SILENT VOICES: THE EXPERIENCES OF DEAF STUDENTS IN COMMUNITY COLLEGE

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Most students with hearing loss attend community college, yet very little research on this population of students exists in higher education. This dissertation is one of the first to explore the experiences of mainstreamed d/Deaf students in community college. This research was conducted in order to gain a better understanding of how students who are d/Deaf interact navigate the mainstream postsecondary environment. Purposeful sampling was used to gather data from 19 individuals who attended postsecondary institutions not designed specifically for d/Deaf students. These participants were enrolled in an urban community college district in the southwestern U.S. and were receiving accommodations from their campus accessibility office.

The sample included six Black females, one Black male, five Latinos, three Latinas, two White males, one White female, and two females who identified as multiracial. Data were collected through 30-60 minute semi-structured interviews in American Sign Language or spoken English, and a brief demographic survey. The interviews conducted in American Sign Language were then interpreted into English; one participant did not know ASL, and relied on oral communication. The theoretical framework of this study was Bronfenbrenner’s ecological theory. Individual development does not occur inside a vacuum; utilizing this theory allows for the analysis of how a student interacts with his or her environment, and how the environment affects the student.

Findings from this study provide insight on participants’ reasons for enrolling in college, their perception of academic rigor as compared to high school, and familial support during their
college experience. Participants reported financial difficulty, despite their utilization of the state’s tuition waiver program for students with hearing loss. The need for communication access, and especially the quality and quantity of sign language interpreters featured prominently in participant responses. Participants also expressed a desire for more interaction between students with hearing loss and the general college population. Finally, participants shared their perceptions of the campus accessibility office and the individuals within it, campus administrative support, and their experiences with teachers and classmates. The results from this study help shed light on the experience of d/Deaf students in community college and provide insight on how to facilitate their success in postsecondary education. The author provides recommended practices for campus accessibility offices to adopt in order to effectively serve this student population, including specialized orientation for students and instructors, specialized advising, utilization of student feedback, and increasing campus and community awareness of services offered.
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by

Serena Gail Johnson
I want to thank God for giving me the ability and desire to complete this dissertation. I’m not sure what’s in store for me in the future, but I know this was part of your plan. Special thanks to my family, who put up with me complaining through much of this process. Mom, thanks for being my editor. The quick turnarounds were much appreciated. Dad, thanks for always encouraging me to keep going every time I wanted to give up. Cameron, thanks for making sure my head didn’t get too big. To my church family, thanks for your all your prayers. I couldn’t have done this without you.

To the Deaf Action Center (especially Susan, Tuncer, Heather, Darryl and Esther), thanks so much for putting up with a summer high school volunteer who wanted to learn sign language. Bet you didn’t think you’d never be able to get rid of me, did you? To the Deaf in the DFW area, thank you so much for allowing me to be a part of your wonderful community. I appreciate the opportunity to work beside you as we educate the hearing world and eliminate barriers for Deaf and hard of hearing folks.

Finally, this dissertation would not have been possible without the financial support of the Gates Millennium Scholars Program. Special thanks to Bill and Melinda Gates for providing the endowment and granting me the opportunity to achieve this goal, warmest wishes to my fellow Scholars on their educational journeys, and my appreciation to the various GMS staff members who have helped me throughout this process.
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STUDENTS WITH HEARING LOSS’ PERCEPTIONS OF CAMPUS ADMINISTRATIVE SUPPORT

Introduction

More than 35 million people, or 11% of the population in the United States, have some sort of hearing loss, and over one million of these individuals rely on government financial support such as Social Security for their livelihood (Kochkin, 2009; Mitchell, 2005; Weathers et al., 2007). There is a definite financial impact when students with disabilities fail to receive a college degree. Educational achievement is one of the most effective means for individuals with disabilities to achieve financial independence and equality (Fike & Fike, 2008; Quick, Lehmann, & Deniston, 2003). Research indicates that when individuals with hearing loss receive a postsecondary education, their chances of gaining employment improve (Weathers et al., 2007). Studies of d/Deaf1 students in higher education show that those with more education also have higher incomes and lower rates of reliance on Social Security programs such as Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI) (Foster & Walter, 1992; Luckner & Handley, 2008; Porchea, Allen, Robbins, & Phelps, 2010; Weathers et al., 2007).

Community college is a logical and frequent choice for d/Deaf students because of the open door policy and the vocational programs community colleges offer (Barnett & Li, 1997; Daniels, 2003; Menchel, 1995). Research by the Postsecondary Education Programs Network (Watson, Schroedel, Kolvitz, DeCaro, & Kavin, 2007) estimates more than 400,000 students with hearing loss attend college, and the National Center for Education Statistics (NCES) (Raue

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1 In keeping with scholarly practice, the term “d/Deaf” is used throughout this article in reference to include all students with hearing loss in order to be inclusive of those in the Deaf community.
&Lewis, 2011) indicates 90% of all 2-year institutions and 92% of all 4-year institutions enroll students with hearing loss. The majority of these students (61%) are enrolled at 2-year institutions, with the remainder in 4-year colleges and universities (Lewis & Farris, 1994). Even with the access colleges and universities provide to those with disabilities, many drop out of college or fail to thrive in a postsecondary environment (Quick, Lehmann, & Densiton, 2003).

Access and Accommodations

For most deaf students, the first step in their access to education at the postsecondary level, is accommodations. If colleges do not provide these support services “very few deaf students will benefit from the available educational opportunities” (Khan, 1991, p. 17). Accommodations for students with more severe hearing loss might include sign language interpreters. For other students, assistive listening devices and Communication Access Realtime Translation (CART)—a system that provides live captioning on a laptop or other small screen—serve as options (Cawthon, Nichols, & Collier, 2009). Such accommodations make up a vital part of student success because without them, students with hearing loss might not fully participate in their education like their peers (Porter, Camerlengo, DePuye & Sommer, 1999). Those in the field of education frequently assume accommodations like note takers and sign language interpreters provide deaf students with enough support, but this is often not the case (Foster, Long & Snell, 1999). The students’ physical proximity to and participation in an educational program represents only the first step in their inclusion for instruction.

Kahn (1991) states “true access to [postsecondary] programs for deaf persons must include the availability of a wide range of specialized support services” like note takers, tutors who know American Sign Language, and CART (p. 17). However, access to manual (signed)
communication and other accommodations does not represent the sole reason for student success, or lack thereof, in educational settings. Experts in the field of d/Deaf education caution against educators and administrators assuming the provision of accommodations such as sign language interpreters will result in student success for those with hearing loss (Foster et al., 1999; Kahn, 1991; Marschark, Sapere, Convertino, & Seewagen, 2005; Marschark et al., 2006; Walter, 1987).

Institutional Responsibility

Some researchers have suggested the responsibility for student success rests on the institution rather than the student (Albertini, Kelly, & Matchett, 2011) and instruction that is learner focused (e.g., collaborative learning experiences and group work) and not instructor focused (e.g., lectures) is more beneficial for students with hearing loss and other at risk groups (Barnett, 2011; Dowaliby & Lang, 1999; Lombardi, Gerdes, & Murray, 2011; Richardson, Marschark, Sarchet, & Sapere, 2010; Saur et al., 1987). Many academic programs are based upon traditional student models, and might prevent students who do not fit that description from fully participating in the academic and social life of a campus (Philibert, Allen, & Elleven, 2008). The needs of these students may not be met by current institutional practices, so it is important for the faculty and administration to understand the student population and work to provide them with tools for success (Philibert et al., 2008; Quick et al., 2003). These findings have been supported for students with hearing loss. Kennedy’s (2008) research suggests for d/Deaf and hard of hearing students, the institution represents an integral part of students overcoming their challenges. In light of this, research on the student perspectives of
administrative supports such as the provision of accommodations and the campus accessibility office is warranted.

**Campus Accessibility Office**

Each college has a campus accessibility office, (CAO) which is responsible for provision of necessary accommodations for all students with disabilities. The law fails to articulate the manner in which the accommodations should be provided, so such details are at the discretion of each institution. The extent of coordination for accessibility services is left to each college, and it depends largely on the size and financial means of the institution. The number of students with disabilities on a campus has little or nothing to do with what kind or how many accommodations the college or university is required to provide (Wilson, Getzel, & Brown, 2000). Students’ needs and requests undergo review on an individual basis, and that process differs by institution, but each student must provide documentation regarding his or her disability by an appropriate medical professional. The CAO serves as the gateway for many students with hearing loss’ college experience, since the CAO and individuals in it often control accommodations such as interpreter choice. This study examined students’ with hearing loss perceptions of campus programs for students with hearing loss and accommodations provided by their institutions.

**Methods**

Because this study explored certain aspects the experiences of deaf students in community college, qualitative techniques were appropriate. Qualitative research allows participants to explain the world around them and their view of themselves in it (Merriam, 2009). Creswell (2009) indicates the human experience is an essential aspect of
phenomenology, and allows for these experiences to be described by the participants. The deaf community contains great diversity, and deaf students have a unique perspective on their hearing loss and the culture resulting from the use of sign language (Ladd, 2003; Padden & Humphries, 1988). This investigation examined the meaning of the deaf experience at a community college from the student perspective. Upon receiving IRB approval, I conducted semi-structured hour long interviews. Students were given an opportunity to expand on the questions at their discretion. I interviewed 19 students, to ensure saturation was reached. These interviews took place in American Sign Language and were videotaped, and students received $20 in compensation for their participation.

Site

Table 1

_Campus Population Breakdown_

<table>
<thead>
<tr>
<th>Campus Name</th>
<th>Campus Population</th>
<th>Deaf Population</th>
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<tbody>
<tr>
<td>Excelsior College</td>
<td>11,381</td>
<td>20</td>
</tr>
<tr>
<td>Ravenwood College</td>
<td>20,053</td>
<td>20</td>
</tr>
<tr>
<td>Edebrook College</td>
<td>14,375</td>
<td>28</td>
</tr>
<tr>
<td>Carver Campus</td>
<td>6,478</td>
<td>8</td>
</tr>
<tr>
<td>Napier College</td>
<td>11,714</td>
<td>11</td>
</tr>
<tr>
<td>Thayer College</td>
<td>11,690</td>
<td>14</td>
</tr>
</tbody>
</table>

Because the research shows that a significant portion of deaf students enroll in community colleges, individual interviews with deaf students currently enrolled in community college were conducted in an urban district in the southwest region of the country, where deaf students attend college with hearing students. This site was chosen because of my access to the population as a sign language interpreter, and because deaf people, like other minorities, tend
to live in more urban than rural areas (Padden & Humphries, 1988). Urban Community College District has seven affiliated campuses, with a total of nearly 75,000 students.

Sample

For the purposes of this study, I looked for deaf students who a) were enrolled in community college b) self-identified as having hearing loss c) were receiving communication support services from their college’s campus accessibility office or its equivalent. I recruited both d/Deaf and hard of hearing individuals to gain as broad a perspective of the experiences of students with hearing loss in community college as possible. Purposeful sampling was utilized to identify deaf students in an urban community college district. I utilized personal contacts within the Deaf community to identify potential participants and asked those interviewed to identify other optional participants. In addition, I posted a flyer onto a Deaf listserv.

Findings

Campus Administrative Support

Students reported interacting most frequently with an advisor or interpreter coordinator in the CAO and that most CAOs ensured they received the proper accommodations, but did little else. Of note is the more extensive services offered at Napier and Excelsior.

