The Impact of Transition Services in Facilitating College Degree Completion for Students with Visual Impairments: Post–Bachelor's Degree Perspectives

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Abstract

This article portrays the complex nature of the transition process for two students with visual impairments (VI), both functionally blind, who successfully completed a bachelor's degree. Standardized open-ended interviews provided individual perspectives on the transition services, supports, and challenges faced by the participants with VI during their high school and postsecondary years. Key themes include access to the general education and expanded core curriculum, career and vocational awareness, support systems, self-advocacy and self-determination, independent living skills, social skills, and internship experiences. Transition discussion delineates the importance of evidence-based practices in secondary transition plans and provides recommendations for secondary VI practitioners and postsecondary institutions serving students with VI.

Keywords: Visual impairment, students with disabilities, transition services, postsecondary education, college success

Increasing numbers of high school graduates with disabilities are actively pursuing postsecondary education opportunities (Eckes & Ochoa, 2005). Students with disabilities, like all students, are motivated to pursue postsecondary education because of its potential to lead to a rewarding profession and financial independence. To be competitive in the job market, it has become increasingly important for students with disabilities to receive a college degree (Dowrick, Anderson, Heyer, & Acostal, 2005; Gil, 2007). Youth with hearing impairments or visual impairments (VI) are most likely of all categories to experience academic success (Wagner, Newman, Cameto, Garza, & Levine, 2005). Ninety percent or more finish high school, virtually all with a regular diploma. Youth with VI or hearing impairments are more than twice as likely as youth with disabilities as a whole to have enrolled in a postsecondary school.

This convergence of possibility and motivation has resulted in a nearly 66% increase since 1990 in the number of students with disabilities who enroll in postsecondary education (Wagner, Newman, Cameto, Levine, & Garza, 2006). The rise in numbers of students with disabilities pursuing higher education necessitates strong transition programs between high schools and postsecondary institutions (Eckes & Ochoa, 2005). In 2015, there were approximately 61,739 U.S. children (through age 21) who were classified as legally blind (American Printing House for the Blind, 2014). Comprehensive transition plans are especially important for students with VI, due to their having unique characteristics and accommodation needs. Students who are functionally blind cannot learn incidentally from their environment like their sighted peers. Instead, the expanded core curriculum must be systematically and sequentially taught using tactual or auditory modalities (Hatlen, 1996). The nine areas of the expanded core curriculum are compensatory skills including Braille, sensory efficiency, assistive technology, self-advocacy skills, social interaction, independent living, recreation and leisure, orientation and mobility, and career education. Individualized, often complex accommodations are essential for successful transition from high school to independent living, education, and employment settings.

The Individuals with Disabilities Education Improvement Act (2004) affirmed the role that school districts play in providing meaningful transition programming that fulfills a student's right to a free and appropriate public education and prepares them for further education, employment, and independent living (Wagner et al., 2005). Transition services are mandated to begin no later than the first Individualized Education Program (IEP) to be in effect when

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the child turns 16, or younger if determined appropriate by the IEP team, and updated annually thereafter. Landmark, Ju, and Zhang (2010) recommend that the IEP be developed using the student-focused planning strategy that promotes a student's active participation in developing the IEP and is related to student development in the areas of self-determination in both school- and work-based interventions.

Transition education concepts, important for all students, also should address nonacademic behaviors and experiences (i.e., acceptance of disability and how it affects learning, self-determination, self-advocacy, and interpersonal skills) that improve postsecondary school outcomes (Getzel, McManus, & Briel, 2004). Often, students with disabilities enter college unprepared to disclose their disability or lack the understanding of how to access services on campus (Brinkerhoff, McGuire, & Shaw, 2002; Getzel & McManus, 2005; Wagner et al., 2005). Under the Americans With Disabilities Act (ADA, 1990), a student needing accommodations must self-disclose the presence of a disability to a postsecondary disability support services office and provide proper documentation, which may include current assessments, accommodations that have worked in the past, and how the disability impacts the ability to learn and study effectively in a postsecondary education setting. This responsibility of self-disclosure and self-advocacy requires many college students with disabilities to abruptly adapt to a new set of challenges in managing their academic program along with managing their accommodations (Brinkerhoff et al., 2002; Getzel & McManus, 2005; Gil, 2007). As a result, school district IEP committee members must understand and promote not only the acquisition of grade-level skills for students with disabilities, but also the development of self-advocacy and self-determination skills for students with disabilities during the middle and high school years in both school- and work-based settings (Cobb & Alwell, 2009; Gil, 2007). Additionally, IEP committee members and college disability support service personnel need to stay informed of the research on postsecondary outcomes for students with VI so that high school transition programs and college support services can be tailored to address the specific needs of students with VI. For example, Nagle (2001) reported that the best transition services for youth with VI include collaboration among agencies providing services, vocational assessment, vocational and social skills training, career education, paid work experience, and family involvement. Similarly, the research of Test et al. (2009) used correlational literature to identify the following evidence-based practices for improving the post-school educational outcomes for students with disabilities: career awareness, inclusion in general education, interagency collaboration, occupational courses, paid employment or work experience, self-advocacy and self-determination, self-care independent living skills, student support, social skills, transition program, and vocational education.

