at their house when I couldn't look at my own walls anymore and always made me feel their pride in my achievements. Thank you so much to my daughter and extended family members who were neglected during pursuit of this degree but who I hope will benefit from the fruits it will bring to our family tree. Thank you to friends, colleagues, and my PhD committee, who all encouraged me to follow my dreams and pursue actualization as a professor with a purpose. I hope to make all of you proud of the work done here and off the page which will inspire best practices in the classroom and beyond.

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Chapter 1: Introduction to the Study

The topic of this research was the experiences of postsecondary students who have one or more physical disability and have chosen to pursue a higher degree incorporating online classes. A recent report from the U.S. Department of Education revealed that 12% of students in American public schools have documented disabilities (worldwide the number has been reported as high as 6 million; Rivera, 2017). But people with the types of disabilities that make it more difficult to perform activities of daily living independently (such as autism, orthopedic impairments, and multiple disabilities) are the least likely to pursue postsecondary degrees (Lipscomb et al., 2017). However, the percentage of students reporting disabilities in postsecondary institutions remains relatively significant at 11% (U.S. Department of Education, 2016), though this is still an underrepresentation of the population.

This study has implications for faculty, administration, staff, and researchers of postsecondary educational institutions. Students with disabilities (SWD) tend to have high support during primary and secondary education, with strict laws pertaining to accommodations and integration; however, as SWD move into postsecondary coursework, the expectation turns to self-advocacy, a skill that many SWD have little experience with (Hadley, Hsu, Addison, & Talbot, 2017). A stronger understanding of the needs and experiences of SWD in courses (online and otherwise) will aid those in positions of power to help SWD achieve success in postsecondary education.

This chapter addresses the purpose and background of the proposed study and the ways that this population has been understudied, creating a gap in the literature. This

chapter also provides a preview of the conceptual framework (further expanded in Chapter 2) and a justification for the study based on a significant problem. Scope, definitions, assumptions, and limitations are also included.

Background

There has traditionally been less focus on educational research regarding SWD and even less with the experiences of SWD in online courses (Hollins & Foley, 2013). There is a need to capture the perspectives of SWD in an online learning environment (Watt et al., 2014). SWD tend to prefer the same types of online supports that non-SWD choose (Richardson, 2016), and they prefer and excel in an online environment (Verdinelli & Kutner, 2016). Adult SWD have pursued online learning because it allows them to find validation, form identities, and feel involved (Miller, 2017).

Despite research supporting SWD choosing an online environment, they are underrepresented at the postsecondary level and require advocacy from able-bodied and able-minded people to help bridge the accessibility gaps (Moola, 2015). For instance, SWD tend to graduate at lower rates than non-SWD (Verdinelli & Kutner, 2016). Though much of the current research is focused on the barriers experienced by SWD as they access their online courses, it is important to examine the benefits experienced by SWD in this environment. There are many reasons that SWD choose online courses—for example, online courses can address the challenges some SWD experience with scheduling or concentration (Terras, Leggio, & Phillips, 2015). However, more research is required for exploring the benefits online courses provide to SWD.

Online learning converts knowledge to a digital form (such as online courses), creating potential for nearly universal accessibility of knowledge (Betts, 2013). In other words, online courses may provide widespread access to knowledge across all subject areas, bridging the physical gap created by many disabilities. However, there are gaps in research related to the perceptions of SWD in relation to their own interaction with the virtual environment, and further study is needed to strengthen the quality of course design for future classes (Hollins & Foley, 2013). Therefore, this study was conducted on the experiences of students with physical disabilities with taking online courses.

Problem Statement

In 2016, 11% of students in postsecondary education had a documented disability (U.S. Department of Education, 2016). Many SWD choose to take courses online due to the relative ease of accessibility (Terras et al., 2015). The problem is a lack of understanding of the experiences in online postsecondary courses for this population (Bastedo, Sugar, Swenson, & Vargas, 2013), which online agents such as professors and instructional designers need to address student needs. Studies tend to focus on K-12 accessibility issues and barriers rather than an overall experience (see Vasquez & Straub, 2012), but there is a need for more data on the experiences of postsecondary SWD in online courses. Thus, this study offers a better understanding of the experiences of SWD taking online courses, particularly in relation to their sense of self-determination, adding to the body of literature regarding the benefits of online education for SWD.

Purpose

The purpose of this basic qualitative study was to examine postsecondary SWD online learning experiences. The goal was to explore and describe the benefits and barriers for postsecondary SWD taking online courses through their experience. This study adds to the body of research, which can lead to more support for implementation of future programs and accommodations. As institutions of higher learning move more and more of their courses to the virtual environment, illustrating the benefits of these courses to SWD supports proper design and implementation of online environments. The study may also encourage online education as an option to SWD who may not otherwise have considered pursuing postsecondary degrees.

Research Questions

With this study, I examined the experiences of postsecondary SWD taking online courses. The main research question was “How do postsecondary SWD experience online learning?” The two subquestions are as follows:

1. How do postsecondary SWD experience the benefits of online learning?
2. How do postsecondary SWD experience the barriers of online learning?

Conceptual Framework

This study was conducted in a basic qualitative manner using self-determination theory (SDT) as a lens to view the data. SDT is a method of explaining the intrinsic and extrinsic motivations of people and outlines three basic growth and psychological needs: autonomy, competence, and relatedness (Deci & Ryan, 2002). SDT posits that when these needs are fulfilled, maximum human fulfillment can be achieved (Tran, 2014).

Universal design for learning (UDL) was also considered as part of the conceptual framework, as it provides a basis for multiple means of engagement, representation, and action for students in an online environment (Center for Applied Special Technology [CAST], 2018). SDT was used as a basis for interview questions, and the benefits and barriers of online learning were explored in the context of their relation to autonomy, competence, and relatedness. In the data analysis stage, the collected data were grouped by theme and explored in relation to SDT and the psychological needs outlined within. A more detailed explanation of each theory follows in Chapter 2.

Nature of the Study

The nature of the study was a basic qualitative design to investigate the specific experiences and stories of postsecondary students with physical disabilities in an online environment. A qualitative design is used when there is limited research in an area because it helps explore patterns and areas of interest for further research is required (Polit & Beck, 2018). Choosing this design allowed SWD to express their experiences in a more in-depth manner than in quantitative research, which gave this traditionally marginalized group a platform and allowed for a richer understanding of the meaning behind their explanations.

Data were collected from eight self-selecting SWD who have taken an online course at a postsecondary educational institution in the United States. As SWD, these participants must have met the Americans with Disabilities Act (ADA) criteria for having a disability: “a person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an

impairment, or a person who is perceived by others as having such an impairment” (U.S. Department of Justice, 2009, para. 2). The SWD must have taken at least one online or hybrid course during their education. The participants were recruited through online support and social groups and verified independently. Data were collected using audio-recorded interviews via Skype or other audio-recording software as appropriate for the participant. Data were manually coded and analyzed thematically.

Definitions

Autonomy: The universal urge of individuals to be causal agents of their own lives and act in harmony with their integrated selves (Deci & Ryan, 2002).

Barrier: Anything that restrains or obstructs progress in fulfilling the task at hand. (National Center on UDL, 2012).

Competence: The tendency of a person to seek to control the outcome and experience mastery (Deci & Ryan, 2002).

Online course: A class for credit in an institution of postsecondary education, presented via a learning management system such as Canvas or Blackboard in the online space; the course may be presented in its entirety online or may be a combination of online assignments and face-to-face time for items such as proctored testing.

Relatedness: The universal want to interact, be connected to, and experience caring for others (Deci & Ryan, 2002).

Assumptions

In this study, it was assumed that the participants had full recollection of their experiences in the online courses. It was also assumed that the participants were honest

and open with their responses to the interview questions. It was necessary to assume this because there was no reasonable way to verify this information. The participants were assumed to have experience in the online space including with social media, from where they were largely recruited.

Scope and Delimitations

For many studies of this nature, it is difficult due to available samples or issues of access to focus in on a specific disability type when recruiting participants. Because of this, often SWD of all types falling under the ADA definition are put together as one group in the research. However, SWD of varying types are likely to have varying experiences, which may limit the transferability of the results. For this research, I selected students with physical and mobility-related disabilities (such as blindness or cerebral palsy) rather than students with mental, learning, emotional, and intellectual disabilities due to the need for more research for this segment of the overall SWD population.

This study was focused on the experiences of the students rather than those of faculty and staff. Due to vulnerability, minors were excluded as well as persons living in a residential facility, pregnant women, subordinates of my employment and students at the institution that employs me, non-English speakers, individuals in crisis, economically disadvantaged, and elderly individuals.

Limitations

The limitations of this study are related to using a basic qualitative design because there is a level of subjectivity imposed by the viewpoint of the researcher, and there is the inherent risk of the researcher's voice overpowering those of the participants (Neergaard,

Olesen, Andersen, & Sondergaard, 2009). In vivo and value coding of the participants' responses were used to mitigate this effect. Due to the smaller sample size and the strategy of convenience sampling, generalizability is also limited (Polit & Beck, 2018). Though I did not have any overt biases influencing my approach, I addressed any latent biases by journaling throughout the data collection process and using a reflective approach to uncover any hidden bias.

Significance

Examining the viewpoints of varying groups of SWD in online settings is valuable to postsecondary educational institutions. As institutions encounter SWD, they must continually examine how they are meeting the needs of this student population, particularly in compliance with the ADA. But there remains a gap in the research regarding the experience in online courses for postsecondary SWD (Bastedo et al., 2013), so this study advances knowledge within the discipline. Potential implications for positive social change from this research include amplifying the voices of SWD, leading to more recognition of their experiences in the online educational space, especially with faculty, instructional designers, and other important online agents.

Summary

The numbers of SWD enrolling in online courses is increasing, and there is a growing need for understanding their experiences (particularly in relation to their needs). This study provided an opportunity to further explore the experiences of SWD in online courses, using the framework of SDT. In the next chapter, the literature in relation to this topic is explored.

Chapter 2: Literature Review

Introduction

Many SWD choose to take courses online due to ease of accessibility (Terras et al., 2015), but there is a gap of research regarding their experiences (Bastedo et al., 2013). Research has not been focused on SWD in postsecondary education or overall experience. Thus, the purpose of this basic qualitative study was to examine postsecondary SWD online learning experiences, adding to literature that has a focus on the frustrations regarding accessibility (Terras et al., 2015). There needs to be a better understanding of why the numbers of SWD in online courses continues to grow despite barriers as well as a better understanding of the benefits from online courses. Although some data exist on the experiences of SWD in online courses, there are gaps in the research relating to various settings, specificity of disability, and other considerations such as special populations like minorities with disabilities. The current literature relating to the topic was also variable regarding purpose, specific population, and methodology. Students from secondary schools were studied more than postsecondary students, and in most studies, disabilities of all types (learning, mobility, visual) were grouped together. The research showed that there are various benefits and barriers to online education for SWD, though most studies referred to a need for further research.

This chapter serves as a review of the current literature pertaining to the experiences of SWD in online courses. It will include a discussion of the historical significance of the topic and an overview of some of the legal considerations of instruction for SWD. After this, the literature is presented thematically; barriers to

learning, benefits of the online format, and other considerations are presented.

Theoretical considerations for this research include SDT and are presented with context and background.