At Napier, one individual served a dual role as the CAO advisor and interpreter for students with hearing loss. This advisor had support from the dean, who attended specialized orientations with communication access for the deaf and hard of hearing students. This orientation included information about the state vocational rehabilitation program, the transition from high school to college, and self-advocacy. Students reported later utilizing the information provided during these orientation.
At Excelsior, d/Deaf students were placed in a specific English for speakers of other languages (ESOL) class with sign language interpreters and a Deaf tutor who was fluent in American Sign Language (ASL). One student who had experienced both developmental English and ESOL classes at Carver College, clearly had a preference for the latter.

I need something at a slower pace that I can understand that goes step-by-step. That's more beneficial for me. Something that helps me understand clearly step-by-step, that's what I need. ESOL class where they take you through the English and explain it to you is a lot better than the developmental classes that I have taken in the past..... I would recommend deaf people take the ESOL classes because they'll help you so much more with your English development. They'll help you with your writing and all of that much better than the developmental classes. Because the developmental classes, you just go in. You immediately start doing the work independently all the reading and all the writing without the explanation. You're taking that test and everything, but the ESOL class is a lot better than the developmental classes.

**Interactions with the Campus Accessibility Office**

Students reported interpreters from the CAO also acting as advisors, but participants generally did not report frequenting the office because the institutions had processes in place that made selection and provision of accommodations a relatively smooth process.

One participant said “I go [to the campus accessibility office] every once in a while...the only reason I would go there is if I needed some help with my accommodations...but usually everything is already set up at the beginning of the semester.” Another Latina enrolled in a business administration certificate program described it as “[the place] where I go for interpreters...if there’s an emergency I could go in there and ask them for help. I haven’t had to do that but I know that I could.” Others noted they frequented the CAO for various forms of assistance. One student stated,

[The advisor for deaf students] helps me find good qualified interpreters, and she makes sure that I’m comfortable in my classes. She tells teachers how to communicate with a
deaf student, what they need to do and she makes sure that the classes I’m taking are on my level. That they’re not too easy or too hard, just that they are just right for me.

Another Latina pre-education major at the same campus, also mentioned the advisor’s assistance. “She helps me register for my classes.”

Occasionally, students referred others to the CAO. One Latino had this suggestion: “My advice for a new deaf person on campus would be to talk to the deaf counselor.” His classmate went on to elaborate,

[The counselor for deaf students] helps me with knowing what tests to take, to figure out what level I’m on for the developmental classes so I know what my level is...if you need help or advice and you don’t know what to do about your class, then you need to talk to the advisor [for deaf students Jamal], and tell him “I don't like my class” or whatever.

Some students stated they also visited the CAO for direction. “I go to the disability office when I have questions and [the counselor] tells me what to do.”

However, some participants indicated that individuals in the CAO lacked understanding of specific issues related to deafness and hearing loss. For example, one student complained

You have to learn to stand up for your rights because that director of the CAO she’s clueless about deaf issues. She doesn’t know how to match all the students with interpreters to give the best fit for their needs. She literally has no clue, so you have to stand up for yourself and say hey, you know there’s the ADA. I have the right to pick which interpreter I want...I have a right to say which one matches my needs. Before she was hired on we had really good interpreters, but these last two semesters things have really gone to pieces.

A second year student also indicated that knowledge of ASL might be beneficial to those in the CAO. “I wish other people in the CAO would learn sign language, because [the advisor for deaf students] is the only one and they're working her to the bone.” However, the lack of people in the CAO who knew sign language did not seem to bother another student.
I usually communicate with the people in the disability office by writing back and forth with them. First I tell them English is my second language before we start writing notes. So, I'll say, “Hey, you know, English is my second language so please, write in basic English.” And they’ll do that for me. They'll simplify the English so that it's easier for me to understand.

One student who was a single mother of two, wanted more contact with the staff in the CAO.

I think the CAO should interact with deaf and hard of hearing students more, so that they can get to know them better. They are usually in the office and the students are in the classes, I understand that but they should have some kind of social gathering.

While most students expressed familiarity with the CAO and how it worked, an oral hard of hearing student who did not know sign language relayed his experience in with accommodations and the Accessibility Office was unaware of the resources available through the college.

Alexander: I did not know that I should not have been going to class without CART...The teacher didn't know I was hard of hearing, or that I didn't know that we had a Accessibility Office downstairs. [It] was my first time [in college]...I made a mistake, I didn't know about it. I got there [the Accessibility Office] almost the third class of this semester. I was talking to the teacher after class to see if by any chance if they can help me out. She let me know that ...we had an Accessibility Office in the basement, she said, “You should go there to see if they can help you out.”

Interviewer: What happened when you went to the Accessibility Office?
Alexander: I was surprised that we had an Accessibility Office, they helped me out and they provided me CART and all of that stuff.

Student Perspectives on Accommodations

Accommodations including interpreters and other forms of communication access like Communication Access Real-Time Translation providers and notetakers also play an integral role in the academic experience of students with hearing loss. While there are many different kinds of accommodations including amplification devices and FM systems that pipe sound directly into a user’s hearing aids, the participants from this study almost exclusively used interpreters.
Often, interpreters are the gatekeepers for students’ access to educational services, from everything to classroom lectures to academic advising sessions and meetings with financial aid counselors.

For this study’s participants, the interpreter facilitated much of the communication students have in the community college. Quality interpreters have a sufficient grasp of all aspects of American Sign Language (ASL), and accurately convey the spirit of the message being provided by both the deaf and hearing individuals using proper facial expressions and any necessary specialized vocabulary. They serve an integral role in facilitating communication between those in the d/Deaf and hearing world, since interpreters are knowledgeable of both Deaf and hearing cultures and norms and provides cultural and linguistic mediation, making any implicit information or ideas explicit when necessary. For example, if an instructor uses sarcasm, the interpreter should convey that to the individual with hearing loss, rather than simply interpreting the instructor’s words verbatim. Sign language interpreters are typically certified by a state (e.g. Board of Evaluators of Interpreters) or national agency (e.g. Registry of Interpreters for the Deaf). Because a relatively small number of hearing people are proficient in American Sign Language, qualified sign language interpreters can be difficult to obtain because their services are in high demand. Proper communication access is mandated by the American’s with Disabilities Act, but colleges sometimes have a hard time finding qualified interpreters due to budget limitations. However, without qualified interpreters, students do not have access to much of the information that occurs within their classrooms because of the hearing majority’s inability to communicate in ASL. Jennifer even went so far as to recommend her college specifically because of its interpreters.
If a deaf person is about to enter college, I would tell them to come here to this campus. Don’t go to other campuses. This campus has the best interpreters. You want to make sure that you get qualified interpreters. That’s really important.

One participant acknowledged “I communicate with my teachers through an interpreter” and another said “[the interpreter] helps me go to the financial aid office and she interprets there.” An electrician major explained, “One problem I have is like when the teacher would explain something I wouldn’t get it so I had to have the interpreter really explain it in depth, and then I was like, oh THAT’S what the teacher meant, and then I’d get it.”

Although students overall were satisfied with the skill level of their interpreters, they also acknowledged the variety that exists within the interpreting community and expressed a desire for highly qualified interpreters. A computer science major declared

I feel frustrated sometimes yea, because the interpreter doesn’t interpret correctly and I’m sitting there trying to figure out what they’re saying. Sometimes I’ll go to Google for the answer I’m looking for. We need good qualified interpreters. The good [interpreters] I like because they match my communication level but the ones who only know basic signs, well. I try to understand them but sometimes I get confused...They’ll say something really off topic, and then we’ll have to get back to the subject and keep coming back to the subject. And then I’m waiting and waiting for the teacher to answer my original question and then finally I’ll get an answer.

Another student had a similar experience to share.

Sometimes, there are misunderstandings when I sign something and they interpret it, and they have to ask me, “Hey, can you sign that again?” Sometimes they don’t understand my American Sign Language. I have a little bit of residual hearing so I can understand sometimes if they're voicing for me or not. Sometimes when I'm signing they just stop the voicing, and I'll look over and say, “Hey, why did you stop?” They'll say, “Oh, because I missed what you said. I can't understand. You're signing too fast.” Sometimes I feel like it's a waste of time and I don’t like having to repeat myself all the time. But I have to go ahead and sign it again.

Interpreter quality influenced more than just students’ classroom experiences. In fact, low quality interpreters factored significantly in students’ college decisions. A student who was in
her final semester before earning her Associate’s degree said

I didn’t like [Middlebury College] because the interpreters really sucked so I quit going there...[and] the reason I changed my major from Vet Tech to Engineering was because the interpreters there weren’t qualified or certified and they were really horrible. They didn’t know what they were talking about or how to interpret.

Despite occasional dissatisfaction with the quality of interpretation or communication style of the interpreters, students did not typically address these issues directly with the interpreters. When asked if he confronted the interpreter directly about the need to repeat himself, a student replied, “I don’t really say anything to the interpreters when they don’t understand me. I just go ahead and sign it again for them.”

Another Latino student handled the situation similarly. Rather than talking with the interpreter directly, he said “I’ll ask [a more skilled interpreter] if s/he can come interpret instead of them but if I can’t get that then I’ll just suffer through their interpretation.” One Latina student discussed how she avoided direct confrontation with interpreters as well.

If I don’t like how they’re interpreting, I don’t tell them directly but I’ll go and I’ll tell the interpreter coordinator and say ‘Hey, this interpreter isn’t working out for me,’ and the coordinator understands that. And [the advisor for deaf students] will change the interpreters for me if I need it.

Part of this reluctance to confront interpreters may have to do with the students’ understanding of the resource scarcity. One student said “We need more interpreters here. I just want a bunch of interpreters to converge on Napier. We need good qualified interpreters.” Cassie received the accommodation of a CART writer for her speech class even though she preferred a sign language interpreter because according to the campus accessibility office (CAO), “There aren’t
enough interpreters.” When asked about his transition and adjustment to college, another student cited one of the main struggles was the fact that “There weren’t enough interpreters.”

The struggle to find enough qualified interpreters also affected students’ precollege experience, which is reflected in on student’s story of her placement in high school in a class below her skill level due to the interpreter scarcity.

There were three students my age: one was in honors, I was in the middle and one was in the basic classes. When they wanted to put me in regular classes they did not have enough interpreters so they ended up putting me in the basic classes and it affected me because I was making straight 100s, the basic classes were too easy… it affected me for years until I finally told my parents that I need to be back on my level and they did finally put me at my level when I started Junior High School and that was here in [Abbyton].

This shows the importance and long-term effects that quality communication access can have on a student’s educational career. Educational institutions should make every effort to ensure that students have the proper communication access so that they are successful in the postsecondary setting. Findings from this research highlight the importance of campus accessibility offices providing qualified sign language interpreters.

Implications and Promising Practices

In light of these findings, campus accessibility offices should offer a wide range of accommodations and services to ensure the needs of their deaf and hard of hearing students are met. CAO personnel in community colleges must understand that there is no template of accommodations, even for students with hearing loss, and each must be evaluated on a case-by-case basis (McCleary-Jones, 2005). Working with the same population can cause workers in the CAO to become complacent, and believe that there might be opportunity for “one size fits all” accommodations. Being sensitive to the needs of students is important for the proper provision of student accommodations and services. One student was not aware that the
campus accessibility office existed his first semester. Privacy laws prohibit K-12 institutions from disclosing students’ disability status to their college. Therefore, the responsibility falls solely on the student to know his or her accommodation needs and provide that information to the CAO. It would be helpful for CAOs to embed the option to disclose disability information and the desire for accommodations in the information gathered after the student has applied. Components exhibited by exemplary campus accessibility offices include specialized orientation for students with hearing loss, specialized advising, soliciting and incorporating student feedback regarding services, including the campus and surrounding community in awareness about students with hearing loss and their issues, and communication access orientation for instructors (Watson et al., 2007).