Despite the evidence that with proper supports and accommodations, VI often do not hamper the academic performance of youth during high school and into college, youth with VI are 21% less likely to be employed than youth with learning disabilities, and their impairments can severely limit some kinds of employment options, even among college-educated youth with VI (Wagner et al., 2005). It is imperative to continue the investigation of secondary-level programs and practices that lead to improved post-school outcomes for youth with disabilities (Wagner et al., 2006). More specifically, research is needed that describes the transition services and experiences that students with VI report as facilitating their postsecondary education success and bachelor's degree completion.

This study involved two students with VI. The purpose of this study was threefold: (a) to give dual perspectives on the transition experiences, perceptions, and challenges of two students with VI who successfully completed a bachelor's degree; (b) to add practical significance to the research on transition variables (student characteristics and services) that facilitated college degree completion for two students with VI; and (c) to contribute to the literature the personal reflections of transition services and experiences that the students received and found meaningful in preparing them for postsecondary education success.

Method

Purposeful sampling was used for the identification and selection of information-rich participants related to the phenomenon of interest (Creswell & Plano Clark, 2011; Palinkas et al., 2013). Both participants were graduates from programs within the researchers' university department and received services from the university's disability support services office during their pursuit of a bachelor's degree. The purposeful sampling strategy has been determined useful when selected participants are available and willing to participate to communicate their experiences and opinions about the area of interest in an articulate, receptive, and reflective manner (Bernard, 2002). Interviews were conducted using a video-conferencing tool and a standardized open-ended interview format to obtain

information and pose probes in response to each participant's recounts (Turner, 2010). The video-conferencing tool was utilized due to the participants being relocated across the state after college degree completion and to allow the researchers the opportunity to recognize and incorporate social cues in the interviews (Opdenakker, 2006). These firsthand recounts on the applicability and meaningfulness of transition services might not have been portrayed otherwise, had the participants not been given the opportunity to express their thoughts and opinions in their own words, thereby providing insights from students with VI who were the direct recipients of transition services.

Procedure

The research notification, request for participation, and consent were conducted by email confirmation. Prior to the interview, transition questions were provided electronically to the participants to afford them time to recall previously provided transition services and experiences. In order to develop accurate and meaningful interview questions that elicited comprehensive information about the components of each participant's transition services, a review of federal rules and regulations and state administrative and education codes mandated for the education of students who are blind or visually impaired was conducted. Also, a review of the literature identified evidence-based practices for improved post-school education outcomes for individuals with disabilities. From these sources, an overlap analysis was conducted and the following key transition components were identified: access to the general education curriculum, career awareness and education, support provided by agency representatives, self-advocacy and self-determination, independent living, social interaction skills, recreation and leisure, and paid employment or work experiences. The interview questions were developed and critiqued for clarity and content by the researchers. Interviews were conducted individually with each participant and in two online video conferencing sessions. Interview one (nine questions) asked about specific goals and objectives and experiences that occurred during the participant's high school transition in the areas of career awareness; self-advocacy and self-determination; social experiences and recreation and leisure activities; independent living; and agency services. The participants were also asked about support systems that may have helped or encouraged them to attain their goals followed by the opportunity to provide any additional information regarding their high school transition experiences. Interview two (13 questions) asked about postsecondary participant competencies that facilitated the maintenance of previously learned transition skills; the development of new skills; as well as experiences related to self-disclosure and accommodations, overcoming obstacles, independent living, recreation and leisure, and meaningful relationships. Participants were encouraged to expound on information related to the research questions or any other area they felt facilitated graduation from college. Each interview session lasted approximately 75 minutes and was recorded.