Literature Search Strategy

Databases included ERIC, Education Source, Academic Search Elite, CINAHL, and multiple Cochrane databases. Over a dozen search term combinations were utilized, yielding a few hundred results with varying relevance. These terms included words like *online education, disability, postsecondary education, and online experience*. Medical journals (such as CINAHL and Medline) had studies focused on the disability rather than the student's overall educational process. ERIC and Education Source were better databases to find studies focused on the students' experiences in their courses. Throughout the search process and regardless of database or journal type, most relevant studies were focused on the barriers to education rather than an examination of the benefits of an online course for SWD. Varying the search terms to add *benefits* and trying different databases helped to round out the search.

Conceptual Framework

Online course experience for SWD was viewed through the framework of SDT. UDL also ties into their experiences as an ideal course design. The actual online experiences may fall into the intersection of these two theories, which worked together as a lens for analysis.

Self-Determination Theory

SDT is a method of explaining the motivations of people with three basic needs: autonomy, competence, and relatedness (Deci & Ryan, 2002). This theory was chosen not just because it has been successfully used in similar studies but also because the three basic needs (autonomy, competence, and relatedness) provide a clear background for analysis of experience in online courses. Responses were analyzed in relation to the fulfillment or blocking of these needs, which helped answer the research questions.

Deci and Ryan (2002) have been developing SDT for over 30 years. Over time, SDT has evolved into an overarching theory that encompasses four smaller theories: cognitive evaluation theory, organismic integration theory, causality orientations theory, and basic needs theory (Deci & Ryan, 2002). Each mini-theory supports the basic premise of SDT, which is that conditions for growth and well-being involve basic psychological needs that include competence, relatedness, and autonomy (Deci & Ryan, 2002).

SDT has been applied in numerous recent studies in similar ways to the current study. For example, SDT was used as a framework for a study on college students' motivation to disclose their disability and reach out for support (O'Shea & Meyer, 2016). In this study, organismic integration theory was used to determine how amotivation versus extrinsic motivation might drive a student to seek services for their disability; this was followed by an evaluation of these actions in relation to the three needs of autonomy, competence, and relatedness (O'Shea & Meyer, 2016). SDT was also used in a quantitative analysis of the differences in degree of self-determination between students

with and without disabilities related to differences in grade point average and gender in both groups (Licardo & Krajnc, 2016). In this study, the researchers used Field and Hoffman's 1994 self-determination model to compare and contrast the student groups across three categories of self-determined action behavior (value yourself, plan, and act).

Universal Design for Learning

Late in the 20th century, the concept of universal design became popular because of architect Ronald Mace's attempts to create spaces that are universally accessible. For example, a universal design would ensure that there are wheelchair ramps, different levels of seating heights, braille signage, and other accommodations to make the space welcoming for all (Eagleton, 2013). In the 1990s, the CAST applied this idea to education, advocating for curriculum providing UDL via multiple means of engagement, representation, and action (CAST, 2018) to be accessible to all students (Al-Azawei, Serenelli, & Lundqvist, 2016). The goal is for courses to be created under UDL from the beginning rather than having to retrofit them as a reactive measure (Al-Azawei et al., 2016). However, most online courses have been put up in response to the growing popularity and need for this delivery model, which may have affected the care and attention given to the concepts of UDL. When courses are created quickly, often the focus student is a typical able-bodied example, and barriers are unintentionally created (Burgstahler, 2015).

Self-Determination Theory and Universal Design for Learning as a Lens

Whereas SDT is viewed as a psychological theory underpinning the motivations of learners, UDL is a structural suggestion for designing learning environments.

Together, SDT and UDL serve as a useful lens through which to analyze and interpret the problem of professors and instructional designers not addressing student needs. Through purposeful interview questions, I gathered data regarding the learners' experiences in their courses and how barriers or benefits impact their motivation for learning. In particular, it was noted how the incorporation or neglect of UDL impacts the SDT needs of autonomy, competence, and relatedness.

History and Legal Considerations

SWD have been studied with less frequency and consistency than students grouped as a whole. This leads to less consistency in methodology, populations, research goals; however, there are themes among the literature regarding the intersectionality of SWD, postsecondary education, and online courses. The most common topic discussed is barriers to access of the educational materials. Another topic of interest is the benefits of online courses for SWD, which is not often in the literature but was a major focus of my study. A third theme that has emerged is that of international considerations (given that the laws and culture between countries varies so much, and some of the available research is not based in the United States).

SWD have historically been a disenfranchised and oppressed group. Until the early 19th century, SWD were frequently institutionalized for lack of care resources and knowledge; in the early 19th century, SWD were allowed in the classrooms but were largely segregated as SWD were seen as a burden and distraction to the other students (Greer & Deshler, 2014). It was not until the late 20th century before laws were put in place to protect SWD and provide them with the same access to learning that had been

afforded other students. In 1975, PL 94-142 was passed, requiring schools to provide justification to remove a student from the regular learning environment; dubbed “least restrictive environment,” this law constituted a victory for disability rights and introduced a new paradigm of thought for the equal treatment of learners into public schools (Greer & Deshler, 2014). With the 21st century and the Internet, online spaces became more prevalent as a tool for course delivery. With this, SWD became increasingly present in online spaces, especially because some states began requiring secondary students to take online courses as a graduation requirement. Due to PL 94-142 and other standards now in place, this required teachers, staff, and administrators to begin thinking about and critically evaluating their online course delivery in light of the SWD population. In 2004, PL 94-142 was amended and the IDEA act put into place to ensure that the materials (including online course work) provided to SWD be accessible (Greer & Deshler, 2014).

Despite laws in place for SWD, many of the laws and standards apply to secondary students only. To delve into the protections for postsecondary students, it becomes necessary to look at public law in relation to public spaces (not just schools). For example, section 508 of the ADA guarantees accessibility and nondiscrimination for federal employees with disabilities, which may be applied to some publicly-funded postsecondary institutions employing SWD. In regard to students, it was helpful to look at the standards that have been developed (but not necessarily mandated) that provide guidance for accessible instructional design. One of the most widely adopted standard sets is that of UDL, a strategy based on the concept of universal design explained in the research that follows.

Barriers to Online Education for Students with Disabilities

Before delving into the research related to SWD, it should be noted that categorizing the research presents difficulties due to the lack of relevant studies. One challenge is that “disability” can mean different things and the research tends to group all disabled students into a single category, creating problematic comparisons (De Cesarei & Baldaro, 2015). An additional challenge is that the studies represent SWD experiences in courses ranging from K-12 to postsecondary institutions and in both face-to-face and online courses (to gather the most complete picture). A third challenge is the difference in cultural awareness and laws from the varying countries where the research has been conducted. Whenever possible the distinctions are disclosed.

Transitional Barriers

SWD have a high level of support in the secondary setting because schools must develop and maintain accommodation plans for SWD, but when the student transitions to the postsecondary setting, the student needs to not only self-identify as a SWD but also provide the requisite documentation and to develop their own requests for accommodations (Berg, Jirikowic & Haerling, 2017; Gregg, 2007). This shift of responsibility can present a significant barrier for SWD if they are not provided with transitional support and/or training. Although some programs exist to provide support, many SWD do not complete any kind of postsecondary preparatory courses that might help them to make the transition (Gregg, 2007). For example, a study of students with intellectual and/or developmental disabilities revealed that students had limited awareness of disability support services at their institution (Berg et al., 2017). It is not

known if SWD would be more likely to use disability support services given an awareness of their services but this could be a plausible explanation.

Barriers for Physical Disabilities

Disabilities that present challenges to activities of daily living such as blindness, deafness, musculoskeletal disorders, mobility, and others can create unique barriers in the online setting but do not necessarily affect the cognitive or comprehensive abilities of the student. The accommodations required by these students are as variable as the disabilities themselves, posing a challenge to educators that can be sometimes perceived as a burden. Another challenge for accommodating physical disabilities is that courses are typically designed for the benefit of the abled student, with thought given to accommodations only as a response to a request and not integrated as part of the design. Because of these challenges, many students with physical disabilities experience barriers in the online course space.

Research supports the need for further awareness and understanding of the needs of this population. A study of the online learning practices of 16 schools showed several areas which needed improvement for students with physical disabilities. Uncaptioned videos presented problems for deaf students, information embedded in images without alternate text were problematic for blind students, and some courses had content requiring the use of a mouse, which presented problems for students with musculoskeletal disorders (Burgstahler, 2015). Another challenge for some students with physical disabilities is time; the management of many physical disabilities can require extra time out of the day, which can significantly impact the learning of a SWD. Students

with physical disabilities tend to have fewer hours in the day to manage their learning activities due to the increased demands of their activities of daily living (Jalovcic, 2016). However, educators may assume that all students have comparable amounts of free time for out-of-class activities. A final consideration is that the parents of SWD of this type (who often exist as their advocates and guides through the educational system) sometimes struggle to find the fit for their child in the system, exploring online options as an alternative but perhaps not fully grasping the methods behind use (McDonald & Lopes, 2014).

Barriers for Learning Disabilities

Learning disabilities is a category that may encompass a variety of challenges, depending on who is providing the definition. Some of the more common disabilities classified as learning disabilities in studies are dyslexia, attention-deficit hyperactivity disorder, autism, and other nonverbal learning disabilities. Although the studies in this literature review tended to group physical disabilities together, learning disabilities are frequently studied in isolation from other disabilities.

Learning disabilities can, in some ways, pose as great a challenge for learners as physical disabilities. Once accommodations are provided for physical challenges, the student may find a sense of stability in their learning, which eludes students with learning disabilities who must continually confront lack of self-learning abilities, discipline, motivation, written and verbal expression, time organization, and other vital skills for surviving long-term online programs (Shonfeld & Ronen, 2015). Students with learning disabilities can sometimes encounter barriers related to their ability to process and

organize information. A study of 11 graduate SWD in online courses revealed concentration and scheduling challenges (Terras et al., 2015). This is compounded by the tendency of educators to rely on singular or traditional modes of instruction for delivery of material (i.e., lecture, textbook, essay, exams). Navigational, organizational, and contextual needs of students with attention-deficit hyperactivity disorder and autism has in at least one study shown to be disjointed from the actual learning environment (Meyers & Bagnall, 2015). The overall comprehension of large reading assignments has posed challenges for students in secondary online courses in one study (Burdette & Greer, 2014). At other times, instructional strategies are constructed with little consideration to the needs of students with learning disabilities. An analysis of learning design in the secondary setting for SWD shows that some content may require sensory or cognitive processing outside of the capabilities of the student (Smith & Basham, 2014).

Universal Design Barriers

One way that educators can address the barriers their courses pose for students with multiple needs (both physical and learning disabilities) without having to retrofit their courses is to make the considerations for these students at the design stage. However, as previously noted many courses continue to have unintentional barriers present (Burgstahler, 2015). A study of 12 students with learning disabilities in postsecondary online courses revealed several problems from a universal design perspective; website appearance, structure, and input elements made navigation difficult and the language also presented a learning barrier to these students (Hollins & Foley, 2013). Similarly, a study on the online courses of six professors with SWD showed

universal design flaws of incompatibilities with screen readers, problems with links, incorrect or lack of use of alternative text, problems with tables, and small text (Massengale & Vasquez, 2016). Parents of SWD in the secondary setting reported challenges with unclear navigation and labeling (Burdette & Greer, 2014). Many of these problems could have been addressed by introducing universal design at the design stage, but problems with universal design can be compounded when web designers are not aware of the needs of SWD. This flaw was one of many barriers revealed in a literature review of the role of technology in aiding SWD of all ages (Moore, 2017).

The navigation and layout of the course is not the only universal design consideration—the construction of course assignments presented in a variety of ways and with multiple modes of assessment is an important universal design consideration. In a long-term case study of a student with multiple learning disabilities in various course types, one major barrier was the substantial number of writing assignments in a four-year postsecondary program (Hadley, 2017). This echoes the Burdette and Greer (2014) research on students with physical disabilities, who struggled with large amounts of reading assignments.