Specialized Orientation

Institutions can aid in students with hearing loss acclimating to the school culture by providing a special orientation for these students. Orientation can serve an important place in helping students understand about the culture of the campus and informing them of available resources and services. An orientation is also a great opportunity to review the campus accessibility office handbook, meet CAO personnel, and assist with registration. Orientation also provides an opportunity to highlight the overall differences between high school and college which is beneficial because understanding these changes in environment is important for student success.

Additionally, students’ with hearing loss sense of self-efficacy and tendency toward self-advocacy can be supported by campus accessibility offices. Providing workshops on how to advocate for ones’ self in the educational setting could also provide students with hearing loss
the skills necessary to flourish in the among the hearing majority. Findings from this study also indicate that peers play a significant role in their college experience, typically as guides who shared knowledge and experience for adjusting to and succeeding in college, as well as social support. Because of this, a “train-the-trainer” model is recommended for campus accessibility offices which allows d/Deaf students to teach their peers tools for self-advocacy. Doing so helps to bolster the idea that “deaf can do anything except hear” and provides students with positive peer role models, further supporting the deaf students’ self-efficacy.

Specialized Advising

In addition to orientation, deaf and hard of hearing students have specialized needs that individual advising sessions may help address. Students should understand the extent and impact of their hearing loss, as well as the need for self-advocacy regarding it. During their special advising session, they should be informed of the accommodations offered by the campus. College can be an overwhelming experience, so a referral to a personal therapist might be necessary.

Utilizing Student Feedback

Student feedback is important to the success of a campus accessibility program. Soliciting and incorporating feedback shows the institution cares about the experience of the students and takes their opinions into consideration. This helps the students with hearing loss feel as if they are a part of the campus and ultimately assists with retention because services are being adjusted according to students’ expressed feedback.
Providing Campus and Community Awareness

Increasing campus and community awareness of d/Deaf issues is important for making students feel as if they are a part of the campus, and ensuring they receive the necessary services. Some individuals are not aware of available resources. Providing campus and community awareness about the assistance provided by the institution can aid in student success and retention (Watson, Schroedel, Kolvitz, DeCaro, & Kavin, 2007). It can also be beneficial for individuals who are not aware of available resources for students with hearing loss, such as Alexander, who was unaware the campus accessibility office existed until an instructor told him about it. This can be accomplished by partnering with organizations in the community that provide services to deaf and hard of hearing individuals. Institutions can also host events such as Deaf Culture week, put up deaf awareness displays, and sponsor clubs and support groups for students with hearing loss.

Communication Access Orientation

For instructors who have never worked with an interpreter or CART provider, having these service providers in the classroom may seem daunting. Faculty might not know how to properly utilize the communication access. Advance instruction about the proper interaction with interpreters and CART providers could ease anxiety and to avoid awkward situations in the classroom.

Conclusion

This study represented the first qualitative inquiry into the experience of students with hearing loss in community college. Many of the findings from this study validate and provide empirical evidence for the experience of practitioners who work primarily with students in the
d/Deaf and hard of hearing community. The aspect heretofore missing from the literature is the student perspective. While it is important to provide resources to the institutions, the students’ perception of navigating campus may open up other avenues and areas for exploration. Too often individuals in positions of power and privilege conduct research on these marginalized populations without truly taking the time to listen to and understand the population’s unique perspective.

The findings here provide some practical steps community colleges and campus accessibility offices can take to ensure they are meeting the needs of students with hearing loss. Community college enrollments continue to grow, and that includes the number of students with hearing loss enrolled at these institutions. By understanding the student experience, researchers can start to improve education outcomes for this group of marginalized individuals.

References


APPENDIX A

EXTENDED LITERATURE REVIEW
Introduction

I sat behind the curved, L-shaped office desk in the sunny entryway, absorbed in the task of inputting client names and contact hours into the spreadsheet on the screen in front of me. I heard the automatic glass door slide along its track and I glanced up, ready to greet the entering client with a friendly smile like any good receptionist. The bright sun backlit the face of the gangly young man as he entered, and I could not quite make out his features. The door slid shut behind him as he rounded the corner to face the front of the desk to wave a friendly hello, and his features came into view clearly above the counter. His hair was dark, with the tightly coiled curls cropped close to his head. Large, brown eyes were magnified by Coke-bottle thick glasses with wire rimmed frames perched atop a broad nose, full lips, and a pointed chin. We chatted for a minute, innocuous conversation about the weather (too hot), gas prices (too high) and our paychecks (too small). He asked for the pass to use the computer lab. I handed him the nicked wooden ruler and turned my attention back to my spreadsheet.

A little while later, he returned with a sheaf of papers in his left hand and handed me the ruler with his right. “What are those?” I asked, motioning toward the papers in his hand. He set them down on the counter.

“My homework,” he replied. “It’s due today.” He went on to tell me about his struggles at a local community college. This was his third time taking developmental writing, and he was afraid that if he did not pass the class this time, the Department of Assistive and Rehabilitative Services might not continue to pay for his books. I asked him about tutors, and he replied in the affirmative. He went to tutoring fairly regularly, and whenever he had papers due, but still he struggled. And so it began.
At the time I was working at a community center for the deaf, and the conversation with Donte took place entirely in American Sign Language. Having received my deaf education teacher certification for K-12 the year before, I was fascinated by the story of a young man whom I will call Donte. Here is an intelligent young man, doing his best to take advantage of all the resources on the pathway to higher education provided to him by the state, yet he was still having difficulties. That was my first introduction to the challenges of deaf students in college, and it made me wonder about the struggles other deaf students in postsecondary education experience.

Research has documented the direct and indirect benefits enjoyed by those who participate in higher education, including higher lifetime earnings, better health, and greater civic involvement (Baum & Ma, 2007; Pascarella & Terenzini, 2005). Higher education is the stepping stone for many individuals in underserved communities, including minority students and students learning English as a second language. This is particularly true for the nearly 30,000 students with hearing loss who participate in higher education (Raue & Lewis, 2011). It should be noted that both deaf and hard of hearing students are the focus of this dissertation. Throughout this study, the terms “d/Deaf students,” “students with hearing loss,” and the abbreviation “d/hh” are used to categorize both deaf and hard of hearing students for the convenience of the reader to indicate students who have been identified as having hearing loss of 25 dB or more in the better ear. Research commissioned by the Social Security Administration (SSA) has shown postsecondary education can reduce reliance on government aid (Weathers, Walter, Schley, Hennessey, Hemmeter & Burkhauser, 2007) and college graduation provides
significant economic benefit for d/Deaf students (Schley, Walter, Weathers, Hemmeter, Hennessey, & Burkhauser, 2011).

Hearing loss, higher education, and economic impact.

More than 35 million people, or 11% of the population in the United States, have some sort of hearing loss, and over one million of these individuals rely on government financial support such as Social Security for their livelihood (Kochkin, 2009; Mitchell, 2005; Weathers, et al., 2007). There is a definite financial impact when students with disabilities fail to receive a college degree. Educational achievement is one of the most effective means for individuals with disabilities to achieve financial independence and equality (Fike & Fike, 2008; Quick, Lehmann, & Deniston, 2003). Research indicates that when individuals with hearing loss receive a postsecondary education, their chances of gaining employment improve (Weathers et al., 2007). Studies of deaf students in higher education show that those with more education also have higher incomes and lower rates of reliance on Social Security programs such as Supplemental Security Income (SSI) and Social Security Disability Insurance (SSDI) (Foster & Walter, 1992; Luckner & Handley, 2008; Porchea, Allen, Robbins, & Phelps, 2010; Weathers et al., 2007).

Public institutions in Texas waive tuition for individuals who provide proof of their hearing loss by bringing an audiogram, a medical document indicating their degree of hearing loss. Community college is a logical and frequent choice for deaf students because of the open door policy and the vocational programs community colleges offer (Barnett & Li, 1997; Daniels, 2003; Menchel, 1995). Research by the National Center for Education Statistics (NCES) (Raue & Lewis, 2011) indicates 90% of all 2-year institutions and 92% of all 4-year institutions enroll
students with hearing loss. The majority of these students (61%) are enrolled at 2-year institutions, with the remainder in 4-year colleges and universities (Lewis & Farris, 1994). Even with the access colleges and universities provide to those with disabilities, many drop out of college or fail to thrive in a postsecondary environment (Quick, Lehmann, & Densiton, 2003).

**Problem statement.**

Deaf students face unique barriers to college access that prevent them from fully participating in higher education and “using the hearing population’s experience as a benchmark or standard for deaf students is problematic.” (Lukomski, 2007, p. 487). Therefore, assuming the experience of students with hearing loss is the same as the experience of students without hearing loss is unadvisable. Unlike children with visible disabilities, children with hearing loss often are not diagnosed until 24 months, and language acquisition in the first two years is critical for brain development (Schwartz, 2007). Since the first few years of a child’s life is critical to language development, this lack of access to the verbal language of the world around them creates an impoverished language background, and limits deaf students’ ability to access information and knowledge about their environment (Schmitz, 2008). This lack of communication access causes difficulties throughout the educational career of students with hearing loss (Goldstein, 2001; Kennedy, 2008; Schmitz, 2008).

Postsecondary education is extremely important now because of the increased need for workers with advanced education, more than a high school diploma. Many classes in the college setting presume a good foundation in literacy. Because of delayed language development and its subsequent negative influence on their literacy, many deaf students who enter college need remedial classes (Nickerson, 2003). Lack of skills in reading and writing
English continue to be barriers to degree completion for deaf individuals. As a result, many deaf people are placed in developmental classes when they enter college. However, research shows that developmental classes are not always successful at assisting students in completing their degrees (Paulson & Armstrong, 2010). Furthermore, research on deaf students in general shows that attrition is a problem (Foster & Walter, 1992). This research is an exploratory analysis of deaf students’ experiences in community colleges.

*Purpose of the study.*

This study is an exploratory analysis of deaf students’ perceptions of their postsecondary experience in southwestern community colleges, including their academic and social integration. Although the deaf community is relatively small compared to the population of the United States, and even the overall population of individuals with disabilities, the information provided helps fill a gap in the higher education literature as well as deaf education literature. This study examines the experiences of students who are in mainstream postsecondary environments and more specifically how they navigate a southwestern community college.

*Study significance.*

At present, very little is known about d/Deaf students in mainstream community colleges—colleges not specifically designed for students with hearing loss. Almost all of the studies conducted on students with hearing loss in postsecondary education occur at Gallaudet University, the only university in the world established for students with hearing loss; the National Technical Institute for the Deaf (NTID), a technical school for d/Deaf and hard of hearing students; or at other 4-year colleges and universities (see Adams, 2001; Berent, Kelly,
Aldersly, Schmitz, Khalsa, Panara, & Keenan, 2007; Foster et al., 1999; Goldstein, 2001; Kennedy, 2008; Liversidge, 2003; Lukomski, 2007; Marschark et al., 2005; Menchel, 1995; Nickerson, 2003; Schmitz, 2008). Essentially no research exists specifically on d/Deaf students in mainstreamed community college environments. Yet these environments serve approximately 61% of students with hearing loss (Lewis & Farris, 1994). Community college instructors, staff members, advisors and administrators need to know whether or not they are effective in improving deaf student’s higher education access, and what changes they can make.

With the recent national focus on student success, especially at the community college level, further study of this specific student population is warranted. A better understanding of the issues deaf students face in community college will enable both practitioners and policy makers to understand how to meet the needs of d/Deaf students and aid them in experiencing success at the postsecondary level. Therefore, it is important for stakeholders in higher education to understand how to help these students succeed.