The interviews were conducted by experienced faculty from the university's special education program. At the beginning of the interview, the participant was welcomed and given statements explaining informed consent and requesting permission to conduct and record the interview. One researcher served as the primary facilitator by asking the interview questions, probing for additional information as appropriate, and ensuring adherence to the established protocol. The second researcher took detailed notes throughout the interview. Notes generated during the interview were later expanded using the audio transcriptions. Transcripts were generated from the recorded interviews. The two researchers independently analyzed the transcripts and determined an inventory of topics that were similar or different between the participants' responses. The transcripts were then coded to summarize and sort responses according to transition categories that facilitated the participants' college degree completion. This project was approved by the university's Institutional Review Board for the protection of human subjects before the participants were selected.

Participants

Participant one was a Hispanic male student that is functionally blind. He was identified with VI at birth and received early childhood intervention services followed by special education and related services pre-kindergarten through Grade 12. He began his postsecondary education career at a two-year college. He received accommodations through the pursuit of his bachelor's degree and graduate degree. Audio recorded material was his preferred reading medium. He earned a Bachelor of Science in rehabilitative services and is currently pursuing a master's degree in rehabilitative services.

Participant two was a White female student that is functionally blind. She acquired a VI shortly after birth and received early childhood intervention services followed by special education and related services pre-kindergarten through Grade 12. She began her postsecondary education career at a university. She received accommodations through the pursuit of her bachelor's degree. Audio recorded material was

her preferred reading medium. She earned a bachelor's degree in interdisciplinary services with emphasis in special education and teaching students with VI. She is currently seeking employment.

Results

Access to the General Education and Expanded Core Curriculum

The secondary IEP and transition plans for both participants included general education coursework, direct instruction from a teacher for the visually impaired (TVI), and services from a counselor from the state agency's division for blind services. Both participants felt that the state residential school for the blind provided them with the most useful and meaningful education due to instruction in the expanded core curriculum which are the areas specific to blindness (i.e., living independently, how to use the vision you have effectively, using assistive technology, career exploration, and fitness and recreation).

Participant one spent his Grade 9 and Grade 12 years at a public high school and Grade 10 and Grade 11 years at the state residential school for the blind. He expressed frustration with the lack of comparable instruction and assistive technology supports provided between the public school education program and state residential school for the blind education program. Participant one stated,

> Upon my return to public school for my senior year, I spent the first six weeks with my head on my desk because I had no assistive technology support or books in Braille. I was promised comparable services and supports by the IEP committee members.

Participant two studied entirely at her local public school. During the summer, she was provided short-term stays and two-day camps at the state residential school for the blind. Participant two expressed a degree of dissatisfaction with the alternating assistive technology and instruction provided to her from the public school TVIs. For example, during her elementary school years she was taught to use Braille. Then upon entry to junior high, she experienced an abrupt change to print which was based on the current TVI's training and theory that students need to be taught to use what vision they have more efficiently. While being aware of her need for Braille and other technologies, her self-advocacy skills were not developed to the point where she could question the TVI's assistive technology decisions and advocate for her need of Braille and other technologies. Participant two stated,

> I knew print wasn't right for me. My vision while trying to take the state test in print was horrible. I knew I needed more Braille, more audio, and less print.

In high school, a reintroduction to Braille occurred; however, it was unsuccessful due to the last several years of print-based instruction. Participant two reported that the alternating back and forth between technologies complicated her learning experience. Fortunately, in high school she learned about Job Access with Speech (JAWS) which is a text to speech software. She continued to use JAWS throughout her college coursework.

Career Awareness and Vocational Education

For both participants, career awareness was developed through instruction from a public school TVI, the state residential school for the blind, and a state vocational rehabilitation training center. The vocational rehabilitation training program was part of a postsecondary transition experience for adults with VI. The length of stay was approximately nine months for both participants, and the emphasis of this training was to further the development of independent living skills and provide career exploration and guidance. In the university setting, neither participant chose to utilize the university's career services despite recommendations from the office of disability support services. Participant one stated,

> I was encouraged to use the university's career services, but I thought they would not be able to help me based on what I perceived as their lack of disability awareness. I don't really have anything to base that on. Maybe career services could have helped me.