Faculty, Staff, and Parental Support Barriers

SWD depend on others to assist them in finding success in the academic world. In the secondary setting, SWD are often greatly supported by their family at home, special education teachers, counselors, individual education plan teams, administrators, and more as they navigate through the educational system. Unfortunately, as students matriculate and move into the post-secondary arena, they often find themselves suddenly without

these critical supports (Berg et al., 2017). Where the faculty, staff, and support services are in place, often SWD are either unaware or hesitant to depend on others to assist them in finding success in the academic world. Where the faculty, staff, and support services are in place, often SWD are either unaware or hesitant to disclose their own disability status. Attitudes and perceptions of these support persons may contribute also (Rice & Carter, 2015).

An interview with the coprincipal investigator for the Center on Online Learning and Students with Disabilities revealed some barriers that can be attributed to attitudes and perceptions of faculty (Bartholomew, 2015). This interview and other studies showed that some faculty maintain the perception that SWD have a lower probability of succeeding in online settings (Bartholomew, 2015; da Silva Cardoso, Phillips, Thompson, Ruiz, Tansey, & Chan, 2016); while this belief is not without merit (as is discussed in further research), keeping such attitudes at the forefront may bias the faculty in undesirable ways. If faculty perceive that SWD are usually unsuccessful, they may be less motivated to accommodate for their success. In another study, students stated that they perceived the faculty lacked understanding of their particular situational needs (Heindel, 2014). A belief that the faculty is not invested in their learning may contribute to poor success, thus creating a self-fulfilling cycle.

A study of 1,621 faculty at a Midwestern University revealed other barriers from a faculty perspective; faculty and staff reported limited training on accessibility issues, lack of financing for necessary accommodating technology, not enough time to properly engage SWD in the learning process, and few-to-no experts in the topic area to consult

with questions (Dallas, Upton, & Sprong, 2014). Other factors revealed in this study were faculty resistance, and no laws requiring specific universal design principles leading to sluggish adoption (Dallas et al., 2014).

Dallas et al. (2014) were not the only ones to find problems within the attitudes and perceptions of faculty and staff; a study of 26 employees at online schools from across the United States revealed deficits in awareness of the popularity and benefits of online learning, wide variation in quality of courses, and evaluation deficits within the courses themselves (Rice & Carter, 2015).

The support role of parents in the secondary setting has been marginally investigated; in one such study, 148 parents of SWD reported on their experiences as support to their children's learning; many of the parents struggled with finding the necessary time to provide assistance to their child in utilizing the online course technology, let alone finding time to help with the content areas (Burdette & Greer, 2014). This points to a need for streamlined and easily-navigated design with familiar graphical user interfaces so that parents can focus their support time on the content.

Performance and Privacy Barriers

In some studies and under specific circumstances, SWD were found to have less academic success than their abled counterparts. For example, in a study of MOOC platforms and their accessibility, it was noted that SWD are not as likely to complete the modules than non-disabled students (Iniesto, McAndrew, Minocha, & Coughlan, 2016). It is, however, very important to note that there are possibly very reasonable explanations for these problems. One notable point is that the attrition rates for SWD may be higher

and/or the enrollment may be lower; SWD can delay postsecondary school attendance, attend only part time or attend sporadically (Gregg, 2007). This may lead to the higher attrition rates, and they may also come to postsecondary learning with a greater lack of academic skills, which also contributes (Gregg, 2007).

Students may also struggle with disclosure of their needs due to worries about their privacy. In a study of post-secondary SWD in a distance education program, students expressed concerns regarding their privacy related to their disability (Heindel, 2014). Some students may go so far as to choose not to disclose their disability – this of course delays the flow of providing accommodations and may put the student further behind (Hashey & Stahl, 2014).

Social Barriers

A study of six minority SWD in postsecondary courses identified a number of social barriers that included financial disparity as well as an underrepresentation of SWD in the postsecondary setting (da Silva Cardoso et al., 2016). Underrepresentation may contribute to greater feelings of isolation in the disabled population; this can be compounded by a perceived lack of interaction in the online courses by the instructors and other students (Heindel, 2014). In a study of 25 SWD also identifying as LGBTQ and their experiences online, students also stated that they felt marginalized and isolated due to their sexual and ability identities; this is echoed by a study of 12 SWD at a University in Canada which revealed a level of discomfort associated with bodily-social challenges of students in this population (Miller, 2017; Moola, 2015).

From the financial perspective, students may be unable to afford the necessary infrastructure for their learning; this is supported by a study on social inequities in online learning which revealed that SWD may be more likely to share characteristics of socio-economic disparities such as a lack access to high-speed internet and personal computers, which can contribute to their educational inequality (Lai, 2015). In many cases the need for technology and access may be even greater for SWD depending on the specific accommodations necessary to ensure equal participation, compounding the negative effects of financial disparities.

Although some students are hesitant to access disability support services, even students who are eager to take advantage of accommodations can run into barriers; some may lack documentation necessary to access disability support services and accommodations, and even when they can provide the requisite paperwork, these services have been called out in studies as failing to adequately educate SWD on their full range of accommodation options (Gregg, 2007; Heindel, 2014).

Finally, even when all services are utilized and barriers to access overcome, there are still social stigmas and inherent biases against SWD which can create, at best, difficulties in school and at worst, hostility in the classroom. Online graduate SWD have, in one study, verbalized experiencing straight-out discrimination due to their disability in traditional learning settings (Verdinelli & Kutner, 2016).

In regard to barriers to online learning for postsecondary SWD, what is known is that students experience a variety of social, mobile, design, and attitudinal barriers depending on their personal disability, value structure, and support system. Most studies

lump students with widely varying disabilities together and there is little research specifically focused on the experiences of postsecondary learners with disabilities in online courses. The study and approach discussed in further chapters added to the body of knowledge and enhanced what is known about this specific group.

Benefits of Online Education for Students with Disabilities

While the barriers to education for SWD have been studied with increasing interest in the past few years, very few studies focus specifically on the benefits or gains from online education to SWD; most of the studies cited in the following paragraphs mentioned possible benefits as a precursor to or an afterthought of their study. However, a close look at these comments and statements does reveal some patterns.

Performance Improvement

In at least one study, students with autism scored on par with their peers in the online environment (Richardson, 2017). However, it is notable that some studies revealed a potential improvement in academic performance when SWD took courses in the online rather than traditional space. In a retrospective study of 3,944 students with and without disabilities, it was shown that in the online environment, SWD tended to pass at a higher rate than students without disabilities (Richardson, 2016). A notable conclusion of Richardson's continuing studies is that one disability, such as deafness, is not itself a predictor of lower achievement (and in most of Richardson's studies students with one disability performed better than students without disabilities), but students with multiple disabilities tend to perform at a lower achievement level in the online space (Richardson, 2015).

In a study of 40 SWD in the Midwest, SWD were discussed as choosing online courses at higher rates than other student populations and then performing interactively better in online courses than in traditional face-to-face models (Alamri & Tyler-Wood, 2017). Another study comparing the performance of 25 students with learning disabilities against 96 students without learning disabilities (28 classified as “excellent” and 68 “average”) in online environments found that the students with learning disabilities actually outperformed the others, with an average grade of 89 versus 87 and 80 respectively (Shonfeld & Ronen, 2015). More quantitative research could be done in this area to fully determine the extent and significance of any grade advantages SWD may experience in online courses.

Social Benefits

Some of the reasons a SWD may choose to take a course online have to do with the variety of benefits to their social life and perceptions. A review of literature relating to the role of technology in addressing the needs of SWD revealed benefits to self-determination, self-representation, and enriched friendships (Moore, 2017). Burdette and Greer (2014) surveyed 148 parents of SWD and reported improved independence and growth of social-emotional competency of the students from their courses. “Online learning and other technological advancements can also support the social/emotional needs of students with disabilities” (Greer & Deshler, 2014, p. 199). These studies support the notion that self-concept and social needs are fulfilled in some part in the classroom.

LGBTQ SWD reported in one study that going online helped them to feel validated and helped to manage their identities (Miller, 2017). For students who are not as comfortable identifying themselves as disabled, the online environment can also provide some aspect of anonymity to SWD; in a study of 35 graduate SWD this was described as a “shield to defy stigmatization and stereotypes” (Verdinelli & Kutner, p. 353). This is supported by the study by Alamri and Tyler-Wood (2017) which revealed the avoidance of social stigma as a major benefit to online courses for this population. Certainly, this makes sense in light of the inherent bias and other stigmas revealed in the barriers section. Another way to think of this is, as one study suggested, an obligatory uniformity which eliminates perceptual barriers that occur in face-to-face environments (Shonfeld & Ronen, 2015).

Enhanced Communication

While the online format implies distance, when expertly utilized it can enhance connections between SWD and their peers, faculty, staff, and administrators. In a study of 148 parents of SWD, one of the benefits on the online courses noted was frequent communication with parents regarding the educational needs of students; in the same study it was noted that online courses facilitated timely feedback and an ability to contact school personnel (Burdette & Greer, 2014). These benefits are viewed favorably by SWD. Participants in a study of online learning for 25 SWD expressed appreciation for the ability to contact instructors at any time (Shonfeld & Ronen, 2015), a sentiment rooted in their complicated scheduling needs.

Design and Structure of the Course

Many of the perceived benefits of online courses for SWD appear to be related to the specific design and structure of the courses. One word that came up in study after study was “flexibility;” it is clear that the many students, parents, and faculty studied view the flexibility of online learning (in relation to timing, scheduling, pacing, choices, and other factors) as a clear benefit (Alamri & Tyler-Wood, 2017; Burdette & Greer, 2014; Heindel, 2014; Jalovcic, 2016; Terras et al., 2015). “Control” was another word that came up more than once – SWD can utilize the design and structure of the course to their advantage, including use of links and buttons, to control their own learning experience, a factor that was particularly viewed as important to students with learning disabilities (Alamri & Tyler-Wood, 2017; Sabella & Hart, 2014; Verdinelli & Kutner, 2016). Some studies cited the ability of SWD to set their own pace as an advantage (Bartholomew, 2015; Jalovcic, 2016; Sabella & Hart, 2014; Shonfeld & Ronen, 2015). Another broad concept presented by some studies as a benefit related to online learning was time management (Alamri & Tyler-Wood, 2017; Heindel, 2014; Jalovcic, 2016; Sabella & Hart, 2014). Another helpful feature of the online format is the ability to present content in multiple ways (Bartholomew, 2015; Hashey & Stahl, 2014), a key feature of UD. A final perceived benefit to SWD was the consistent format (Alamri & Tyler-Wood, 2017).

Student Preference and Physical Environment

In a review of literature relating to the role of technology in addressing the needs of SWD, it was noted that some SWD do express a desire to be online (Moore, 2017). A

study of 35 graduate SWD revealed the advantage of managing the specific needs of the disability from the comfort of home (Verdinelli & Kutner, 2016). A literature review of postsecondary SWD and digital learning declared an advantage to online learning – there is low-to-no need to commute which can eliminate a structural barrier known to SWD (Jalovcic, 2016). The study by Alamri and Tyler-Wood (2017) suggested other benefits related to the physical environment; students are allowed to maintain their normal routine of daily activity, they can avoid crowded and noisy areas, work at their preferred time of day, and choose the best type of learning environment for themselves.

Additional Supports

In Burdette and Greer (2014), parents surveyed suggested that the quality of the teachers was better in the online space. Terras et al. (2015) also noted from their interviews of 11 graduate students the importance of students acting as their own self-advocates and self-accommodators. universal design is mentioned in many studies as an intentional support for SWD and students with other needs (Burgstahler, 2015; Gregg, 2007).