While research studies about d/Deaf students in higher education have been undertaken (e.g. Boutin, 2008; Kersting, 1997; Lang, 2002; Richardson, et al., 2010), community colleges in general (e.g. Belfield & Bailey, 2011; Fike & Fike, 2008; Porchea et al., 2010), remedial programs at community colleges (e.g. Bettinger & Long, 2005), and d/Deaf students at universities, (e.g. Foster & Walter, 1992; Lang, 2002; Richardson et al., 2010) the most recent book regarding Deaf students’ postsecondary access—a volume by Susan Foster and Gerard Walter, experts in the field of deaf postsecondary education—was published in 1992. Even that volume had little to say about deaf students in community college. The authors focused primarily on the demographics, the environment, and postsecondary educational outcomes for
deaf students at four-year institutions, which was appropriate for the time period. Little research exists specifically about d/Deaf students in community colleges, the institution students attend most frequently in higher education. This study starts to fill that gap in the literature by focusing on the d/Deaf student experience at community colleges and exploring the unique barriers individuals with hearing loss face. Specifically, the research explores deaf students’ perceptions of their experiences at a two year college.

Understanding and meeting the needs of students with hearing loss is essential to the overall student success picture in postsecondary education. Community colleges in particular are focusing more on student completion, and d/Deaf students represent an underserved portion of the college population. This study is significant because it will help uncover the needs of d/Deaf students and will reveal contributions to their success in the community college setting.

Research Questions

1) What are d/Deaf students’ perceptions of the personal, social, and administrative components necessary to navigate a southwest community college district? 2) How do d/Deaf students describe their experience in a southwest community college district in general? 3) What are their classroom experiences in particular?
Context and Definitions

Table A.1

*Degrees of Hearing Loss*

<table>
<thead>
<tr>
<th>Classification</th>
<th>Degree of Hearing Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>0 to 20 dB</td>
</tr>
<tr>
<td>Mild</td>
<td>21 to 40 dB</td>
</tr>
<tr>
<td>Moderate</td>
<td>41 to 70 dB</td>
</tr>
<tr>
<td>Severe</td>
<td>71 to 95 dB</td>
</tr>
<tr>
<td>Profound</td>
<td>95 dB +</td>
</tr>
</tbody>
</table>

As indicated in Table A.1, there are varying degrees of hearing loss, and each person’s hearing loss is different. On an audiogram *normal* hearing is classified as an individual being able to hear sounds in the range of 0 to 20 decibels (dB). An individual with normal hearing would be able to hear leaves rustling in the wind.

*Mild* hearing loss falls in the range of 21 to 40 dB. Most of the sounds of the English language fall between these ranges, consequently individuals with mild hearing loss often have a difficult time deciphering speech, although conversation still may be heard. *Moderate* hearing loss falls between 41 to 70 dB, and an individual with this kind of hearing loss might be able to understand low sounds like “oo,” “ah,” “ay,” and “ee” if they are spoken loudly enough. *Severe* hearing loss occurs in 71 and 95 dB range. People with severe hearing loss might be able to hear a dog barking, a person shouting, or environmental noise like traffic, but would not be able to hear conversational speech. *Profound* hearing loss falls below 95 dB. Individuals with this kind of hearing loss cannot hear speech (even shouting) at all, and may only be able to feel very loud and low sounds, like jets taking off.
In the state of Texas, approximately 13% of students with hearing loss have mild hearing loss, 16% have moderate hearing loss, 15% have moderate to severe hearing loss, 14% have severe hearing loss, and 28% have profound loss (Gallaudet Research Institute, 2011). Research (Briscoe, Bishop, & Norbury 2001) shows even mild hearing loss can have detrimental effects on a student’s educational attainment.

Identity and Hearing Status

As mentioned previously, more than 35 million individuals in the United States have some kind of hearing loss (Kochkin, 2009). The relationship individuals have with their hearing status is unique and variable, depending upon the age of onset, age of onset, and knowledge of and access to various resources.

- Prelingual: This term refers to individuals who lost their hearing before they learned speech.
- Postlingual: This term refers to individuals who lost their hearing after they learned to speak.
- d/Deaf: In keeping with current scholarly practice, “Deaf” when capitalized, is used to describe students who primarily use American Sign Language as their mode of communication, regardless of their auditory ability. When a capital letter d is not utilized, this term refers to those who are auditory deaf only, and who do not consider themselves a part of Deaf culture (Padden & Humphries, 1988). Auditory measures are not the only way to gain membership in the Deaf community. Membership is also earned through an honor and respect for the culture and its values (Padden & Humphries, 1988).
• Mainstream: Throughout this dissertation, the term “mainstream” is used to refer to higher education institutions that are not deaf-serving, i.e. colleges that are not Gallaudet University, National Technical Institute for the Deaf, or Southwest Collegiate Institute for the Deaf.

• Hard of hearing: This term refers to individuals with less hearing loss from 25 dB to 85 dB, and who are able to gain some benefit from the use of hearing aids. These individuals also tend to have milder hearing loss, and may be able to use a telephone with or without the use of hearing aids.

• Remedial/developmental: The terms “remedial” and “developmental” are used interchangeably. While some practitioners emphasize a distinction between the terms developmental and remedial, others acknowledge the “convolution of [the] terms is widespread and not limited to one or two specific terms” (Paulson & Armstrong, 2010, p. 6). For the purposes of this paper, these terms will be used to describe classrooms which contain students who did not meet the minimum standards on the reading portions of the college placement tests utilized by the community college district in the study. This community college district uses the Accuplacer or a student’s TAKS scores to determine whether or not s/he is college ready. Minimum score requirements for the Accuplacer are 78 on the reading section, 80 on the verbal section, 5 on the essay and a 69 and a 64 on the two math sections. Minimum TAKS requirements are 2200 on math and English with a minimum writing score of 3.

• Deaf Culture: Many individuals in the Deaf community view themselves as a cultural minority rather than as physically handicapped (Ladd, 2003; Lane, Hoffmeister, & Bahan, 1996; Padden & Humphries, 1988; Marschark, 1997; Parasnis, 1997; Sacks, 1990; Schwartz, 2007). As
such, they value their cultural heritage. One of the hallmarks of this culture is American Sign Language (ASL). Having gained its place in the field of linguistics as a legitimate language with syntax and grammatical structure similar to a spoken language, the Deaf community fiercely protects ASL as its language and an extension of their culture (Padden & Humphries, 1988; Parasnis, 1997; Sacks, 1990). Cultural background has a great effect on how one interacts with others; therefore, it is especially important for individuals to not only be aware other cultures exist, but also to have an understanding of those different cultures. The Civil Rights movement of the 1960s and the United States’ current emphasis on acceptance of other cultures in the hearing population has led advocates of Deaf culture to feel more comfortable with expressing their view of themselves as a cultural minority (Crouch, 1997; Marschark, 1997; Padden & Humphries, 1988; Stinson & Walter, 1992).

The Deaf community functions as a culture because those within it have a common set of shared experiences (Padden & Humphries, 1988; Ladd, 2003). This community consists primarily of those deaf and hard-of-hearing individuals who share “a common language, common experiences and values, and a common way of interacting with each other, and with hearing people” (Ladd, 2003, p. 41). Deaf people find a positive self-identity by "re-framing...the disadvantage they experience; the disadvantage results from the negative attitudes of a hearing society which fails to communicate effectively with Deaf people in either sign or spoken language" (Atkin, Ahmad, & Jones 2002, p. 23). These individuals understand the isolation of growing up unable to communicate freely with the world at large. When they are older, and discover the camaraderie and closeness of the Deaf culture, they are delighted to be able to
function well within a group of their peers and do not experience many of the stigmas normally associated with their deafness.

Advocates of Deaf culture have argued strenuously for the validity of American Deaf culture as distinct and separate from the larger hearing population. They cite the fact that Deaf culture has its own language, values and beliefs, and resist the label of ‘handicapped’ simply because they cannot communicate as easily with hearing people (Padden & Humphries, 1988). Individuals who are part of Deaf culture must learn how to function in both the hearing and deaf worlds, since each has distinct practices and values (Moore & Levitan, 1993; Padden & Humphries, 1988).

Theoretical Framework: Bronfenbrenner’s Ecological Theory

In understanding the human experience, social, cultural and historical aspects play an important role. Urie Bronfenbrenner (1979) discussed the various levels of influence that affect a person’s development. According to Bronfenbrenner’s theory, a student’s development is layered and dynamic, with the student influencing his or her environment and the environment influencing the student as well. Bronfenbrenner’s theory was designed specifically to address a person’s development within a context. People do not exist within a vacuum; decisions made outside of an individual’s immediate control can still have an effect on that person’s behavior and interactions. At the time of the theory’s development, Bronfenbrenner was concerned research did not do justice in describing the “progressive accommodation between a growing human organism and its immediate environment” (1979, p. 13). This led him to develop a theory which explained how an individual’s development influenced and was influenced by his or her surroundings.
Bronfenbrenner (1979) stated there are three layers which affect a student’s development: the microsystem, the exosystem, and the macrosystem. The microsystem includes all the settings that involve the student’s direct interactions, including the home, classrooms, job situation, and friendship groups. Exosystems refer to developmental influences external to the student. For example, an instructors’ choice of curricula and changes in a parent’s or spouse’s work environment are all changes that occur in the student’s exosystem, and Bronfenbrenner’s model allows researchers to examine these areas and their influence on student development. Macrosystems are the “overarching patterns of ideology and organization of the social institutions common to a particular culture or subculture” (Bronfenbrenner, 1979,
In other words, macrosystems refer to the ideas and norms of a culture that allow for and influence the various micro- and exo-system environments. When two or more of the microsystems interact, mesosystems occur. This refers to the student linkages between settings in which the student takes part. For example, interactions with professors and classmates might cause a student to be ashamed of his or her hearing loss, which might conflict with the viewpoints of culturally Deaf friends who take pride in the culture that accompanies their hearing loss.

Dey and Hurtado (2005) expanded on Bronfenbrenner’s theory and discuss how it applies in the postsecondary arena. The interconnectedness of students, colleges and society is highlighted in this ecological model. This model also allows for a student-focused approach to the discussion and shows the dynamic and reciprocal nature of the relationship between the student and the environment (Bronfenbrenner, 1979; Dey & Hurtado, 2005). In addition, Bronfenbrenner’s theory allows for the examination of the individual’s perception of the environment and the interconnectedness within various settings (e.g., inside the classroom) but also allows for links between settings (e.g., the influence of institutional policies on classroom assignments). While postsecondary education research traditionally examines the role of the institution in student development, in actuality the student has an effect on his or her environment as well (Dey & Hurtado, 2005). For example, increased numbers of “non-traditional” students at an institution causes the school to adjust the way it interacts with and serves its students. Some schools might provide more online or evening classes and offer childcare during class times to accommodate these students’ schedules.
Renn (2003) and Renn and Arnold (2003) also expanded upon Bronfenbrenner’s ecological theory and explained how it is appropriate for application to the campus environment, since it can be adapted to fit various student situations, not simply the mold of a traditional first-time, full-time student. Because “the same microsystem...will provoke and provide different developmental responses and stimuli to each student, depending on those students’ backgrounds and developmental instigative characteristics” an ecological model allows the researcher to examine the environment’s influence on a wide range of students with a variety of backgrounds (Renn, 2003, p. 388). Dey and Hurtado (2005), Renn (2003), and Renn and Arnold (2003), all work to dispel the notion of the postsecondary environment as a “static structure that makes no allowance for the evolving processes of interaction” (Bronfenbrenner, 1979, p. 17).

Bronfenbrenner’s theory appealed to me because it is student-centered. The focus for this research is to understand how students interact in various aspects of the postsecondary environment. Because the study’s purpose was to examine how the student navigates the community college campus, utilizing a theory that places the student in the center of the developmental framework, and then seeing how s/he interacts in the arena is an effective approach. It also allows the researcher to understand and how the arena affects the student.