Agency Collaboration and Support Systems

Interview discussions with both participants made apparent that interagency collaboration occurred between four agencies. A review of the information found that both participants received assistance and interagency collaboration from the staff of four agencies: a TVI from the public high school, a counselor from the state agency's division for blind services, a state residential school for the blind, and a vocational rehabilitation training center for adults with VI.

Both participants shared stories of meaningful relationships with family members; school faculty (public, residential, and university); and counselors from the state agency's division for blind services who encouraged their development and independence at each stage of transition. Specific instances

of support recalled by participant one included high school IEP meeting attendance by a counselor from the state agency's division for blind services. This same counselor also supported his transition to the university setting by talking with the university disability office regarding his accommodation needs. From these experiences, he learned how to explain his case in an organized manner and advocate for his needs. A defining moment regarding his ability to be successful in the pursuit of his degree occurred with an English professor that held high expectations for his students. Participant one described this professor as "old school" and very demanding. He was not doing well in his class, so he visited the professor's office and they talked about literature and the class assignments. After getting to know this English professor, his expectations and taking another class from him, he earned an A on an assignment, and the professor asked if he could keep it. Participant one recalled, "When this professor asked to keep my paper, it was a true turning point for me. I realized I could really pursue a college degree, and I could experience success in college."

Participant two also recalled meaningful relationships with school faculty that held high academic expectations and developed her academic confidence and competence. In high school, she valued the support and friendship provided by a special education high school director that taught content mastery and attended her IEP meetings. Her high school math teacher was excited to know she was going to college and devoted months of after school instruction using all kinds of manipulatives so that she could pass the state high school exit-level math test. Participant two also reported benefiting from a challenging English teacher that required a lengthy research paper. Participant two stated, "She did not cut me any slack. She told me she believed in my work and empowered me by not treating me as something less than my peers."

Self-Advocacy and Self-Determination

Both participants talked about the evolution of their self-advocacy skills. During high school, supported self-advocacy learning opportunities were provided to the participants in IEP meetings. For Participant one, circumstances necessitated the rapid development of self-advocacy skills due to family members not being able to provide advocacy support during his high school years. Personnel at three well-informed organizations aided the development of his self-advocacy skills: an advocacy organization, a counselor from a state agency's division for blind services, and personnel from a state residential school for the blind. Participant two reported IEP meeting self-advocacy support from her grandfather and guidance from a caring high school program director. Additionally, her grandfather encouraged her take on more responsibility in being informed of and managing her health-related issues.

While in the university setting, both participants shared stories of facing academic and attitudinal barriers when requesting accommodations. True to the literature, both participants reported struggles in securing basic accommodations, such as providing electronic texts or accessible notifications for students who are visually impaired. They described taking courses from instructors who were not knowledgeable in providing accessible course content to meet their assignment needs in the same time frame as for their nondisabled peers. These experiences necessitated continued self-advocacy and diligence in working with the university's disability support services to secure accessible course materials. Participant one stated,

> When I would get home, I would figure out that the assignment was not accessible. I was having multiple incidences with assignments not being accessible online. I was also given printed information that was not accessible, despite my requests for accessible course material.

Participant two's self-advocacy skill development intensified in high school. Through IEP meeting attendance, she was taught how to speak up for her needs. With regards to her health issues and doctor's appointments, her grandfather started having her take over this responsibility by making her ask the doctors questions about her health and vision, and her grandfather would just listen. The most challenging self-advocacy tasks throughout college were dealing with professors to secure accessible course materials. On more than one occasion, she had to explain to her professors that they were required by law to fulfill her accommodation needs. She needed books on tape, or she would utilize a reader. She emphasized that it was hard to schedule with readers because they weren't always available. Participant two recalls a successful self-advocacy accommodation experience,

> While taking a college math class, I was losing ability to see print. I had to talk to my math professor about doing tests orally in her office or using a reader. She was open to it, and I did my whole college algebra orally and made a B.

Independent Living Skills

When appropriate, transition programs are to include training that develops a student's ability to live independently and participate in the community (U.S. Code, 2016, § 300.43). Both participants reported high school training on independent living skills, with the most meaningful experiences occurring at the state residential school for blind (i.e., how to wash clothes, self-care, cane skills, travel, money management, requesting shoppers' assistance, and working with employers). The state school for the blind also provided opportunities for the participants to develop their recreation and leisure skills through community service work and regular social outings. Although campus travel became second nature, a recurring obstacle for both participants was managing the city's mass transit services.