Some studies suggested the use of programs like DO-IT and templates such as the voluntary product accessibility template (VPAT) for intentionally creating a supportive environment (Bartholomew, 2015; Gregg, 2007.) Disability support service programs are also presented through a review of the literature on SWD as an important element of structural support (De Cesarei & Baldaro, 2015). Occupational therapists can provide help in situations where a student with ID needs help transitioning from secondary to postsecondary programs, as suggested in a study of 32 participants by Berg et al. (2017).

Differences in Research Approaches

One of the most notable differences between studies on this topic in secondary settings versus postsecondary settings is that the studies tend to have different aims (and by extension, results). Particularly, in the secondary research, the aims are more likely to be focused on the varying ways online courses can accommodate student needs and overcome communication barriers; the results of these studies tend to show more benefits to online courses than barriers for SWD (Bartholomew, 2015; Burdette & Greer, 2014; Sabella & Hart, 2014; Smith & Basham, 2014). In postsecondary research, the focus is much more likely to be on the barriers experienced by SWD; this leads to a greater representation of barriers than benefits in the results reported (Hadley, 2017; Heindel, 2014; Lai, 2015; Moola, 2015).

Another note of interest regarding the research in this area is that while there is some research that specifically focuses on learning and intellectual disabilities as a subset of SWD (Berg et al., 2017; Dallas et al., 2014; Hadley, 2017; Hollins & Foley, 2013), there are virtually no studies since 2013 which focus exclusively on students with physical and mobility-related disabilities; instead, this sub-group tends to be lumped together with students who have all identified types of disabilities. This may be due to the tendency of institutions (including the U.S. Department of Education) to lump all SWD into the same category makes it difficult to differentiate the various disability types (U.S. Department of Education, National Center for Education Statistics, 2016). In this review of literature, it is notable that among the studies which focused specifically on students with intellectual and/or learning disabilities, only one study revealed data relating to the

benefits of the online environment (Sabella & Hart, 2014); all of the remaining studies revealed data only relating to the barriers to online learning for this sub-group (Berg et al., 2017; Dallas et al., 2014; Hadley, 2017; Hollins & Foley, 2013).

While most of the research in this area is posed from the students' perspective, a few studies focus on the instructors' experiences in accommodating SWD; when scanning these studies specifically, the data reveal that teachers by and large are unfamiliar with the specific laws and regulations surrounding SWD accommodations (Dallas et al., 2014; West, Novak, & Mueller, 2016), and that teachers sometimes feel disconnected from these students or will otherwise transfer the responsibility for their learning to various disability support services provided by their institutions (Rice & Carter, 2015; van Jaarsveldt & Ndeya-Ndereya, 2015).

Summary and Conclusions

In summary, online education will be a major adaptation for SWD in the coming years as enrollment of SWD in online programs continues to increase. Literature regarding the experiences of SWD in online courses is limited. Historically the voices SWD have been neglected in regard to their needs in the educational space; the ADA and other laws have helped to bridge this gap but more attention to the specifics of implementation of accommodations is needed.

SWD fall into several categories depending on how the researcher wishes to frame their work: physical, learning, and mental disabilities are either studied all in one category or else they are studied to a greatly unequal extent. Barriers exist to the success of a SWD in an online environment; these barriers range from physical to attitudinal.

Benefits have been shown for the use of online courses in a SWD education. Research methodology and approaches are extremely variable, pointing to a further need for clarifying literature. The proposed research may serve to help fill this gap.

Chapter 3: Research Method

Introduction

The purpose of this study was to examine postsecondary SWD experiences with online learning. Scholars know that SWD experience many frustrations online regarding accessibility (Terras et al., 2015); however, not much is known about why the numbers of SWD in online courses continues to grow despite the barriers. Scholars also do not know what benefits SWD achieve from online courses unique to their experience versus a person without a disability, and while some data exist on the experiences of SWD in online courses, there are gaps in the research relating to various settings, specificity of disability, and other considerations such as special populations like minorities with disabilities. This study adds to the body of literature regarding the benefits of online education for SWD in general. By adding to the body of research, there can be better support for implementation of future programs and accommodations. The goal was to evaluate the potential benefits for postsecondary SWD in taking online courses through an examination of their experience. In this chapter I propose the research design with rationale, questions, and researcher's role. I address potential issues of bias, explain methodology including participant selection logic, instrumentation, and other procedures as well as a data analysis plan. I also address issues of trustworthiness and ethics.

Research Questions, Design and Rationale

This study was focused on the experience of postsecondary SWD taking online courses. The main research question was “How do postsecondary SWD experience online learning?” The two subquestions were as follows:

1. How do postsecondary SWD experience the benefits of online learning?
2. How do postsecondary SWD experience the barriers of online learning?

The study was approached from a basic or generic qualitative design with interviews for data collection. This design was chosen to allow for exploration in the research (Merriam & Tisdell, 2015). A qualitative design was appropriate because it is used when there is limited research in an area of inquiry to further probe into the topic to reveal patterns and areas of interest for further research (Polit & Beck, 2018). A benefit of choosing this design was to allow SWD, who are traditionally marginalized, a platform to express their experiences through their own voices rather than through the dichotomous nature of quantitative research. Another benefit was gaining a richer understanding of the meaning behind participants' explanations, making it suitable for gathering information on the experiences of this population to describe them (Namey & Trotter, 2015). Because I wanted to study "people's attitudes, opinions, or beliefs about a particular issue or experience (Percy, Kostere, & Kostere, 2015, p. 76), I chose a basic qualitative approach over other common approaches. For example, ethnography is appropriate when studying social groupings and not students in isolation. Additionally, a case study approach would only have been appropriate if I were studying one specific case. I did not choose grounded theory because it is used to develop a theory based on data, and I did not choose phenomenology because it is used to study inner processes rather than external influences (Percy et al., 2015).

Role of the Researcher

In this study, I served as the instrument through the process of interviewing. I provided the interview questions to the interviewees ahead of time, with the understanding that I would probe further during the interview. I was also sensitive to the needs of participants in each step of the data gathering process.

Relationships and Bias

There were no personal or professional relationships with the participants. The participants were recruited from online support and social groups, and I did not have any supervisory or instructor relationships nor any power structure inherent to the research. I also do not have any overt biases influencing my approach to this topic (I am not a SWD nor am I close to any SWD personally), but I am aware that I may have latent biases on the topic. I addressed these by journaling throughout the data collection process and using a reflective approach to uncover any hidden bias.

Methodology

The methodology used in this study followed a basic qualitative approach. Semistructured interviews were conducted via Skype or other audio-recording software as appropriate for the participant. Data were then coded and analyzed thematically manually and with the aid of software.

Participant Selection

Data were collected from eight self-selecting SWD who are or have been students at a postsecondary educational institution in the United States and have taken at least one online or hybrid course. As SWD, these participants must have met the ADA criteria for

having a disability: “a person who has a physical or mental impairment that substantially limits one or more major life activities, a person who has a history or record of such an impairment, or a person who is perceived by others as having such an impairment” (U.S. Department of Justice, 2009, para. 2). Participants were excluded from the study if they represented a vulnerable population, were not fluent in English, or had a preexisting relationship with me as a professor, nurse, or supervisor.

I requested use of Walden’s participant pool for this study. If fewer than 10 Walden alumni were identified, then I recruited further participants via social media. I used Facebook groups relating to professionals with disabilities and recruited via Twitter. I also posted flyer invitations on publicly-available bulletin boards. I used convenience sampling, though as a final option, I planned to employ snowball sampling. I requested interested parties to contact me privately via e-mail if they wished to participate. Follow up contact with participants confirmed qualifying information. Qualifying participants were sent consent forms via e-mail and interview times were arranged. Interviews were conducted via Skype (or other audio-recording software as appropriate for the participant) with audio recording and transcribed.

Reaching saturation is not agreed on in qualitative research, though some attempt to reach what is referred to as “conceptual depth” (Nelson, 2016). Conceptual depth of the data has been reached when the following criteria are met:

1. A wide range of evidence can be drawn from the data to illustrate the concepts.
2. The concepts are demonstrably part of a rich network of concepts and themes in the data within which there are complex connections

3. Subtlety in the concepts is understood by the researcher and used constructively to articulate the richness in its meaning.
4. The concepts have resonance with existing literature in the area being investigated.
5. The concepts, as part of a wider analytic story, stand up to testing for external validity. (Nelson, 2016, p. 559)

The exact number of participants necessary to achieve conceptual depth is undetermined. Many researchers use the seminal work of Mason (2010) to determine their participant number because it involves analysis of 560 qualitative studies from saturated sample sizes ranging from 1 to 95 participants. However, consideration must be given to meaning of the data rather than making generalized hypothetical statements (Mason, 2010). Data saturation may also be reached when there is enough information to replicate the study and when no new coding is possible (Fusch & Ness, 2015). Although the goal of sampling in basic qualitative research is to aim for a larger representation of SWD (Percy et al., 2015), this is difficult to achieve with a population containing such a disparate set of variables. Given this challenge, I looked at similar research projects to determine a suitable sample size. For example, Bunch (2016) studied the experiences of 17 students with attention-deficit hyperactivity disorder in online learning programs. Additionally, Wolpinsky (2014) studied the lived experience of postsecondary students with learning disabilities and had a sample size of four. For my study, the plan was to recruit eight to 10 participants.

Instrumentation

As researcher, I served as the primary data collection instrument; I used semi-structured interviews to elicit conversations with participants regarding their experiences in their online courses. Standardized open-ended interviews as described in Creswell, Hanson, Clark Plano, and Morales (2007) were utilized to provide consistency with the ability for participants to fully express their responses. Reflective interviewing style as described in Rubin and Rubin (2012) was also utilized to further allow participants to expand on their experiences.

The researcher-developed interview questions were crafted to explore topics related to self-determination (autonomy, competence, and relatedness) as well as the overall experience in the course (particularly in relation to barriers and benefits provided through that experience). To enhance validity, the questions were based upon an already-validated interview instrument utilized by Bunch (2016), modified to reflect the needs of this research study. The interview questions were additionally reviewed with the committee members before implementation.

Procedures

Data were collected via interview utilizing Skype technology (or other audio-recording software as appropriate for the participant). Hamilton (2014) discussed the two primary benefits of utilizing Skype and other videoconferencing technologies for qualitative interviewing: convenience and personalizing the interviewer-interviewee relationship. The interviews were recorded and transcribed by this researcher utilizing

Skype audio-recording technology. Interviews took place over the period of two to three weeks and should last between 45-60 minutes. There were not follow-up interviews.

Data Analysis

Data derived from interviews and my research journal was coded and analyzed to reveal themes, which were then explained using rich description. When possible, I utilized the participants' own words to honor their perspectives (Merriam & Tisdell, 2015). Data collected were coded utilizing excel software; the data were coded utilizing in vivo and value codes (Saldana, 2016) and analyzed thematically. Saldana (2016) suggests that these are among the best methods for analyzing questions addressing the nature of participants' realities.

Interview data were collected and organized in electronic file folders; data were electronic and audio and stored on a flash drive and a personal computer, protected by door locks and password protection. Data were only accessed by me and my committee. I self-transcribed. Five years after the project is completed, the data will be destroyed. Any adverse events were handled according to the recommendations on the IRB website and in conjunction with Walden and federal regulations.

Issues of Trustworthiness

Validity strategies were thoughtfully applied based on a philosophical understanding of the most direct methods of integrating gathered data into the current literature base.