Literature Review Process

The studies included in this literature review discuss general information about students in community college in addition to d/Deaf students’ social integration in postsecondary settings. Using Bronfenbrenner’s Ecological theory as the organizational framework, aspects of
remedial education specifically in community colleges and articles related to the similarities between students with hearing loss and English as a Second Language are covered as well.

A systematic search of the past twenty-three years of research in d/Deaf education and higher education was conducted. Articles from the following journals were examined: Review of Higher Education, Journal of Higher Education, Journal of Deaf Studies and Deaf Education, American Annals of the Deaf, Journal of Postsecondary Education and Disability, Research in Developmental Education, Community College Review, Community College Journal of Research and Practice, and the Journal of the American Deafness and Rehabilitation Association. The table of contents for each of these journals was reviewed for the years 1990 to 2013. In addition, the author conducted an ERIC search with the descriptors “deaf,” “hearing loss,” “hearing impaired,” “postsecondary education,” “higher education,” and “community college.”

Overall, the systematic search revealed a dearth of literature on d/Deaf students in postsecondary education. Review of Higher Education and the Journal of Higher Education had no articles related to d/Deaf students in the past 20 years. The majority of the articles from the Journal of Deaf Studies and Deaf Education and the American Annals of the Deaf focused on students in grades K-12, while the Journal of Postsecondary Education and Disability focuses mainly on students with learning disabilities.

Macrosystem

This section deals with information regarding the students’ macrosystem, or the area furthest from the students themselves. The macrosystem refers to larger concepts such as the community or culture at large. This section focuses on student demographics, legislation, and accommodations.
Demographics

The most widely circulated data regarding students with hearing loss puts estimates of this population at 28,000 (Raue & Lewis, 2011; Watson, Schroedel, Kolvitz, DeCaro, & Kavin, 2007). However, other research suggests the actual numbers are closer to 400,000 students with hearing loss (Watson, Schroedel, Kolvitz, DeCaro, & Kavin, 2007). The discrepancy occurs when information is gathered from campus accessibility office personnel at the college rather than collecting the information from the students themselves. Sometimes, individuals with hearing loss do not utilize hearing aids, nor do they seek out assistance (Watson, Schroedel, Kolvitz, DeCaro, & Kavin, 2007). The majority of these students do not attend postsecondary programs developed specifically for those with hearing loss, but are typically mainstreamed in colleges and universities around the United States (Schroedel & Geyer, 2000). This in part stems from the passage of the Americans with Disabilities Act (ADA), which mandates all public institutions provide equal access for those with disabilities. Gallaudet University, with a student enrollment of about 2,300, is the only baccalaureate-granting institution in the world designed specifically for students with hearing loss (Drezner, 2008; Foster & Walter, 1992). The National Technical Institute for the Deaf (NTID) in Rochester, New York enrolls about 800 students and is affiliated with the Rochester Institute of Technology. NTID serves as the United States’ technical institution for individuals with hearing loss (Foster & Walter, 1992). The Southwest Collegiate Institute for the Deaf (SWCID), a two-year college in west Texas enrolls about 120 students. While many of the nation’s d/Deaf students attend these institutions with large d/Deaf populations, many more are mainstreamed into regular classes with hearing peers (Drezner, 2008; Liversidge, 2003; Menchel, 1995). Nearly half of all postsecondary institutions enroll at
least one student with hearing loss, and 90% of these students are at the undergraduate level
(Cawthon, Nichols, & Collier, 2009; Raue & Lewis, 2011).

Deafness occurs for many reasons; some people are born deaf, some become deaf
because of illness, while others lose their hearing later in life due to degenerative diseases. An
estimated 8% of d/Deaf children have Deaf parents and are exposed to signed communication
from birth. The linguistic and social development of these children is similar to hearing
individuals (Mitchell & Karchmer, 2004). These students tend to acquire language at normal
rates and do well academically.

The majority of d/Deaf students come from homes with hearing parents who have had
little or no experience with hearing loss (Marschark, 1997; Mitchell & Karchmer, 2004; Padden
& Humphries, 1988). The d/Deaf student population is characterized by much diversity because
there are numerous options for parents to choose from when a child is diagnosed with hearing
loss. Partly because of this, the deaf population is extremely varied. Some of the options
available include the use of cochlear implants, cued speech, hearing aids, sign language, or
some combination thereof. Additionally, there are various forms of signed communication
including American Sign Language and Signed English (Schwartz, 2007). Those who lose their
hearing earlier in life, or the prelingually deaf, typically depend more on manual or signed
communication, while those who lose their hearing after the acquisition of language tend to
rely more heavily on assistive listening devices such as hearing aids and their lip reading oral
language skills (Crouch, 1997; Mitchell, 2005).

Deaf students’ educational settings exemplify diversity as well (Schwartz, 2007). Some
students are placed in mainstreamed school settings, where they might be the only d/Deaf
student in the entire grade, or the entire school. For some, there are regional day school programs for the deaf, which bus students from a region to a particular school. These students are often in self-contained classes with a certified deaf education teacher. They might be mainstreamed for one or two subjects, or might stay in the self-contained setting all day. There are also inclusion settings, where the students who are mainstreamed most of the time are pulled out of the mainstream classroom for one-on-one sessions with an itinerant teacher. Others attend residential schools for the deaf, where all students have hearing loss, signed communication is the norm, and students get bussed or flown home on weekends (Padden & Humphries, 1988). The most current trends show that most students with hearing loss are placed in inclusion settings in special education, attending schools with mostly hearing peers (Mitchell & Karchmer, 2006).

When individuals are not exposed to a visual language hearing loss typically impedes language development and reading ability, which leads to difficulties in the postsecondary setting. Because so many d/Deaf people have parents who are members of the hearing community, and if their hearing loss goes undetected, they may not be exposed to any language until they reach 2 or 3 years of age (Marshark, 1997; Padden & Humphries, 1988). By then, their language development has already been negatively affected, and these negative effects are only compounded as they move through their educational career; by the time they reach high school, most deaf students only achieve a third or fourth grade reading level (Allen, 1986; Mitchell & Karchmer, 2003; Morere, 2011; Traxler, 2000). In recent years, many states have implemented initiatives for newborn hearing screenings and early childhood intervention
programs. These allow children to be identified early and receive the necessary communication access, and preventing students from having delayed language development.

Legislation

The United States has a short and interesting history regarding legislation and individuals with disabilities. Several key pieces of legislation bear consideration when one begins an investigation of the law regarding discrimination as it applies to postsecondary education. These include Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, which the government amended in 2008.

- Rehabilitation Act of 1973

Section 504 of the Rehabilitation Act of 1973 represents the first directive regarding non-discriminatory practices towards individuals with disabilities. Before the legislature enacted this law, individuals with disabilities were denied access to higher education because there was no requirement of providing accommodations for their handicap (Belch, 2004). The passing of this law mandated no institution which received federal funds could discriminate against any individual based upon his or her disability. The law goes on to define exactly which individuals are considered disabled and introduces the term “reasonable accommodation” (Rehabilitation Act of 1973). Reasonable accommodation typically refers to an adjustment an entity can make to render their services more accessible, such as curb cuts, sign language interpreters or Braille lettering on signs.

- The Americans with Disabilities Act

The Americans with Disabilities Act (ADA) passed in 1990 and later amended in 2008. Like Section 504 of the Rehabilitation Act, the ADA prohibits discrimination against individuals
with disabilities. However, the ADA expands the scope of prohibiting discrimination. Only programs which received federal funds were subject to Section 504. The ADA extended protection of the rights of individuals with disabilities whether or not a business or entity received federal funding, and requires public and private entities to provide access with regards to employment, accommodations, and telecommunications. The ADA brought public attention to the right of equal access for those with disabilities, since the law affects any entities including business and other institutions.

In postsecondary education, the rights of students who are deaf and hard of hearing include the right to communication access in the form of sign language interpreters, Communication Access Real Time Translation, oral transliterators, and note takers. The law does not specifically detail what types of communication access institutions are required to provide, as each student’s need is unique (Americans with Disabilities Act, 1990). After the passage of the ADA, the numbers of deaf students in postsecondary education increased, and these numbers have continued to rise. In 2008, the ADA was updated to the Americans with Disabilities Amendments Act (ADAA), which included an expanded definition of disability (Americans with Disabilities Amendments Act, 2008).

**Accommodations**

For most deaf students, the first step in their access to education, whether at the secondary or postsecondary level, is accommodations. If colleges do not provide these support services “very few deaf students will benefit from the available educational opportunities” (Khan, 1991, p.17). However, in a study regarding the accessibility of information on accommodations for students with hearing loss, Cawthon et al. (2009) found only half of the
institutions who offered accommodations indicated so on their websites, presenting an
additional barrier for students. Students with hearing loss might further be discouraged from
participation in higher education if they do not believe the institution they are interested in
attending provides the accommodations they need (Cawthon et al., 2009).

Accommodations for students with more severe hearing loss might include sign
language interpreters. For other students, assistive listening devices and Communication Access
Realtime Translation (CART)—a system that provides live captioning on a laptop or other small
screen—serve as options (Cawthon et al., 2009). Such accommodations make up a vital part of
student success because without them, students with hearing loss might not fully participate in
their education like their peers (Porter, Camerlengo, DePuye & Sommer, 1999). Those in the
field of education frequently assume accommodations like note takers and sign language
interpreters provide deaf students with enough support, but this is often not the case (Foster,
Long & Snell, 1999). The students’ physical proximity to and participation in an educational
program represents only the first step in their inclusion for instruction.

Kahn (1991) states “true access to [postsecondary] programs for deaf persons must
include the availability of a wide range of specialized support services” like note takers, tutors
who know American Sign Language, and CART (p. 17). However, access to manual (signed)
communication and other accommodations does not represent the sole reason for student
success, or lack thereof, in educational settings. Experts in the field of deaf education caution
against educators and administrators assuming the provision of accommodations such as sign
language interpreters will result in student success for those with hearing loss (Foster et al.,
1999; Kahn, 1991; Marschark et al., 2005; Marschark et al., 2006; Walter, 1987). Support
services may not necessarily improve the ability of students with hearing loss to understand the content of a textbook or a lecture. Recent research (Albertini, Kelly, & Matchett, 2011) shows although deaf students know how to access and utilize support services, there are still many more complex issues at work.

**Exosystem**

The exosystem deals with elements closer to the student, but still outside of his or her immediate environment. While the macrosystem deals with larger cultural or societal issues, in the context of this study the exosystem refers to attributes of the college environment, including degree completion, d/Deaf students’ barriers to postsecondary education, the community college setting in general, and academic preparation.

**Degree Completion and Attrition**

Noah Drezner (2008) argues institutions with larger numbers of d/hh students and programs aimed at students with hearing loss are “Deaf-serving” institutions much like the Hispanic –serving Institution designation or an institution being designated as a Historically Black College or University (HBCU). Gallaudet has a 41% graduation rate and the National Technical Institute for the Deaf has a 53% graduation rate (Gallaudet Institute for Research, 2011). It is important to note research has indicated the environments at these Deaf-serving institutions positively influence student graduation rates when compared with students who are mainstreamed (Cawthon, Nichols & Collier, 2009). Students who are mainstreamed in postsecondary education typically have a 25% graduation rate (Boutin, 2008).

Even at institutions like the National Technical Institute for the Deaf, in a setting where students have abundant communication access, professors who know sign language, and a
supportive environment, students take 4.5 to 4.7 years to achieve an Associate’s degree. The numbers for Bachelor’s degrees are slightly better, with students taking 5.7 years to receive a 4-year degree at Gallaudet (Cuculick & Kelly, 2003). The years to degree represent students who first received an Associate’s degree from NTID and decided to go on to further their education. Cuculick and her colleagues also found completion time for a Bachelor’s degree is extended to 6.8 years if the student did not receive an Associate’s degree.