Cleaning. In college, cleaning tasks could be both challenging and time consuming for the participants. For example, Participant one needed assistance in developing a system for washing his clothes and separating his white clothes from his dark clothes. He also needed someone he could trust to let him know which articles of clothing had permanent stains and which did not have stains. He learned this the hard way when one of his young nephews came to visit and needed to borrow a clean shirt. Participant one recalled,

> When one of my young nephews came to stay with me and need a clean shirt, I said here you can wear this shirt and he said well it has a big stain on it. I thought, why didn't somebody tell me this before when I wore the shirt?

Participant two remembered challenges related to completing daily living tasks due to having to walk and down stairs. She also had a guide dog that she needed to make sure received plenty of work and care.

Shopping. Both participants utilized shopping assistance to purchase items needed for daily living. Sometimes it could take as long as 30 minutes to receive this assistance and then explicit instruction had to be given to the shoppers' assistant to make them understand what items were needed. For example, Participant two learned to ask specific questions to make sure the fruit she was purchasing was fresh or the item was the right size. She stressed that if she assumed these things, incorrect or random items could be put in her cart. Navigating transportation to and from the grocery store was time consuming. Participant one tended only to shop for one week's worth of groceries because he walked to and from the grocery store. Participant two would call a cab or find a person from her church who was willing to take her back and forth from the store.

Traveling. At first, traveling around the campus was a challenge for both participants. Learning where things where on the campus became easier for Participant one, especially after all the university construction stopped. He eventually learned the campus so well that he could give guided tours to prospective university students. Participant two, while confident in her orientation and mobility (O &M) training, requested O&M services from the university's disability support services office to become familiar with the campus. Off-campus transportation was reported to take up a lot of time in the participants' day. The city's bus schedule was described as unreliable due to the bus showing up early or late. Participant two reported that whether it was a cab or paratransit, she was always waiting for some form of transportation. On a number of occasions, Participant one could not wait for the bus due to school internship responsibilities so he would just end up walking to the campus.

Social Interaction

In the public school setting, both participants talked about a TVI providing them with social skills learning experiences, such as requesting assistance in the community and determining and learning replacement behaviors for blindism behaviors (e.g., eye pressing or rocking). Participation in the high school band was also reported by both participants. Participant one was on the school's wrestling team. These experiences, although not direct in social skills instruction, afforded the participants with opportunities to develop social skills competencies with peers.

Both participants reported increased participation in social activities while attending a state residential school for the blind. Due to the state school's expertise, residential nature, and specialized training for students with VI, the participants had more resources (e.g., recreation center) and training in the expanded core curriculum that included service projects, community outings, and weekend activities. Participant two valued the relationships she developed with other individuals with VI and the easy access to videos with audio descriptions.

On the university campus, both participants reported decreased opportunities for social interactions. Participant one expressed concerns about inaccessible student organization activities. This barrier required the use of his self-advocacy skills on numerous occasions. Participant 1 reported that often he was the only person with an apparent disability in an organization, or in an activity, or in a position of leadership.

He was not able to participate in some student activities because they were not accessible. Sometimes he didn't even know there was an event going on, because he could not see that there was a flyer posted on the bulletin board. Participant one felt he burned some bridges with people as a result of his advocacy. Participant one also observed that many students with VI did not possess the social skills and confidence to engage in university student activities. Participant two demonstrated this concern when faced with rejection from a student government association and as result decreased her efforts to get involved in other student activities. Participant two stated,

> One setback is that I applied for the student government association. I wrote a paper and filled out an application. I found out from my roommate that, because of my blindness, they didn't want to interview me. That was hard for me, and I just kind of dropped it, but it hurt my self-esteem. I didn't try hard to look for other stuff to join after that experience.

Internship and Work Experiences

Both participants had college internship work experience opportunities. Participant one had three college internship or work experiences and reported learning valuable lessons at each of the placements that facilitated developing his coping skills, self-initiating work tasks, educating his supervisor on his accommodation needs, and providing evidence to the supervisor about his ability to complete job tasks with accommodations. Participant one stated,

> My supervisor didn't have much for me to do, and so at first she was hesitant to have me intern the entire day. So, I found work to do, because I didn't want her to see me wasting time. The supervisor was not as resistant at me being there by the time I left.