Credibility

Credibility (internal validity) strategies included interviewing towards saturation of the data and a reflexive journaling process to mitigate inherent bias throughout the process.

Transferability

In order to provide research that would be useful to postsecondary education institutions and future researchers, I needed to determine some way of establishing transferability. One strategy used was so-called “thick-description,” which is when a researcher provides extensive detail and explicit descriptions of the interview scenarios so that future readers of the research can evaluate effectively how the data can transfer to their own relative population.

Dependability

The primary strategy I used to ensure dependability in the project was to attempt to describe the changes that might happen in the process of conducting the interviews, and how these changes may or may not have possibly affected the way the study was approached.

Confirmability

The strategy chosen to ensure confirmability was reflexive journaling. Throughout the research process I kept a reflective journal in which I wrote down my thoughts on the process, as well as detailed notes about the interviews themselves so that I could keep an audit trail.

Ethical Procedures

Gaining access to participants was conducted only with appropriate approval from the institutional review board (IRB); human participants were treated ethically, carefully, and with utmost respect to their personal stories. If ethical concerns arose, members of the dissertation review committee were consulted before any actions were taken.

Participants were free to refuse participation or withdraw from the study at any time.

Privacy was protected; during the interviews, the primary researcher was seated in a locked room with no other persons present to minimize the risk of outside observers. Participants were advised to establish their preferred privacy levels on their end of the interview (with the understanding that this element was outside of the primary researcher's control). The process of arranging interviews necessitated disclosure of identity to the primary researcher. No outside parties had access to the data. Such documentation will be kept in a file on a password-protected computer and retained for a period of five years after publication of dissertation, after which it will be deleted. In the analysis of the data, variables and identifiers that could potentially disclose participant identities were not included or was further anonymized. This study did not include participants from within the researcher's own work environment, nor were there any conflicts of interest related to power differentials. Incentives were not utilized. Potential risks were minimal and included only anxiety and/or stress during the interview. Participants were allowed plenty of time to prepare for the interview before it occurred. I allowed for breaks throughout the interview if needed and terminated the interview if it

appeared the participant was experiencing a greater than normal amount of stress or anxiety.

Summary

In this chapter, I have described the research methods for this basic qualitative study and provided justification and explanations for the data collection and analysis processes. The primary method for data collection was interview questions, grounded in the conceptual framework and connected to the research questions for the study. I have discussed ethical considerations for conducting the research, as well as specific strategies to ensure credibility, dependability, transferability, and confirmability of the study. I analyzed the data utilizing in vivo and value coding, and further organized thematically.

Chapter 4: Results

Introduction

The purpose of this basic qualitative study was to examine postsecondary SWD online learning experiences. The goal was to explore and describe the potential benefits and barriers for postsecondary SWD taking online courses through an examination of their experience. The main research question was “How do postsecondary SWD experience online learning?” The two subquestions were as follows:

1. How do postsecondary SWD experience the benefits of online learning?
2. How do postsecondary SWD experience the barriers of online learning?

The results of the research are presented in this chapter, including setting, demographics, and other information regarding the collection of the data.

Setting

The interviews were conducted by phone or through Skype with adult postsecondary students with physical disabilities. Some of the students had more than one physical disability and some students had emotional or mental disabilities in addition to their physical impairments. Participants were students at various school types—some university, some college. The classes were taken for varying reasons and under varying circumstances further described in the data collection and demographics section. The interviews, for the most part, took place during December 2019 over what was most of the participants’ winter break (they were not currently taking a class). One participant was completing a class that she had been given extra time to complete due to a hospitalization.

Data Collection and Demographics

The data consist of eight interviews with adults with a disability who have experience taking online courses (see Table 1). Of the eight participants, one had Chiari malformation (a structural defect with the brain and skull), two participants had Crohn's disease (a disorder of the digestive tract), one had spinal muscular atrophy, one had major orthopedic issues including degenerative disk disease, one had seizure disorder, one had cystic fibrosis, and one had an above-the-knee amputation combined with a left hand injury.

All participants described online courses as their primary method of earning their degrees, although a few of the participants did utilize a blend of online and face-to-face course schedules. Six of the eight participants stated that they had already earned a previous degree, and of those, four stated that they were actively pursuing another degree. One of the eight participants is pursuing their first degree, and one did not clarify whether they have already earned a degree. The types of schools varied from brick-and-mortar schools offering some courses online, private schools, state schools and universities, community colleges, and fully-online institutions. The class content varied as well from general education courses to electives to core programmatic classes.

The interviews ranged from around 13 to 39 minutes and took place over a single phone or Skype session with each participant. Data were recorded via call recording software and transcribed by the primary investigator into a Microsoft Word document on a password-protected computer. No variations from the data collection plan in Chapter 3

were noted, nor were there any notable unusual circumstances encountered in data collection.

Table 1

Participant Demographics

| Participant | Primary disability | Fully online or combination of online and face-to-face | Previous degrees earned | Interview time |
|-------------|-------------------------|--|-------------------------|----------------|
| SWD 1 | Chiari malformation | Fully online | Yes | 14:22 |
| SWD 2 | Crohn's disease | Combination | No | 35:57 |
| SWD 3 | Spinal muscular atrophy | Combination | Yes | 13:25 |
| SWD 4 | Orthopedic impairments | Fully online | Yes | 24:41 |
| SWD 5 | Seizure disorder | Fully online | Yes | 14:49 |
| SWD 6 | Cystic fibrosis | Fully online | Yes | 31:08 |
| SWD 7 | Above knee amputation | Fully online | Yes | 38:30 |
| SWD 8 | Crohn's disease | Combination | Yes | 26:10 |

Data Analysis

After the interviews were transcribed, they were marked generally for concepts, as suggested by Rubin & Rubin (2012). Each interview was broken down by question, and a document was created for each question so that the answers by question across interviews could be easily analyzed. The themes that emerged include self-pacing, isolation, and advocacy. After this initial open coding, the concepts were further grouped by theme. New documents were created to group answers by broad themes that were appearing,

such as minimizing of disabilities and overachieving. These documents were cross-compared within the full interviews for first-cycle in-vivo and process coding (see Saldana, 2016). The interview data were then entered into an excel file and coded by overall concepts. The codes and definitions in Table 2 emerged after sorting, condensing, and eliminating repetition of codes during the coding process. These codes were then used during second round coding to identify and organize themes and subthemes across the data. The themes that emerged support answers to the research questions and reflect the conceptual framework for this study (see Table 3).

Table 2

Code Book

| Codes | Code Definitions |
|---------------------------|--|
| Accommodation | Anything that aids in removing barriers to learning for SWD. |
| Advocacy | Any act of supporting or recommending support for SWD. |
| Availability of Resources | The knowledge of what tools, programs, and support are available to aid SWD in school. |
| Confidence | A feeling of self-assurance, pride, or appreciation of one's abilities. |
| Connection to Peers | Refers to relational exchanges between SWD and other students, teachers, family members, and friends. |
| Discussion | In this work, discussion refers to any number of assignments in the online environment where students are required to engage in a conversation about the content area. |
| Disruption | A disturbance to an activity or event. |
| Isolation | A feeling of loneliness or disconnection from peers. |
| Minimizing of Disability | The tendency of a SWD or others to downplay the needs created by the disability. |
| Miscommunication | The failure to convey a message as intended. |
| Obligations | A feeling of being committed to a task, action, or debt. |
| Organization | Structure and arrangement of items in an orderly manner. |
| Overachieving | The act of being excessively dedicated to something. |
| Overwhelming | A feeling of being out of balance with schoolwork to the extent that it is not manageable. |
| Pride in work | A feeling of satisfaction particularly in relation to schoolwork. |
| Proctored exams | An exam that takes place in a face-to-face setting, with a proctor supervising the student. |
| Quizzing | In this work, quizzing refers to any number of assignments in the online environment where students must systematically answer questions about the content. |
| Self-control | The mastery or discipline of setting intentions and sticking to them. |
| Self-pacing | In these interviews, the concept of self-pacing referred to the ability to schedule and set the hours of the day in which a student preferred to work on school tasks, within a rough framework of due dates, instead of being bound to a schedule prescribed by someone else. |
| Stamina | The ability to persist through prolonged mental, emotional, or physical challenges. |
| Time management | The ability to manipulate or schedule blocks of time effectively. |

Table 3

Emerging Themes with Subthemes

| Identified themes | Subthemes |
|--|-----------------------------------|
| Barriers to SWD | • Barriers related to autonomy |
| Success in Online Courses | • Barriers related to competence |
| | • Barriers related to relatedness |
| Benefits to SWD when Taking Online Courses | • Benefits related to autonomy |
| | • Benefits related to competence |
| | • Benefits related to relatedness |

Data Synthesis

The following sections reveal the themes reoccurring in the data as the interviews progressed. In the interviews, the participants discussed their feelings regarding their online education in relation to their disabilities and exposed known flaws in the system as well as problems that have been unrevealed in previous reviews of literature. The participants also celebrated their participation in online courses and overall attributed the format as a major contributor to their independence and ability to complete their postsecondary education. In the following sections, I have broken these ideas down thematically and used substantive quotes to present participants' complete thoughts in context and illustrate the themes that run through the data.

Results

Theme 1: Barriers to Students with Disabilities Success in Online Courses

The first identified theme answers the second research question, "How do postsecondary SWD experience the barriers of online learning?" The participants all expressed varying levels of frustration with their online courses. The impact of these

barriers ranged from psychological (anxiety, isolation) to academic (unclear assignment expectations, reluctance of teachers to accommodate) to financial (increased costs due to unclear understanding of available accommodations). After three rounds of coding, several themes related to barriers began to appear. Coded data were organized under the three categories of autonomy, competence, and relatedness, which reflect the conceptual framework of SDT.

Barriers related to autonomy. The first identified subtheme reflects the concept of autonomy. Participants expressed a desire to maintain their ability to govern their own schedules and to participate in the courses with as little third-party involvement as possible. Barriers to autonomy were indicated by participants discussing their experiences in classes that caused confusion, frustration, and in some cases, dehumanization. After three coding cycles, the codes of “organization, time management, self-control, and minimizing of disability” were identified most often in relation to this subtheme. Some of these barriers arose out of challenges the SWD identified as their own responsibility, and others reflect challenges that have been created by the infrastructure of the course or attitudes and perceptions of the teachers and administrators.

Self-regulation. The most common autonomy-related barriers were items of self-regulation such as organization, time management, and self-control. These items were dually-represented as barriers and benefits, depending on how skilled the participants felt they were at managing their schedule. A few participants described these concepts as skills that they developed as they continued to complete course work and navigate college life. If they described these skills as poor, the skills were barriers to their feeling

of autonomy in the courses. In this case, participants tended to blame external agents for neglecting to teach them how to regulate, organize, and manage course work. As the participants described their increased competency with these skills, they tended to attribute these proficiencies to personal practice over time. One participant described her first semester of classes before she felt confident about her learning routine,

The first time I ever took any online courses was my third semester in college. I did very poorly. I had no self-discipline, no ability to do the class. . . . I did not know how to organize and schedule my time and it made me feel a little bit like a failure. (SWD 2)

In relation to the participants' disabilities, three participants noted that the skills of organization are especially challenging when having to schedule course work, family life, and "normal" events as well as their unique health-related tasks. Participants expressed anxiety around the pressure to get everything done in a given week, considering the extra time it takes to manage a disability. One participant put it this way,

I feel with online learning if you are not disciplined, you are not gonna get it done. With having a disability too . . . cystic fibrosis is so unpredictable. You never know how you are gonna feel when you wake up. You could go to bed feeling great and wake up feeling like death so knowing what's coming for class is helpful because it's one less unknown variable that you have to deal with in your life. (SWD 6)

Minimizing of disability. A notable barrier related to autonomy that emerged in the interviews was the tendency of the students themselves or others to minimize the

impact of the disability to the learning process. In fact, of the eight interviews, seven contained statements of minimization of the disability by the SWD or a perception of minimization by an outside party. A few participants told stories of their teachers' skepticism on their need for accommodations. The idea of a teacher who did not wish to provide accommodation to the SWD for varying reasons was repeated in most of the interviews. This is despite the fact that some of the students switched to online courses to reduce the number of negative encounters of this type with teachers: “[When taking a face-to-face class] I would get sick in the morning and I’d be late. You try to explain that you get sick in the morning but by the after the fifth time being late, they [say] it’s an excuse” (SWD 2).