Although deaf students are utilizing support services and participating in higher education at increasing rates, attrition still remains a major concern. One reason students do not graduate from mainstreamed institutions is they do not feel as if they are part of the university (Drezner, 2008). In addition, Drezner states for students who attended deaf residential schools, the freedom college presents maybe a difficult transition, since they no longer have oversight or enforcement of as many regulations (2008). Deaf students in community colleges exhibit several risk factors that contribute to lack of persistence, including the presence of a disability and limited English proficiency. The retention rate for deaf students is about 25% at the university level and 34% at the community college level (Boutin, 2008; Stinson & Walter, 1992). In contrast, retention rates for students without hearing loss in both university and community college hover near 50%. Before the Americans with Disabilities Act popularized the provision of accommodations in public settings, some researchers estimated as many as 70% of the deaf students who entered attempting to earn a baccalaureate degree failed to graduate (Stinson, Scherer & Walter, 1987; Walter & Decaro, 1986). Current graduation rates for deaf students show that figure still to be valid (Albertini et al., 2011). Remedial classes provide an additional obstacle for students with hearing loss, with “the
chronic repeat rate for deaf students in the colleges’ basic skills courses result[ing] in a high attrition rate” (Khan, 1991, p. 20).

**Barriers to Postsecondary Education**

Factors such as deaf students’ lack of access to “grapevine” information and informal exchanges in class, as well as issues such as interpreter lag time serve as additional barriers to student inclusion (Andersen et al., 1997; Foster & DeCaro, 1991; Foster, Long & Snell, 1999; Lukomski, 2007; Marschark et al., 2005; Marschark, Sapere, Convertino, & Pelz, 2008; Marschark et al., 2009; Saur, Popp-Stone, & Hurley-Lawrence, 1987; Walter, 1987). As another example, if an instructor writes information on the board while she lectures, the deaf student must choose between looking at the interpreter to understand what is being said or looking at the board to understand what the instructor is writing. Because of issues such as this, students have reported the pacing of the instruction is important for their academic success (Richardson et al., 2010). As with all students, proper pacing aids them in understanding the material so they can participate in and feel a part of the class.

Deafness is a unique disability because the physical handicap interferes with the ability to acquire the language utilized by the majority, which in turn limits the amount of meaningful interaction individuals can have with the members of the hearing culture (Antia & Kreimeyer, 2003; Stinson & Liu, 1999; Wauters & Knoors, 2008; Williams, 1994). While deaf students might have the life experiences to connect to the print they read, they might not have the language ability to cognitively process and express that connection (Svirsky, Robbins, Kirk, Pisoni, & Miyamoto, 2000). This adds to the complexity of learning English language fluently.
The Problems of Inclusion

The connection between social satisfaction and persistence in college is well known (Astin, 1993; Berger, 1997; Bers & Smith, 1991; Gerdes & Mallinckrodt, 1994; Kersting, 1997; Kuh, Schuh, & Whitt, 1991; Pascarella & Terenzini, 2005; Roberts & Styron, 2010; Tinto, 1993; Torres & Solberg, 2001; Wortman & Napoli, 1996). For hearing and deaf students alike, the frequency and quality of student interaction is important (Pascarella & Terenzini, 2005). One of the most well-documented issues in postsecondary access for students with hearing loss is social isolation (Foster & Brown, 1988; Foster & Decaro, 1991; Foster & Walter, 1992; Lukomski, 2007; Walter, Foster & Elliot, 1987). Research has shown students with hearing loss are lonelier than those without (Murphy & Newlon, 1987) and deaf students in community college experience feelings of separation and isolation from hearing peers (Foster & Brown, 1989). These individuals tend to socialize with other deaf students as much as possible (Foster & Decaro, 1991). Issues of English as a second language, the cumbersome nature of writing notes back and forth for simple casual conversation, the difficulties associated with lipreading, and the necessity of utilizing an interpreter, all contribute to the lack of interaction between deaf and hearing students (Foster & Decaro, 1991).

Learning English

Since English is a phonetic language and students with hearing loss often have difficulties accessing the sounds, deaf students are frequently delayed in their language development (Marshcark 1997; Padden & Humphries, 1988). Children of deaf adults who have been privileged with early language exposure have generally been thought to have better language and literacy skills than deaf children of hearing parents (Mitchell & Karchmer, 2004;
Morere, 2011). Since communication access is the barrier for students, it seems logical removing the communication barrier is the only hurdle necessary for the students to overcome. If students were able to receive the necessary information in a language that was comprehensible to them, their achievement levels would increase and they would be learning on par with their hearing peers. To this end, researchers and practitioners alike started strongly advocating for the use of sign language in the classroom. The connection between hearing loss and acquisition of English and American Sign Language has been debated. Some researchers indicate that knowledge of ASL assists deaf students’ literacy outcomes (Bailes, 2001; Drasgow, 1993; Strong & Prinz, 1997).

Students with at least one deaf parent typically exhibit language development like that of hearing children (Mitchell & Karchmer, 2004; Morere, 2011). Research has shown that maternal communication skill is a significant predictor of academic success in students with hearing loss (Albertini et al., 2011; Convertino et al., 2009; Strong & Prinz, 1997). In some instances, students who were provided with academic information in sign language would perform comparable to students with normal hearing. Other research has indicated the most important factor in students’ acquisition of English literacy is consistent linguistic input (Strong & Prinz, 1997; Marschark et al., 2005; Marschark et al., 2009). While ASL fluency has been positively correlated with later reading ability (Convertino et al., 2009; Toscano, McKee, & Lepoutre, 2002) studies by Marschark and colleagues (2005; 2006; 2008; 2009; 2012) have shown this is not always the case; his research indicates such comprehension issues may also indicate higher order cognitive processing problems.
Deaf students themselves have admitted that they did not fully comprehend interpreted classroom lectures even when they have access to skilled sign language interpreters (Drezner, 2008; Marschark et al., 2005). This lack of comprehension monitoring was exemplified when researchers presented information to students and immediately followed the presentation with comprehension tests. One group of students was presented the information in American Sign Language and the other group read the information in English, without ASL interpretation. The results from the study did not find a significant difference in the scores of the two groups of students, and both groups’ comprehension scores were lower than the control group of hearing students. In other words, students who are deaf might have communication processing problems and not even realize it. This offers one explanation for the low reading achievement of deaf students. At the very least, it indicates in an academic setting, deaf students might not comprehend much more academic information through sign language than they do by reading English. It is important to remember this research suggests not that American Sign Language is not insignificant, simply insufficient.

While theories abound on the best way to teach deaf students, no single method has been proven superior (Convertino et al., 2009). The solitary unifying factor among students with hearing loss who succeed in higher education is a high level of parental involvement (Convertino et al., 2009; Marschark et al., 2009; Toscano et al., 2002). Severity of hearing loss and type of communication mode utilized had less influence than might be expected. The same research also found, similar to hearing students, socio-economic status (SES) was a significant predictor of whether or not they experienced success in a postsecondary setting.
Several analyses of the corpus of reading research conducted with deaf students have been undertaken in order to determine which scientifically based practices are most effective with deaf students (Luckner, 2006; Easterbrooks & Stephenson, 2006; Luckner, Sebald, Cooney, Young & Muir, 2005; Schirmer & McGough, 2005) with one disappointing conclusion: there are not enough well designed studies on deaf students’ literacy. This lack of research based evidence might be one reason for deaf students continued lack of progress in the area of reading. What is known is that deaf students literacy—or lack thereof—prevents them from experiencing success in a postsecondary setting (Schroedel & Geyer, 2000) and from competing effectively in the workforce (Punch, Hyde, & Creed, 2004; Punch, Hyde, & Power, 2007).

The research that has been conducted on the writing skills of deaf college students has been broad. Researchers have examined everything from the best way to assess students’ writing abilities (Schley & Albertini, 2005) to the factors that contribute to deaf students’ success (Convertino et al., 2009) and the types of mistakes deaf writers sometimes make (Channon & Sayers, 2007). In part, this stems from the fact that students who have higher reading and writing scores do better in college and in their employment, and that lack of literacy is one barrier to people with hearing loss receiving and maintaining employment (Cuculick & Kelly, 2003; Schroedel & Geyer, 2000; Punch et al., 2004). Learning more about this obstacle is important for student success in the postsecondary setting, since it (along with other factors) leads deaf students to drop out of college.

**English as a Second Language Students (ESL) in Community College**

In many ways the research on ESL students at the postsecondary level parallels that of deaf students at the postsecondary level. Many studies have been conducted on language
strategies, instructions and programs of these students in their early years, with the research base tapering off on students in middle school, high school, and postsecondary education (Hodara, 2013; Snow, 2008). Another similarity to deaf students is the great diversity among ESL students (Raimes, 1987; Prucha, Stout & Jurkowitz, 2005). Not only do ESL students come from a variety of countries with different languages, cultures, and backgrounds, their reasons for entering the United States are diverse as well. Some are refugees, fleeing persecution in their home countries, while others are immigrants who left home voluntarily, and still others are international students planning to return to their home country with a US education (Baik & Greig, 2009; Purcha et al., 2005). In addition, ESL students have difficulties with grammar and vocabulary (Purcha et al., 2005). Promising practices for ESL students include instructors providing demonstrations and hands-on activities in addition to lecture, as well as building on prior knowledge (de Garcia, 1995; Goldberg, Ford, & Silverman, 1984; Hordara, 2013). These strategies are also beneficial for deaf students.

Deaf as ESL

The Bilingual-Bicultural (BiBi) movement in deaf education has been the focus of several studies (Barnum, 1984; Berke, 2013; Drasgow, 1993; Evans, 2004; Mayer, & Wells, 1996; Mayer & Akamatsu, 1999; Parasnis, 1997; Prinz & Strong, 1997). Because of the rejection of the medical model of deafness as a handicap, and the embracing of the deaf community’s distinct language and culture, some educators believe the deaf should be treated as users of a foreign language. To this end, some research has indicated deaf students share similarities in language acquisition development and utilization of function words in English to hearing students who are learning English as a second language (Berent, 2001; Channon & Sayers, 2007).
Therefore, by logical extension general ESL practices might be very successful for deaf individuals. Researchers have also posited the techniques that work with deaf students might also be of benefit to ESL students (Andersen et al., 1997; Harris & Moreno, 2004; Swisher, 1989). Like the population of students with hearing loss, ESL students in community college are characterized by great diversity (Blumenthal, 2002). The similarities between deaf students and other ESL students should be explored more thoroughly to understand better where they overlap and prevent researchers from “reinventing the wheel” in terms of student success.

Except at the two postsecondary institutions specifically serving deaf students (the National Technical Institute for the Deaf and Gallaudet University) the assessment to determine the need for remediation for deaf students mirrors that of hearing students. NTID has developed, analyzed, and researched the reliability and validity of its writing assessment with deaf students (Schley & Albertini, 2005). One reason for such rigorous analysis of the protocol stems from the fact that a student’s intelligence and critical thinking skills cannot and should not be evaluated solely upon his or her ability to form a grammatical sentence in written English (Biser, Rubel, & Toscano, 2007). Although these skills are necessary to succeed in an academic setting, if the protocol proved invalid, then many deserving deaf students might be denied the opportunity to engage in higher learning. NTID’s assessment, and the one like it at Gallaudet University, may be useful for helping to inform instructor lesson plans for remedial or developmental classes. Instructors should know their students’ weaknesses in order to teach them effectively. Deaf students who are in mainstreamed institutions do not have access to an assessment that explicitly takes into account their hearing loss. They simply take the placement
test required by their college. Readers should note that standardized tests require fluency in
the language of administration, which may present a difficulty for deaf students.