Participant two had teaching field-experience hours in a public school setting and a student-teaching experience in a state residential school for the blind. As part of her teaching field- experience, one of her professors in special education arranged for her to observe in a public school elementary classroom for students with VI. This site was chosen because the teacher herself also had a visual impairment. In addition to providing Participant two with teacher training, this teacher also shared stories about how she had to advocate for herself to secure and maintain employment. Participant two stated,

> My public school field experience teacher understood my disability and assigned me work tasks that I could complete (i.e., creating alphabet study or flash cards using a braille typewriter called a Brailler) and strategies for working with the VI students and my learning to move about the campus.

The student-teaching experience for Participant two was more accommodating with respect to her disability due to the state residential school for the blind being accessible for both clients and employees with VI. During the student-teaching experience, student summary sheets had to be made accessible. She also realized that in a future job situation, she needed more skill development in the areas of organization, time management, and classroom management.

Discussion

Both university graduates with VI reported having transition services, supports, or experiences identified by the research as having improved postsecondary education outcomes for students with VI. While the degree of transition services and supports varied for each of the participants, the outcome was the successful completion of a bachelor's degree. Specifically, both participants received transition services that included access to the general education and expanded core curricula; agency support and inter-agency collaboration; self-advocacy and self-determination development; independent living skills; social interaction; career and vocational awareness; support systems that included family, school and agency personnel; and internship experiences.

The evidence-based practice of agency support was exemplified by both participants throughout high school and then again through interagency collaboration during transitions to postsecondary education settings (Nagle, 2001; Test et al., 2009). Both participants benefited from guidance and support from a representative from the state agency's division for blind services with respect to self-disclosure and requesting accommodations from college disability support services. This agency support coupled with previous training in self-advocacy helped minimize the participant's abrupt adaptation to postsecondary education challenges and managing their accommodations (Brinkerhoff et al., 2002; Getzel & McManus, 2005; Gil, 2007).

The participants' comprehensive transition plans included the evidence-based practices of access to the general education curriculum (Test et al., 2009) and instruction in the expanded core curriculum (Hatlen,

1996). While these curricula were provided to the participants, in both the public school and college settings the participants encountered barriers to accessing either the general education curriculum and/or college course curriculum. This example supports the findings of Pingry-O'Neill, Markward, and French (2012) that students with disabilities will encounter more attitudinal and physical barriers while attending college than students without disabilities. The lack of assessable course material required both participants to utilize the self-advocacy training skills taught in high school and mandated by federal and state rules and recommended by Getzel et al. (2004).

Due to the accommodation delays experienced by both participants, disability support services offices need to be strong advocates for students who need readers or publisher books on tape. An evaluation of the schedule of availability for providing readers consistently across a broad spectrum of high-need times should be conducted so that these services are streamlined for students with disabilities. Proactive strategies also need to be developed so publisher books on tape are readily accessible to students, thereby affording students with VI the opportunity to keep up with reading assignments and participate in class discussions the same as their nondisabled peers.

Next, inaccessible course material suggests that postsecondary faculty members need training on how to meet the accommodation needs of students with disabilities as well as fulfilling their legal responsibilities. The office of disability support services could play a key role in the development of this training while informing faculty of the office's ability to provide accessibility information and supports. The creation of online accessibility training is recommended. This training would need to be supported by the institution through a recurring annual or biannual training mandate. Recurring training would strengthen accessibility awareness among faculty and stress the importance of this mandate like other current training mandates (i.e., security awareness, training, and training on employment discrimination and sexual harassment).

Based on the participant reports, the instruction and efforts of skilled VI professionals provided the participants with individualized training and support in assistive technology, independent living skills, orientation and mobility, and education on postsecondary rights and responsibilities regarding self-disclosure and access to accommodations (ADA, 1990; Hatlen, 1996). This information implies that special education professionals in the public and state school systems were knowledgeable of the law and research for improved postsecondary outcomes and were working diligently to provide appropriate transition programs and services that boosted the potential for a student with VI to complete a college degree. The services and supports received from TVIs at the state residential school for the blind and a counselor from the state agency's division of blind services were held in higher regard with respect to the role each played in imparting the participants with the necessary knowledge and skills for independent living and college degree completion. This information emphasizes the continued need for state agencies to participate in the transition programs for students with VI, from the earliest ages through postsecondary education. Also, in recognition of the significant contributions of these state agencies in the facilitation of student transition and postsecondary education outcomes, public school TVIs and other special-education-related service personnel should scrutinize and then advocate for specific evidence-based services and supports provided by the state residential school for the blind and division of blind services to be replicated for students with VI in the public school district setting.