Many of the participants started in face-to-face classes but switched to online as a way of self-accommodating for scheduling problems. However, some online courses maintain synchronous requirements such as video conferences or require students to go to a physical site for proctoring of tests. Online courses are also not immune to accommodation needs—one of the most commonly discussed accommodations in the interviews was that of the need for longer times given for testing. Several SWD told stories of feeling put down or looked at with skepticism due to the need for longer test times: “There was one teacher – I kinda needed more time on a test and I do not think he wanted to give me more time” (SWD 3). The need for longer test times resulted in more than skepticism for some students experiencing a range of discriminating behaviors from teachers and counselors:

At both undergrad and grad, a few professors did not expect or did not believe that the disability could be debilitating or limiting. . . . I had one professor that objected to giving me extended time on my exams. That was a [hybrid] class and so the professor knew me and saw me. However, he could not see the disability. . . . A counselor [as I was entering courses] told me to expect failures. And that stuck. So, I started to expect the failures and not push myself—I would get by with the minimum and make it work. (SWD 4)

The teachers were not the only ones who minimized the disabilities of the students. Many of the participants in the interviews would preface their answers with a statement indicating that they did not feel that their disability was “as bad” as some people’s. Two of the participants described going through a kind of awakening as they became aware that they were eligible for accommodations through their respective colleges; realizing what they had been missing out on made them more determined to advocate for other SWD.

Barriers related to competence. The next identified subtheme reflects the concept of competence. Navigating online courses is an important part of self-determination for SWD, and there were some barriers to the participants’ overall feelings of success in their classes. The codes of “organization and time management” and “proctored tests” appeared again with similar stories as previously described. “Overachieving, overwhelming, and availability of resources” appeared most often in relation to this subtheme. Once again, these barriers ranged in terms of responsibility from the student’s

own self-imposed barriers to barriers created by the infrastructure of the course or attitudes and perceptions of the teachers and administrators.

Overachieving/Overwhelming. Some of the participants in this study expressed the feeling of being overwhelmed with the pressure to complete numerous assignments in a given time. This pressure may have led some SWD to giving up in their early attempts at class-taking, but for many of the participants, the pressure led to a need to appear as an overachiever. Overachieving as a concept seemed to be related to the need for SWD to prove themselves as competent, if not more so, than their non-disabled peers. Students described doing more on assignments than was asked, helping other students complete work, and imposing at-times unrealistic expectations of participation upon themselves. One student showed Herculean efforts to attend a video conference while hospitalized,

I was doing at least one or two assignments every day [while in the hospital] and one of the classes actually meets every Tuesday via video conference. One day when I was in the hospital, I got a PICC line and a barium enema in the same day, and I still went to class that night. I had a little bit of a mental breakdown [an hour before the conference] but it was only temporary – it lasted ten minutes and then it kinda passed. So, nobody could say that I'm behind because of a lack of effort. I'm trying here. (SWD 6)

Knowledge of available resources. A notable barrier related to competence in online class-taking was that of the availability of resources to SWD, and more specifically the knowledge of those available resources. Participants often discovered a tool or accommodation after they needed it, and described feeling frustrated from not

having been made aware of the resource when it would have been useful to them. One participant, a student of educational technology, described her experience when it came to learning to use the numerous online applications that make communication between teachers and SWD easier,

I went through this whole educational technology program and I had a total of two teachers who ever used those [programs]. I do not know how you can have an educational technology program and none of the teachers use . . . I had two teachers [who used them] and I had to comment to them. WOW. I appreciate you. . . . these online courses do not facilitate that for people who might have hearing or vision impairments. I did have a [peer]—she was legally blind, and I remember helping her through the whole course because there wasn't anything to help her converse. All of these formats, they need to get a little more hip [so] that people would not be barred from participating. . . . the biggest impediment would be the instructor's inability to inform and utilize those avenues. They are available but they do not use them, and they do not make the other students aware of them.

(SWD 7)

Two of the participants described being made aware that they qualified for disability support services *after* completing a number of classes. One participant targets this problem as the cause of significant complications and financial loss to his pursuit of a degree,

Instructors for the online courses weren't well trained. . . . All of my instructors knew of the recent diagnosis. All of my instructors knew that I was sick and was

missing— was struggling through for the semester. And not one of them ever advised me to reach out to their disability support. None of them ever offered an incomplete or a withdrawal for the course. I said, “I’m sorry, I’m too sick, I need to drop this class,” and they were all, “Sorry to lose ya,” and then gone. Which totally ruined my status as the transfer teach-out student [a program to help students transition during a merger of colleges]. It honestly cost me thousands of dollars on top of what it should have at the discounted rate [offered by maintaining a status in the program]. . . . I feel if my instructors had been a little more knowledgeable or trained on how to help and advocate for a student with a disability the outcome could have been completely different for me. (SWD 8)

Barriers related to relatedness. The next identified subtheme reflects the concept of relatedness. Feeling connected to others (students, teachers, counselors, etc.) is an important component of a SWD’s self-determination. Unfortunately, online courses do not always lend themselves as effective tools in helping SWD achieve healthy relatedness. The codes of “isolation and minimization” appeared most often in relation to this subtheme. When asked about how online classes affected their ability to interact, feel connected to, and/or care for others, participants indicated that online courses had a detrimental effect on relatedness. There were a handful of stories about friendships made during school, but these occurred during rare face-to-face encounters rather than in the online environment. Most of the participants described feelings of loneliness and disconnection from others exacerbated by the impersonal nature of the online courses.

Isolation. Isolation was a repeated concept in the interviews. While it may seem obvious that online courses would not facilitate relationship-building in the same way as face-to-face classes, the level of isolation described by participants seemed to reach extreme levels. Some students were able to find ways to meet peers offline through face-to-face classes, residencies, and conferences, but most students described fully online courses as damaging overall to their feeling of communal relation. The reasons for this are still not clearly understood and require more investigation. One student explained that, in her case, taking all of her classes online gave her an easy excuse to stay isolated in her home, which in turn led to more problems with her success,

During those few online courses I never left my house and I think I was pretty depressed. When I'm depressed, I'm less likely to do any work, let alone self-disciplined work. I had no reason to leave the house, so I did not. (SWD 2)

Other participants related the isolation of online classes to their physical disability. The nature of some disabilities and their many stresses and responsibilities can create social barriers for SWD which are further compounded by the additional responsibilities brought upon by school. Students in face-to-face classes may have the encouragement of peers and new relationships to provide a positive buffer to lonely feelings, but these relationships do not seem to be created in the online environment. Another participant went so far as to say that online courses compounded upon her already strong feelings of isolation brought on by her unique disability,

Since I am doing online learning this year, I have felt extremely isolated. cystic fibrosis is already a very isolating disease because we cannot be within six feet of

[other people with cystic fibrosis], so not being able to be around peers has been depressing for me. I am a very social person. I wish there was some more socialization. . . . I would say also the lack of connection between teachers and students. (SWD 6)

Miscommunication. Another notable barrier in this category is miscommunication. In this study, the participants discussed miscommunication in relation to interactions with teachers and with peers in their classes. The online format lends itself to varied perceptions of intention and messages can get mixed in translation. One participant related this to his ability to understand the requirements of a recorded speaking assignment,

We were being given assignments, then we would find out after we turned it in what we could or could not have in the background and the type of environment you needed to have. There was one that had an audience requirement—you had to film an audience that was there to view us. But nobody in the class knew that was happening. We were being put under restraints that we weren't aware of and weren't practical for an online course. (SWD 8)

Other participants relayed similar stories of confusing messages regarding assignment requirements and due dates. The students who had assignments that involved them interacting with other students, for the most part, described these assignments as minimally helpful in creating relationships with their peers. One participant described the challenges that occur when communicating with others in class via online discussion boards,

In online classes it's more difficult to engage in discussion. Because discussion is either through chat threads where you have to guess "who is talking now, who is this person" and there is sometimes the lack of ability to tell. . . . "I'm pretty sure they are not getting the point of what I'm saying" but there isn't that immediate feedback of looking at their face and their eyes glazing over or whatever (SWD 5)

Theme 2: Benefits to Students with Disabilities when Taking Online Courses

The second identified theme answers the first research question, how do postsecondary SWD experience the benefits of online learning? Most participants were excited, and their stories became animated when they were asked to describe the benefits they had been experiencing by taking online courses. The benefits described fell into a broad range of experiences from achievement of academic goals such as graduating with degrees and certificates to increased feelings of self-worth brought about by achievements in classes. Three rounds of coding exposed several overlapping themes, which were again organized into the three categories of autonomy, competence, and relatedness which reflect the conceptual framework of SDT.

Benefits related to autonomy. The first identified subtheme within the question regarding benefits reflects the concept of autonomy. A student's feeling of their increasing ability to govern their actions can be helped to a great degree through school, and the participants credited online courses for providing them with the opportunity to achieve this. The codes grouped under the topic of autonomy related to two major subtopics, self-regulation and self-pacing.

Self-regulation. As with the research question related to barriers, the codes of “organized, time management, and self-control” appeared, but in this case, several participants discussed perceiving these as benefits. Once the participants figured out how to organize their time and manage their assignments along with their other obligations, some expressed feeling a sense of increasing pride in their ability to govern their own activities. One student describes how she improved with this skill over time,

I now take all of [my electives] online. I enjoy [the new LMS the school is using]. Also I have grown up and I have a lot more self-discipline. I enjoy working on my own and having busy work to do. . . . I think that when I first started with online classes I did not take it very seriously, so I did not know how to check when it was updated and how to make a list of things to do. Now I make a bullet list and I cross them out. (SWD 2)

Self-pacing. Interestingly, the additional code of “self-pacing” appeared most often in relation to this subtheme. Self-pacing came up in every interview as a perceived benefit of taking online courses, particularly when considering the participants’ disabilities. Further clarification and discussion with each participant illuminated their use of the phrase to mean the ability to schedule and set the hours of the day in which they preferred to work on school tasks, within a rough framework of due dates, instead of being bound to a schedule prescribed by someone else. In these interviews, the phrase self-pacing was *not* used in the traditional academic sense, which is to refer to courses that are completed one stage at a time with no regard to deadlines. Each student in this example worked within given deadlines but used the phrase self-paced as a way to

describe their independence of choice for when they could interact with the course itself throughout the academic weeks. Throughout the remainder of this report, the phrase self-pacing will be used in the same manner as the participants used it.