Success with Academic English

In order for deaf students to experience success at the postsecondary level, “intensive,
ongoing collaboration and information sharing and encouragement [must] exist among the
undertook the task of identifying the social, educational, and demographic characteristics of
students who have experienced success with academic English. They used questionnaires,
institutional databases, and personal interviews to identify factors contributing to strong
academic literacy skills for deaf students. While they acknowledge the unique struggles deaf
students face, they also admit these students need to be academically prepared to compete in
the postsecondary level and in the workforce beyond college. These researchers understand the
opportunity for students to access higher education does not mean they experience success in
these settings. Toscano et al. (2002) found the characteristics of successful deaf students are
similar to those of other high-achieving minorities, and that socio-cultural context is important.
Students should feel secure and confident in their cultural heritage and be comfortable with
their hearing loss. Additionally, parental values, expectations and involvement were important
factors in students’ success with academic English in a postsecondary setting as well.

Deaf students who experience success in postsecondary education typically were
involved in high school, had access to and used computers and other technology for completing
homework, and had established good reading habits early (Toscano et al., 2002). One
particularly interesting aspect was that high ability in reading and writing was not attributable
to a particular communication mode. These students indicated they experienced high expectations from teachers and had consistent exposure to enjoyable books. Some students also indicated that writing was a challenging yet rewarding task. All these students indicated that one parent or the other had a strong influence on their writing skills. While data was not collected on the research participants’ SES, student anecdotes of private therapy sessions seem to indicate that these students might belong in a higher SES, which parallels the college going trends of higher SES hearing students (McDonough, 1997; Pascarella & Terenizini, 2005).

**Community Colleges and Institutional Responsibility**

Community colleges serve an important function in society at large and higher education specifically. The open door policy and low tuition make them attractive to many, especially those who are deemed ‘at risk’ (Cohen & Brawer, 2008; Rouse, 1995). Researchers and analysts suggest that education at a community college will be a requirement for many jobs in the near future, so the student experience at these institutions is imperative to understand, and the academic success of these students could have long-term effects (Belfield & Bailey, 2011). Community colleges have a long history serving many underrepresented student groups, including the deaf, and are known for their open access policies, making them even more attractive to students with hearing loss who struggle with more traditional academics or who may not qualify to apply to a four-year university (Foster & Walter, 1992).

Almost 50% of students enrolled in postsecondary education attend community college, with groups such as first generation college students, minorities and those in lower income groups more likely to be represented (Barnett, 2011; Fike & Fike, 2008; Porchea et al., 2010).
Students in these categories are also more likely to be underprepared for college and have to enroll in remedial coursework (Belfield & Bailey, 2011).

Kennedy (2008) conducted an analysis of the satisfaction rates of deaf and hard of hearing students attending college. His literature review supported anecdotal evidence that deaf children are severely delayed in their academic experience. In fact, students with hearing loss sometimes take 3 or 4 academic years to accomplish what a hearing student accomplishes in one academic year. This stems from the difficulties of language acquisition with deaf children of hearing parents. Parents trigger the language acquisition process, so any delay in this process has compounding negative effects. Deaf students’ struggles with learning the English language mean they have issues with critical thinking and metacognition. The combined late onset of language acquisition and subsequent deprivation of regular communication in turn affects literacy skills, since concepts taught at school do not have reinforcements at home. Once they reach college age, deaf students are expected to remediate several years of delay within a short period of time.

Some researchers have suggested the responsibility for student success rests on the institution rather than the student (Albertini et al., 2011) and instruction that is learner focused (e.g., collaborative learning experiences and group work) and not instructor focused (e.g., lectures) is more beneficial for students with hearing loss and other at risk groups (Barnett, 2011; Dowaliby & Lang, 1999; Lombardi, Gerdes, & Murray, 2011; Richardson et al., 2010; Saur et al., 1987). Many academic programs are based upon traditional student models, and might prevent students who do not fit that description from fully participating in the academic and social life of a campus (Philibert, Allen, & Elleven, 2008). The needs of these students may not
be met by current institutional practices, so it is important for the faculty and administration to understand the student population and work to provide them with tools for success (Philibert et al., 2008; Quick et al., 2003). These findings have been supported for students with hearing loss. Kennedy’s (2008) research suggests for deaf and hard of hearing students, the institution represents an integral part of students overcoming their challenges.

**Academic Preparation**

The academic rigor of high school is a significant predictor of enrollment and persistence in higher education (Perna, 2000; Perna, 2005). In general, low-SES and other disadvantaged groups of students—including students with hearing loss—are less likely to be academically prepared for higher education. These students typically attend schools that offer fewer rigorous courses, and they are less likely to be placed in these classes if and when they are offered (Perna, 2005). Perna (2000) also found that participating in an academic track increased the likelihood of students to enroll in college. The quality and quantity of courses completed in a particular subject area (e.g., advanced mathematics) also influences students’ college enrollment (Aldeman, 1999). Adequate academic preparation in high school is particularly important for students with low SES and students who are at risk of dropping out of high school because these students face the most challenges when entering postsecondary education (Horn & Carroll, 1997; Horn & Nuñez, 2000). Paralleling the research on hearing students, deaf education research has shown high school GPA and SAT scores are more predictive of their chances of academic success than placement in remedial classes (Convertino, Sapere, Marschark, Sarchet, & Zupan, 2009). That is not to say that deaf students who have been
placed in remedial education at deaf-serving institutions are not successful but that other factors such as high school rigor and successes are typically more influential.

Educational Background

Research has shown many hearing students who graduate from high school are not adequately prepared for the academic rigor they face in the community college (Aldeman, 1999; Bahr, 2010; Barbatis, 2010; Bettinger & Long, 2005; Bueschel, 2004; Farakish, 2008; Grimes, 1997; Perna, 2000; Perna, 2005). If the education system students participate in does a poor job preparing hearing students, it does even less for students with hearing loss. Deaf students stand even less of a chance at success in college, since they often do not even achieve even to the level of their hearing peers who are often inadequately prepared for the academic rigor at the postsecondary level (Marschark et al., 2009). This lack of preparation is exacerbated because of their hearing loss. It stands to reason students who are able to successfully complete high school classes should expect to do reasonably well in community college. However, when they take the college’s placement exam, the results frequently surprise—and sometimes frustrate—the students (Venezia, Bracco, & Nodine, 2010). Bahr (2012) states that “the goal of remediation is to prepare students for success in college-level coursework,” but sadly, that is frequently not what occurs. Horn, McCoy, Campbell & Brock (2009) note that students who enter remedial classes were already less prepared, and nearly 40% of the students do not pass their developmental class (Illich, Hagan, & McCallister, 2004). This leads to students’ feeling frustrated and influences them to drop their college classes. Research by Bahr (2007) shows some students persist in postsecondary education at community colleges despite
their need to progress through a sequence of developmental classes. In other words, the need for several developmental courses does not always cause students to stop out of college.

Researchers have suggested the need for remediation represents part of the disconnect between K-12 education and college culture (Bueschel, 2004). In many ways, the deaf college experience shares similarities with the experiences of hearing students. Failing in college, even in a remedial class, can have a detrimental effect on students; some would suggest that for these students, trying and failing is worse than never trying at all (Drezner, 2008).

The widespread need for remediation and the lack of success some students experience indicates institutions may need multiple measures of assessing community college student readiness (Illich et al., 2004). In addition, researchers indicate academic preparedness does not completely explain all of the students’ academic performance. Some less prepared students experienced success in remedial classes and some more academically prepared did not pass the remedial classes. This suggests other factors, such as student motivation, might come into play.

Remediation

Some institutions differentiate between remedial and developmental classes. For the purposes of this paper, the two terms will be used interchangeably. Almost 42% of students in community college are enrolled in developmental education classes at some point during their postsecondary career (Barnett, 2011). Typically, students do not receive college credit for remedial classes, yet must successfully complete them before they are able to move on to college level classes. Remediation costs students money and prolongs the time to graduation (Horn, McCoy, Campbell, & Brock, 2009).
Developmental education serves a prominent role in the function of the community college. Whereas 36% of students in higher education overall have taken developmental classes, at the community college, approximately 42% of community college students have enrolled in these classes (Barnett, 2011; Raue & Lewis, 2011). Especially at the community college, developmental education serves a key role in retention and should be an institutional priority (Fike & Fike, 2008). Students often persist through long developmental sequences, but many leave without any credentials. It is vital to note that “remediation is not simply one of many functions of the community college. Rather it is... fundamental to the activities of the community college” (Bahr, 2008, p. 445). This is, in part, because community college has its open door policy. Many universities do not offer developmental education and so without community colleges, many students would not be able to access higher education. As such, the influence of remediation on deaf students warrants further study.

Community colleges are faced with the dual challenge of providing open access while maintaining high academic standards. Minorities form a majority of the population in many community colleges, indicating these students might not be as well prepared for postsecondary education as their white peers (McCabe, 2000). This is because first generation, low-income students are typically less academically prepared for college level work. It stands to reason the trend would be the same for deaf minority students.

Debates exist over whether students in higher education should even be allowed to take remedial or developmental classes (Bahr, 2008; Ignash, 1997; Kozeracki, 2002). Opponents of developmental education argue colleges should not be responsible for what students failed to learn in high school. Supporters argue that rather than focusing on what students missed in high
school, developmental education helps students learn what they need to be successful in college (Relles, 2012). Practitioners in the field of remedial and developmental literacy argue that what should be taught in the remedial classroom is not a set of decontextualized skills (Paulson & Armstrong, 2010). Because skill mastery is not necessarily the goal of remedial education, they claim the traditional “transmission” view of students acquiring knowledge from the instructor is inappropriate for students in developmental classrooms. Instead, students should be provided with a mentally stimulating and academically challenging environment where they can explore and grow rather than simply learn a set of data in order to pass an assessment.

In order for students to receive the most benefit, their postsecondary environment must be demanding and responsive (Wambach, Brothen & Dikel, 2000). McCusker (1999) conducted a review of remedial programs and found several elements must be present in order for a remedial or developmental program to be successful. Having a good understanding of the student population is one of the most important elements of an effective program. Instructors serve a key role in student success in remedial classes. Unfortunately, the low status of developmental classes has often meant little preparation or training is provided to the instructors of these classes (Paulson & Armstrong, 2010). After an assessment of student needs and expectations, matching student profiles with various teachers’ techniques produced better results.

Students are most motivated when developmental classes bear credit (McCusker, 1999). Otherwise, students might feel as if developmental classes were simply a waste of time and not worth the effort required to earn a passing grade. When implemented correctly, remedial
classes provide students who are inadequately prepared for higher education with the basic skills they need to succeed in college. While a body of research exists on promising practices to implement in order to assist students in experiencing success in developmental education (Amey & Long, 1998; Boylan & Bonham, 2011; Boylan & Saxon, 1999; Schwartz & Jenkins, 2007; Osterman, 2005; Perin, Keselman & Monopoli, 2003; Whimbey, Linden, & Williams, 1992) even the best programs can still have a negative impact on the students they serve (Boylan, Bliss, & Bonham, 1997). This is partly because remedial classes increase the number of class requirements and extend the time to degree, as well as the fact that at many colleges, including the ones that are the focus of this study, students are precluded from enrolling in advanced coursework until remedial classes are complete. While retention in remedial classrooms is one way to measure the success of developmental programs, it is important to remember retention in remedial classes is not the ultimate goal; students should move on to and succeed in college-level classes (McCusker, 1999; Weissman, Bulakowski & Jumisko, 1997). Tracking student movement to college level classes, completing college level classes, and students’ persistence in the postsecondary institution are some other necessary elements.