A recurring obstacle for both participants was managing the city's mass transit services. This obstacle supports the findings of Crudden, Sansing, and Butler (2005) that transportation, especially in rural areas, was a major problem for those with limited mobility skills. Many postsecondary institutions already provide on-campus bus services to all students. These institutions may wish to consider weekly or biweekly bus services for shopping excursions, which would benefit all students and especially those with VI and limited mobility. It follows that students with VI or mobility needs would benefit from housing on the ground floor to more easily complete daily living tasks such as unloading purchased goods, managing laundry needs, or caring for a service animal.

At the postsecondary level, the participants lacked education and experience in utilizing support services designed for all students (i.e., counseling and career services). Perhaps this was because the participants had been trained to and always had access to special education supports. The utilization of counseling services might have helped Participant two work through her feelings of rejection by a student organization and to have the confidence to move forward in seeking out other student activities or organizations to join. This rejection example supports the findings of Pingry-O'Neill et al. (2012) that students with disabilities will encounter more attitudinal and physical barriers while attending college than students without disabilities.

Participant one's recount of internship supervisor bias and his strategies to prove his productivity

exemplify the findings of McDonnall, O'Mally, and Crudden (2014) who found that 67% of the employers in their study could not identify how employees with VI could use accommodations to perform routine job tasks, and that employers with greater levels of knowledge also had more positive attitudes towards persons with VI as employees. Neither participant reported using the university's career services office. This is especially disconcerting given the findings that youth with VI are 21% less likely to be employed than youth with learning disabilities, and their impairments can severely limit some kinds of employment options, even among college-educated youth with VI (Wagner et al., 2005). The findings that students with VI will encounter barriers to employment emphasize the need for students with VI to seek the expertise and guidance of a career counselor who can help them explore careers based on their interests, abilities, and values. Participant two expressed concern that she did not have the skills necessary for classroom management, which is integral to teaching. A career counselor can help students make informed decisions about the competencies and expectations of their career interests, giving them realistic insight into their ability to fulfill job duties and responsibilities. Participant one needed accurate information about the services provided by career services to dispel his belief that these services lacked disability awareness and were best utilized by his nondisabled peers. Career services could have provided Participant one with knowledge on how to search for jobs in his chosen career field, helping him prepare a quality resume, and improving his interview skills. The disability support services offices in postsecondary institutions can address this perceived lack of usefulness of services provided to all students by educating students on available university supports and encouraging students with disabilities to utilize these services for appropriate needs. The utilization of career service resources would have provided both currently unemployed participants with one more avenue in which to seek employment.

Limitations of the Study

Factors that limit the generalizability of the results include the following:

1. Only the participant's primary disability was identified as the focus of transition services.
2. Information from the participants was based on recall of transition services received in high school and postsecondary education.

Delimitations of the Study

Boundaries that were set by the researchers include the following.

1. The sample size (N = 2). A small sample size was used due to purposeful sampling.
2. The purposeful sampling strategy was used instead of the random selection of participants. The purposeful sampling strategy has been determined useful when selected participants are available and willing to participate to communicate their experiences and opinions about the area of interest in an articulate, receptive, and reflective.

Directions for Future Research

Participants' responses regarding post school employment indicate that even with assistance from community-based agencies, securing employment is complex, with logistical barriers that have not been resolved. Participant one did not secure full-time employment after the completion of his bachelor's degree and is currently seeking a graduate degree as a rehabilitation counselor. Participant two has diligently tried but not succeeded in finding full-time work in her field and is considering pursuing a master's degree. The current plight of the participants supports the research of Cavenaugh (2011) and Giesen and Cavenaugh (2012) that transition to employment is still particularly difficult for most adults with VI, even for those with a postsecondary education. Dowrick et al. (2005) suggested that specific job training and placement could help students with disabilities find competitive employment after completing a college degree and increase the likelihood for a start on a trajectory of success. Future research is needed on the impact of factors such as job placement and employers' willingness to redesign tasks to increase the likelihood of success for employees with VI.

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