Self-pacing represents the most-discussed benefit of online courses for this set of participants, particularly in relation to their health needs. Most applauded the flexibility of opting to log into the course when they were feeling most well and opting to not log in when they were ill or taking care of other health needs such as doctor appointments and medical treatments. One participant explains,

I find the availability of alternate ways of taking classes to be a unique advantage to many people. . . . For the disabled population, especially those with mobility challenges, it opens a world that has been closed to a lot of us. To be able to take course work, to get the skills, to perhaps be able to move into or to be able to better employment. (SWD 5)

Another participant stated,

From a positive standpoint, online learning has been extremely flexible, which is good because even when I'm not admitted [to the hospital], I still have so many outpatient appointments and trying to fit treatments in with actually going to a class is difficult. With this, I end up doing a lot of my treatments while I'm doing my homework, which is fantastic, and I can do it at my own pace. One morning, I woke up at 2am and could not fall back asleep, so I did some assignments. Or if it's the middle of the day and I'm so tired, I could take a break. (SWD 6)

Benefits related to competence. The next identified subtheme reflects the concept of competence. Successful and efficient completion of course work contributed to psychological boosts for the participants and supported their overall feelings of well-being. Participants credited online courses as a valuable tool for accessing the school experience, which in turn contributed to their overall social, academic, and psychological development. The codes of “confidence, pride in work, and stamina” appeared most often and were grouped together in relation to this subtheme.

Confidence/Pride. While being organized, managing time, and overachieving posed a barrier for many participants interviewed and thus were categorized as barriers, these concepts were also perceived as benefits to SWD as they gained mastery over these skills. The primary difference to the discussion of these concepts as they relate to autonomy and competence is that the examples in this case tend to center around actual course assignments and content mastery rather than organizational skills. One participant described why taking online classes helped him feel more in control of his learning,

I would say it was more in my control because I had the syllabus and I knew what was expected. I would say more so in the online classes because they had to define the schedule of what they wanted, when they wanted it, when everything was due, and the whole schedule was out, laid up front versus the in-person classes. Those were where you did not know what to expect the next day. So, you had a greater understanding and control. (SWD 4)

Taking online classes aided many students in their overall feelings of confidence and pride about their learning and abilities. One participant described how achieving her degree online made her feel,

It was a big confidence booster too - being able to get out there and do this. When I got my masters, it was a big deal for me to be able to do that. That was a big confidence booster, to know that even in the midst of all I was going through (a lot at that time), that I could feel there still are avenues for me to do that and still to be able to be a participating part of society, give back to the work or contribute something. So, it has had a big impact on me. (SWD 7)

Stamina. The word stamina in this research represents the ability of participants to sustain the prolonged effort required to complete course work and degree programs, and the ability to persist in school despite health and other setbacks. Several participants credited online courses with their sense of stamina. Many of the participants who took face-to-face classes and online classes described online classes as the sole option for them to complete coursework when it came to some of their physical challenges. In one participant's story, online courses were the only courses he could continue to take the semester he was diagnosed with his disability,

It was again that flexibility of having a doctor's appointment or a procedure or something going on, and I did not have to call my instructor and let them know I was not gonna be in class or worry about an attendance policy. So long as I was able to sign on at some point and do the discussions for that week or could work on the paper as I needed to, and the expectation was not that I was gonna be in

class. Totally saved my bacon. If there was an attendance policy, I would not have been able to complete any credits that semester. Which would have derailed me even more than what it eventually did. (SWD 8)

Benefits related to relatedness. The final identified subtheme reflects the concept of relatedness. Feeling connected to others was a concept that was discussed at length in the participant interviews. Some participants were underwhelmed by the connection provided in the online environment, but upon further reflection considered some key areas where connections did occur. The codes of “discussions, connection to peers, and advocacy” appeared most often in relation to this subtheme.

Connection to peers. Although the participants by and large noted relatedness as the factor least benefited by online courses (with some participants indicating further that online courses had a detrimental effect to relatedness), some participants were able to explore other means of achieving relational connections while taking online classes. Most often, this came in the form of actual face to face meetings through residency requirements, conferences, or taking additional classes with a face to face requirement. One participant, who had a mobility issue due to a knee amputation, found that a close friendship made during a residency requirement emboldened her to step out of her comfort zone,

It was a big move for me to get up and go to a different state for my residency. It broke a lot of ground for me because I made some lasting friendships. One girl, we went to all the residencies together. We first met at a residency and she was a lot of help because I think she noticed me. I had a big issue with those escalators.

And I used to, when everybody would be going on them, I'd always have to walk around and go to the elevator because I was afraid of them. And she said, "ok you can do this, you can do this," and I said "ok - ok - she said I can do it, you are right!" So, we went to the escalator and we went up. She said, "I'm right behind you." And I went up that escalator and that was the first time I had been up an escalator in ten years so that was a big amazing thing for me, and it was all because of this whole online thing. (SWD 7)

Other students who had more positive statements regarding connectedness attributed their connections to meeting in other face-to-face or synchronous environments. Those who had experiences within the course that allowed them to see and hear other students, such as synchronous meetings, group projects, or meet-ups at conferences and other academic situations had more positive overall statements regarding connections to peers.

Discussions. In this research, "discussions" refers to any number of assignments in the online environment where students are required to engage in a conversation about the content area. While most of the participants indicated that discussions in the online environment were not necessarily conducive to relationship building, a few participants did mention online discussions as their primary means of connecting to others in school, especially when those courses did not provide opportunities for face-to-face connections. One participant explains,

A lot of the courses were where we had to do discussions, and they are very interactive with other students. There are quite a few students that I have never met, that I have known from being in the online course with them (SWD 1).

Advocacy. Advocacy was a notable concept that appeared frequently in relation to this subtheme. In this study, advocacy refers to any act of supporting or recommending support for SWD. Support for SWD includes recognizing students who need accommodations, providing SWD with information about accommodations, and believing SWD when they describe their needs for accommodations. Support can come from teachers, administrators, counselors, advisors, and other students. Participants described teachers and administrators as belonging primarily to one of two camps—either they were supportive, believing them that they needed accommodations and advocated for them to receive support, or they were not supportive, resisting accommodations with skepticism and minimizing the disability. The largest benefit students described in this area was learning to advocate for themselves and one another. One participant puts it this way,

I did not know how to advocate for myself. And so, because I did not advocate for myself, I had no advocate. My instructors did not know what to do with a student with a disability. If they did know, then they did not say anything of resources that were available to me, of policy that could have been to my benefit, based on doing an incomplete, or extended time, or extended deadlines or anything. . . . I feel if my instructors had been a little more knowledgeable or trained on how to

help and advocate for a student with a disability, the outcome could have been completely different for me. (SWD 8).

Conceptual Framework

Throughout the data analysis process, the conceptual frameworks of SDT and UDL were utilized as a lens through which to view data for analysis. The experiences of SWD were organized with regard to the three areas of self-determination (competence, relatedness, and autonomy). Competence was hindered by over-achieving and lack of knowledge of accommodations; it was aided by the confidence and pride achieved through classes and the ability to persist through challenges. Relatedness was hindered by feelings of isolation and miscommunication; it was aided by connections made with peers, discussions, and advocacy. Autonomy was hindered by over-regulation and minimization of disability; it was aided by self-regulation and self-pacing.

Intentional application of, and neglect to use principles of, UDL affected the students' experiences in their courses. UDL principles that aided students were features in the course that allowed them multiple methods of communicating and expressing their needs. When lacking in UDL principles such as accessibility features, the courses did present some barriers. The research supported, to a small extent, the need to continue enhancing courses with UDL principles.

Integrity of Data and Analysis

Credibility

Care was taken to ensure that the data maintained an acceptable level of integrity during the research and analysis process. Credibility (internal validity) strategies included

interviewing towards saturation of the data and a reflexive journaling process to mitigate inherent bias throughout the process. As the interviews progressed, themes emerged; soon, stories and ideas began to take on a familiar tone as the same notions were repeated from participant to participant. Somewhere around the sixth interview, the answers to the questions, while colored with each individual's experiences and stories, began to sound similar to previous participants. In this way, I began to sense that saturation had been reached.

Beginning with the committee approval of the proposal, I began to journal about the research process and reflect upon my own biases. I wrote a total of ten journal entries throughout the research. The first entry was written while applying for IRB approval. In this entry, I expressed confusion regarding inclusion and exclusion criteria and what would be best for the study versus gaining quick IRB approval. I initially decided to specifically exclude students with intellectual and mental disabilities as they are a more protected population, but after the initial IRB consultation, I was advised that I should not specifically recruit this population but that I had no ethical reason to exclude them should they express interest in involvement. I do believe it is important to hear a variety of voices, especially when these voices tend to be underrepresented, and in my entry, I expressed my gratitude for the learning opportunity.

I completed several entries during the recruitment process and a few entries as I completed interviews. My final journal entry was written after the final interview and before I began analyzing the data. In this entry, I identified my own tendency to want results that strongly supported SWD taking online courses for their future personal

growth. I have a close family member who used to be a SWD, and during this research I lost a close friend with a disability who had expressed a desire to take online courses to learn business skills (I had been hoping to encourage her with my results). I recognized that these biases could influence how I interpret the data and pledged to judge the data, both negative and positive, with an informative and unbiased lens.

Transferability

To provide research that would be useful to postsecondary education institutions and future researchers, I needed to determine some way of establishing transferability. One strategy used was so-called “thick-description,” which is when a researcher provides extensive detail and explicit descriptions of the interview scenarios so that future readers of the research can evaluate effectively how the data can transfer to their own relative population. Throughout this chapter and Chapter 5, every effort has been made to put quotes into the context of the situation of the participants. Additionally, the research questions have been supplied in the appendix.

Dependability

Care was taken to ensure that the data maintained an acceptable level of dependability during the research and analysis process. The primary strategy I used to ensure dependability in the project was to attempt to describe the changes that might happen in the process of conducting the interviews, and how these changes may or may not have possibly affected the way the study was approached. In this case, the research was not generally affected by changes from the protocol, as the interviews occurred according to the proposed plan with no alterations. One of the changes anticipated was

not reaching the minimum number of participants calculated for this study (eight). While it was a challenge to find participants at the end of the fall semester during finals, I was able to find eight participants who met the criteria for participation. Another potential deviation from protocol would have been if a participant was not able to complete the interview via phone, as in the case of a hearing impaired SWD. While I did have one hearing impaired SWD express interest in the study, he did not complete the consent form and thus we did not have to move forward with adapting the protocol in that case.

Confirmability

Confirmability of the data was strengthened with a number of strategies. The strategy chosen to ensure confirmability was reflexive journaling and note-taking during the interviews. Throughout the research process I kept a reflective journal in which I wrote down my thoughts on the process, as well as detailed notes about the interviews themselves so that I could keep an audit trail. These notes are de-identified and kept in a file drawer in a locked home. The notes are detailed and provide a shortened version of the interview answers, noting particularly interesting phrasing and emphasized verbiage. These notes also served as a back up in the event that the recording software would fail (which it did not) before transcription. The recordings are held on a password-protected file and will be deleted five years from completion of the research.

Summary

In this chapter, the results of eight interviews of SWD provided insight to the primary research question, how do postsecondary SWD experience online learning? Two themes and six subthemes organized around SDT provided a method for exploring the

individual stories of the participants. Theme one: barriers to SWD success in online courses and theme two: benefits to SWD when taking online courses were identified within each of the eight interviews and further represented within each round of coding. The voices of each participant were shared to illuminate their stories and contribute to an overall understanding of the context in which they lived their experiences.

Results, further discussed in chapter 5, revealed challenges within the execution of the online course environment but also revealed that taking online courses posed significant benefits to the students who were interviewed. The implications for social change are important; if readers of the study have the ability to influence course design and advocacy for the students, they should take the data to heart and open up opportunities for students to interact with others face-to-face, as well as other necessary changes to impact advocacy.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this basic qualitative study was to examine postsecondary SWD online learning experiences. This study adds to the body of literature regarding the benefits and challenges of online education for SWD in general. By adding to the body of research, there is potential for social change with the support for implementation of future programs and accommodations. The goal was to explore and describe the potential benefits and barriers for postsecondary SWD taking online courses through an examination of their experience.

Key Findings

When taking online classes, postsecondary SWD experience significant benefits that influence their feelings of autonomy, competence, and relatedness to peers, family, course content, and the community. Specific benefits discussed by participants include an increased ability to organize and manage time, an overall feeling of pride and confidence building as course work is completed, a decreased rate of attrition from school, and an increased ability and desire to advocate for others. However, when taking online classes, postsecondary SWD experience some barriers to their learning such as an overwhelming sense of obligation to course work and overachieving, various struggles with proctored exams, a feeling of isolation due to the impersonal nature of the courses, challenges in communicating clearly, lack of knowledge of available resources, and a lack of perceived buy-in from some teachers and administrators.

Interpretation of the Findings

The findings in this study confirm and extend knowledge in the discipline. The following sections include comparisons of findings with what was found in the review of literature. Students experienced barriers and benefits as they navigated their online courses. Some of the barriers can be attributed to poor course design and some can be attributed to deficiencies (intended or unintended) on the part of the teachers and counselors in the student's sphere. Benefits were often attributed to the fundamental nature of the setup of online courses (which offer flexibility of many types) and sometimes to personal efforts by the student, teachers, and counselors.

Barriers

The review of literature revealed that students with physical disabilities experience challenges within the setup and structure of the course itself but especially with perceived support from faculty, staff, and others, all of which was echoed by this study. The participants in this study did not reference barriers related to transitioning from secondary to postsecondary settings, nor did the social barriers discussed (e.g., isolation) align with the types of social barriers appearing in the review of literature. Students with learning disabilities were not the focus of this study and thus their collective voice was not represented in the data.

Although problems with UDL were abundant in the literature, participants in this study gave few mentions of online learner interface design barriers. The benefits perceived by participants can, in many cases, be attributed to the foundational nature of online courses as currently designed for flexibility to the student. Barriers could be

attributed to lack of good design in some cases; for example, the isolation felt by many participants could be mediated with design that incorporates opportunities for face-to-face interaction. Only one of the eight participants required any type of adaptive equipment to engage in the online space; however, even this participant did not mention specific problems with the design of her classes. Conversely, she indicated that moving the modality of her classes to online helped her learn better than face to face,

I think it helped me in a good way because I can use the computer and technology well. . . . Sometimes if there is paper or a test, I have to tell people what to write for me. But if I go online, I can do it all by myself. I can do my tests and click on the answers instead of telling someone what I want. I can type all by myself too, with the adapted keyboard. . . . It worked well for me because I could do more on my own and be more independent. (SWD 3)

Several of the participants echoed the review of literature when they told stories of their disabilities robbing their days of the extra hours that abled students can use for study (Jalovicic, 2016). Medical treatments, appointments, and other disability-related activities do cut into many of their days; however, rather than being a hindrance, online courses were described as being an aid to managing the various activities of daily living while seeking a degree. Only one participant mentioned specific design problems (a lack of adaptive design for students with visual impairments), but she mentioned this on behalf of another student she knew rather than relating it as a personal barrier. Thus, although there is room to grow in UDL for online courses, improvements have been

made over recent online school history and students are overall finding ways to navigate their courses in this space.

One area that does not seem to have made much improvement is that of support from faculty, staff, and others. Many of the participants echoed frustration with the process of first identifying as a SWD; then gaining buy-in and support from faculty, staff, and administration; then learning what resources are available at their institution to help them; and then being able to utilize those resources in a hassle-free environment. One participant explained,

I think it may be nice for teachers to be a little bit more open or welcoming at the beginning of the course and put it out there—"I'm here if anybody wants to talk about something or has a disability or any type of learning challenges that I should be aware of"Something [to] make you feel welcome and understood. In the syllabus for a couple of the classes, they did put the ADA policy in, but it was very dry and it almost it did not seem - it was an inconvenience to them. It almost seemed they did not want to hear it and they were—"You have to go through the disability office." So actually, my teachers did not even know that I had cystic fibrosis until I got admitted [to the hospital], and then my advisor told them, because I did not feel I was allowed to share that information or that they wanted to be bothered with it. So, I did not tell them until I absolutely had to. It makes you feel like a number, honestly. (SWD 6)

In summary, barriers experienced by SWD in online courses were present and were attributed to poor course design and in some cases to deficiencies (intended or

unintended) on the part of the teachers and counselors in the student's sphere. Agents who have access to the access, design, and implementation of course work such as instructors, instructional designers, and advisors should approach students with an attitude of advocacy, believing them about what they need accommodations for. They should also strive to provide opportunities for their online students to have face-to-face interactions whenever possible.

Benefits

The review of literature lacked evidence regarding positive SWD experiences in online courses. However, many of the benefits that were indicated in the review of literature, such as validation of social identity (Miller, 2017) and flexibility (Alamri & Tyler-Wood, 2017; Burdette & Greer, 2014; Heindel, 2014; Jalovcic, 2016; Terras et al., 2015), were echoed in the study. Participants experienced validation of social identity and expressed an appreciation for the flexibility, time management benefits, and level of control afforded to them through the online environment. One participant explained,

I would say that [taking courses online] had a profound impact because it enabled me to get professional development that I felt I needed. Because when I started with the master's program, I had been away from my job since I lost my leg for years. . . . and so, it enabled that for me. [I] did not have to go to a brick and mortar, to travel. And back then . . . I was iffy on moving about . . . so it made that possible for me at a time which I do not think I would have ventured out. . . . It gave me an understanding about the potential power that this whole format has for lifting people up—myself or others who could not get education or access to

any type of education if it were not for this. . . . It was a big confidence booster too—being able to get out there . . . to know that even in the midst of all I was going through that there still are avenues for me to [go to school] and still to be able to be a participating part of society, give back . . . contribute something. So, it has had a big impact on me. (SWD 7)

In summary, SWD experienced a variety of benefits by taking online courses; these were attributed to the fundamental nature of the setup of online courses (which offer flexibility of many types) and sometimes to personal efforts by the student, teachers, and counselors. Those in a position to advise SWD should advocate for the online format when the flexibility and control would work to the students' favor. Agents who have the ability to influence the design and implementation of the course (teachers, instructional designers) should bear in mind the reasons SWD may prefer this format and preserve the benefits SWD experience to the extent that they can.

Conceptual Framework

This research was conducted utilizing SDT as a lens through which to explore and explain the intrinsic and extrinsic motivations of SWD in online courses, particularly in relation to the three basic growth and psychological needs of autonomy, competence, and relatedness (Deci & Ryan, 2002). UDL was also an important consideration, as UDL done well provides a basis for multiple means of engagement, representation, and action for students in an online environment (CAST, 2018). Many of the participants described in their stories evidence of self-determination through achievement of the three basic

needs when considering their course work in light of their disabilities. One participant described her take on the benefits of online courses for SWD,

Face it—every person who’s working is paying taxes, contributing. There is something to be said for “I am pulling my own weight, I am taking responsibility, I have the power to not have to depend on other people. To be able to get away from “I am a drain on society”—no you are not. If these classes can make the difference between that and being a fully functional, contributing member of society, paying taxes, paying your own bills, having that confidence of “I’m an adult, I’m taking care of things.” We do not want to be special, we do not want special treatment, we want to be like everybody else. We just need a little help once in a while. (SWD 5)

Limitations of the Study

This study was limited by the number of SWD who responded to the call for participants. A dozen students expressed interest in participating. Of those, nine responded to follow-up information. One student was found to be ineligible to participate, and eight participants ultimately completed the consent form and were interviewed. Although the stories told by the eight participants represent a solid foundation for understanding the experiences in online courses in regard to benefits and barriers, a larger number of participants would contribute to greater generalizability.

Recommendations

Future research opportunities in this area are abundant. Exploring the experiences of a greater number of SWD with a wide variety of physical challenges would be helpful

for educators who wish to improve accessibility and the online classroom design.

Attention should be given to students with mobility and sensory disabilities in regard to accommodations and universal design. Research recruiting from these specific populations will provide valuable insight for educators and instructional designers.

Further probing should be done into the isolating nature of online courses, particularly in regard to this population of students. Quantitative studies can be designed to determine if there is a correlation between depression and taking all online courses, and if so, the strength of such a correlation. Meanwhile, educators should aim to provide opportunities for face to face interactions in their own courses. Other recommendations for educators are to increase socialization activities within the classroom environment and utilize any other technique, such as video, that may decrease the feeling of isolation and depersonalization brought on by the nature of online courses.

More research should be done as to the causes and potential solutions for why teachers and other educational staff do not always believe or buy into the idea that a student may need an accommodation. The number of students experiencing this phenomenon could be easily measured at an institutional level to pinpoint problems within a given educational system. Educators should work with their respective disability support staff and learn what they can about the accommodations offered and how they can best inform students about their options.

Implications

The implications for positive social change resulting from this study are strong. Educators who read the stories may gain an increased appreciation for the impact they

can have on SWD in the online space, especially if they adopt the recommended practices. Students with disabilities may feel less pressured to overperform, less isolated, and have an enhanced appreciation for the benefits they experience through the online class platform.

This research has contributed to what academics know about the benefits of online education for persons with disabilities. Instructional designers can use the research to support changes within learning management systems and course designs that further accommodate the needs of SWD. Counselors and academic advisors, after reading this research, may be less apt to push SWD to take on more than their schedules can reasonably handle while encouraging them to find opportunities to relate to classmates face-to-face.

Perhaps other stakeholders who make recommendations to persons with disabilities will utilize this research as a means for advocating for further education. Case workers for persons with disabilities may recommend online courses as a reasonable means to achieve increased education, training, socialization, etc. for persons for whom the barriers are too great to participate in face-to-face class environments.

Conclusion

In this study, much was revealed about the benefits and barriers SWD experience when taking online courses. Benefits included an increased ability to self-regulate, the ability to utilize the flexible scheduling, increased confidence/pride, decreased attrition, and an increased desire to advocate for others. Barriers included minimizing of the disability, pressure to overachieve and a feeling of being overwhelmed, a lack of

knowledge of available resources, miscommunication with teachers and others, and an increased feeling of isolation. While these barriers continue to present a challenge to educators, instructional designers, and students, participants reported both positive and negative experiences online and overall related a positive outlook on their ability to successfully complete their academic goals, largely thanks to the flexibility afforded by the online format. Educators and other academic stakeholders should continue to engage with this population to support their goals and help them achieve their educational dreams.

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Appendix: Interview Questions

1. Please describe the nature of your disability.
2. Tell me a little bit about your association with online courses – how many did you take, and what was the nature of the course/s?
3. In general, what impact has your disability had on online learning for you?
4. Considering your disability, what has gone well for you in online learning?
 - a. Is there anything about online learning that benefited your feeling of empowerment as an independent or self-directed student?
 - b. Is there anything about online learning that benefited your control of course outcomes and/or mastery of content?
 - c. Is there anything about online learning that benefited your ability to interact, feel connected to, and/or care for others?
5. Considering your disability, what has not gone well for you in online learning?
 - a. Is there anything about online learning that was a barrier to your feeling of empowerment as an independent or self-directed student?
 - b. Is there anything about online learning that was a barrier to your control of course outcomes and/or mastery of content?
 - c. Is there anything about online learning that was a barrier to your ability to interact, feel connected to, and/or care for others?
6. What else would you like to share related to this topic?