Microsystem

The microsystem refers to any setting that directly involves the student, and students are part of multiple microsystems. For the purposes of this study, the microsystem includes students’ self-advocacy and interactions with classroom instructors and academic advisors.

Self-Advocacy

Self-advocacy refers to the student having a good understanding of his or her disability and being willing to express his or her needs to the proper authority. In order to be successful
in higher education, students with disabilities must be able to advocate for themselves.

According to Barnard-Brak and colleagues’ (2009) research, students with a healthy self-esteem and confidence in themselves, despite their disability, are more likely to request and receive appropriate accommodations. These students have come to terms with their disability and have the sense of empowerment and self-advocacy skills required to succeed in a university setting (Barnard-Brak, Davis, Tate, & Sulak, 2009). Barnard-Brak and colleagues’ (2009) research also suggests that the coordinating office for campus accessibility can play a part in whether or not students request and receive the necessary accommodations. By maintaining visibility and helping the students view the office of campus accessibility in a positive light, faculty and staff can increase the likelihood of students contacting their office. Self-advocacy is an important and necessary trait for all students with disabilities. Students with hearing loss might exhibit this trait by contacting the interpreting agency directly instead of relying on the campus accessibility office or speaking up in class when they are paired with the interpreter to do group work rather than another classmate.

**Instructors**

Many students in community college have external responsibilities such as families and full time employment (Fike & Fike, 2008; Horn, Nevill, & Griffith, 2006; Philibert et al., 2008). A postsecondary experience that occurs largely inside the classroom, rather than through extracurricular activities, raises the importance of in-class activities and interaction with faculty members (Barnett, 2011; Deil-Amen, 2011). Using quantitative methods, Barnett (2011) developed an instrument to assess how interactions with faculty influenced students’ experiences in college. Barnett’s research (2011) shows that faculty validation—caring
instruction and making sure the students’ feel their voices are being heard—strongly predicts students’ academic integration in college. Faculty attitudes significantly influence the student experience, and faculty validation strongly predicts students’ academic integration in postsecondary education, especially for students who did not grow up assuming they would go to college (Barnett, 2011). These students “have insufficient ease with and knowledge about college environments to become readily integrated without additional assistance” from individuals such as faculty members (Barnett, 2011, p. 196).

Students with disabilities are most successful in classes where the instructors utilize inclusive teaching practices, and these students appreciate flexible teachers who use a variety of strategies and visual aids (Lang, Dowaliby, & Anderson, 1994; Foster & Decaro 1991, Richardson et al., 2010). In particular, deaf and hard of hearing students want caring, sensitive and skilled instructors, in addition to mutual understanding and effective communication (Richardson et al., 2010). Members of a cultural minority are often invisible to those within the dominant culture. For these students to succeed, it is important they see and interact with faculty who understand their language and cultural perspective (Harbour, Middleton, Lewis, & Anderson, 2003).

Although they acknowledge deaf students typically do not perform as well as hearing students, instructors report differing views on who holds the primary responsibility of ensuring deaf students experience success in the classroom (Foster et al., 1999). Some instructors state responsibility for success lies with the student and the institution, and these individuals do not teach their classes any differently when they contain deaf students (Foster et al., 1999).
same research indicated other college educators abridge or alter assignments they feel may be
difficult for deaf students to complete.

Advisors.

Advisors also serve an important role in the students’ college experience. Academic
advisors have knowledge and information about required courses and programs of study, and
are frequently called on when students have questions about prerequisite classes and
registering for classes (Glennen, 1996). Advising should be mandatory, and advisors need to
understand the reading and writing requirements of college-level classes. It is important
advisors know about the special services for and needs of deaf and hard of hearing and how to
match those needs and services with classes offered by the postsecondary institution.
APPENDIX B

DETAILED METHODOLOGY
This chapter includes the research questions for this study and provides the rationale for utilizing qualitative research. This chapter also reviews the pilot study conducted and how that pilot influenced the current study, in addition to the site, sample, and data collection procedures. Finally, validity, reliability, and reciprocity are discussed. This study is designed to help fill the gap in the postsecondary education literature regarding deaf students.

Research Questions

1) What are deaf students’ perceptions of the personal, social, and administrative components necessary to navigate a community college campus? 2) How do deaf students describe their community college experience in general? 3) What are their experiences in classrooms in particular?

Qualitative Research

Because this study explored certain aspects of the experiences of deaf students in community college, qualitative techniques were appropriate. Qualitative research allows participants to explain the world around them and their view of themselves in it (Merriam, 2009). Creswell (2009) indicates the human experience is an essential aspect of phenomenology, and allows for these experiences to be described by the participants. The deaf community contains great diversity, and deaf students have a unique perspective on their hearing loss and the culture resulting from the use of sign language (Ladd, 2003; Padden & Humphries, 1988). This investigation examined the meaning of the deaf experience at a community college from the student perspective. Using qualitative interviews allowed students to express themselves in the language they feel comfortable with and cherish, and helped to ensure their responses truly reflected what they were feeling. A methodological approach that
provided students with an outlet to express their viewpoints of the environment around them is in line with the goal of qualitative research (Creswell, 2009). Conducting this kind of research allowed me to understand how deaf people have made sense of their world and experience (Merriam, 2009).

Pilot

A pilot study was conducted with five deaf students. Two were Black women, one was a Latino male, one White male, and one White female. A protocol was developed to explore the experience of deaf students in remedial English classes at community college. I conducted two videophone interviews and determined face to face interviews were more culturally appropriate. Videophone interviews allow hearing and deaf people to communicate easily on the telephone. The hearing user calls into a phone bank of interpreters, who then call the deaf person via technology similar to Skype and translate the messages between the users. After the video phone interviews, the remaining three face to face interviews were conducted with community college students. Those interviews provided a baseline for the current study. As a result of the pilot study, the theoretical framework of the research changed from sociocultural theory (Au, 1997) to Bronfenbrenner’s ecological theory. This occurred because I became more interested in the students’ interaction with the postsecondary environment rather than focusing on how the cultural experiences of the student affected his or her college experience. There is already a significant body of research on the culture of Deaf and hard of hearing individuals, and the differences between hearing and Deaf cultures. The focus of this research was to find out how students with hearing loss interacted within a specific environment, namely, that of the community college. Therefore, an ecological theory was
warranted. In addition, an ecological lens allows the research to identify implications for steps institutions can take to assist deaf and hard of hearing students. The pilot study also assisted in the revision of protocol questions. The interview questions went from focusing specifically on classroom experiences to encompassing more broadly on the community college experience in general.

Site

Table B.1

*Campus Population Breakdown*

<table>
<thead>
<tr>
<th>Campus Name</th>
<th>Campus Population</th>
<th>Deaf Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edebrook College</td>
<td>14,375</td>
<td>28</td>
</tr>
<tr>
<td>Excelsior College</td>
<td>11,381</td>
<td>20</td>
</tr>
<tr>
<td>Carver College</td>
<td>6,478</td>
<td>8</td>
</tr>
<tr>
<td>Matlock College</td>
<td>9,471</td>
<td>4</td>
</tr>
<tr>
<td>Napier College</td>
<td>11,714</td>
<td>11</td>
</tr>
<tr>
<td>Ravenwood College</td>
<td>20,053</td>
<td>20</td>
</tr>
<tr>
<td>Thayer College</td>
<td>11,690</td>
<td>14</td>
</tr>
</tbody>
</table>

Because the research shows that a significant portion of deaf students enroll in community colleges, individual interviews with deaf students currently enrolled in community college were conducted in an urban district in the southwest region of the country, where deaf students attend college with hearing students. This site was chosen because of my access to the population as a sign language interpreter, and because deaf people, like other minorities, tend to live in more urban than rural areas (Padden & Humphries, 1988). Urban Community College District has seven affiliated campuses, with a total of nearly 75,000 students. These campuses are located throughout an urban metropolitan area in the southwest and campuses reported a total of 753 students with disabilities in the 2012-2013 academic year (D. Parker, personal...
communication, May 10, 2013). Approximately 100 of these students have hearing loss.

Services to deaf students in the district depend upon the individual institutions’ population of deaf students. Schools with smaller populations of deaf students like Matlock Campus only provide interpreters and other communication access such as CART. Schools with more deaf students like Excelsior provide social clubs and specialized classes in American Sign Language.

Sample

For the purposes of this study, I looked for deaf students who a) were enrolled in community college b) self-identified as having hearing loss c) were receiving communication support services from their college’s campus accessibility office or its equivalent.

Mainstreaming is the process of students with disabilities being enrolled in classes with their non-labeled peers. I recruited both d/Deaf and hard of hearing individuals to gain as broad a perspective of the experiences of students with hearing loss in community college as possible.

Low-incidence disabilities are those which do not occur frequently within the population. Because deafness is a low-incidence disability, purposeful sampling was utilized to identify deaf students in an urban community college district. The Deaf community is well-known for being close-knit: there are fewer than one million people in the US who utilize sign language as their primary means of communication (Mitchell, 2005; Mitchell, 2006; Mitchell & Karchmer, 2006). I utilized personal contacts within the Deaf community to identify potential participants and then asked those interviewed to identify other students. In addition, I posted a flyer onto a Deaf listserv for the state. Individuals from the pilot study were asked to identify other students with hearing loss enrolled in community college as well.
Limitations

These findings cannot be generalized to students in other levels of postsecondary education. Although they share some parallels with university students, students at the community college level have distinct needs and challenges. Another limitation is the use of the campus accessibility office as a point of recruitment. Most of these students utilize sign language interpreters, which might cause the sample to skew more heavily toward the experiences of students who utilize interpreters, rather than deaf or hard of hearing students who rely on speech and speechreading to communicate.

Data Collection Procedures

The author utilized a semi-structured interview protocol (see appendix A), presenting the questions to students in American Sign Language. I video recorded the responses, then translated them into voiced English, and finally transcribed them. One participant did not communicate using American Sign Language, and that interview was voice recorded and transcribed.

Interviews

Interviews were semi-structured and students were given an opportunity to expand on the questions at their discretion. Estimated length was one hour. I interviewed 19 students, to ensure saturation was reached. These interviews took place in American Sign Language and were videotaped, and students received $20 in compensation for their participation. Compensation is important for such a disenfranchised group. I wanted to make sure that I am not simply taking from the deaf community without giving them something in return. Because I am a member of the majority (hearing) culture, I do not want my research to promote further
disempowerment of the deaf community. I explained my background in deaf education and my role in the community as a sign language interpreter in an effort to build rapport with students, and answered any questions they had about the study and the research process.

Informed Consent and Demographic Questionnaire

I explained the consent form (Appendix D) indicating participants understand the purpose and methods of this study in American Sign Language before I asked the participants to provide a signature. Students were notified that information from the interviews was confidential and were assured that their names would not be shared with administrators, staff or faculty. Assurances of confidentiality assist with validity because students are more likely to provide honest answers during the interview process (Merriam, 2009). Data was transcribed, manually coded, and analyzed to identify themes in the experience of deaf students attending community college.

Students completed a demographic questionnaire before each interview (Appendix F) in order to capture additional demographic information such as high school GPA, age, and parental degree attainment. Participants were given pseudonyms to ensure the responses remain anonymous and to protect student identities. I utilized Qualtrics software to compile questionnaire responses.

Data Analysis and Coding

Data analysis helps the researcher make sense of the collected data, and “is the process of bringing order, structure and interpretation to the mass of collected data” (Marshall & Rossman, 1999, p. 150). This process starts during the first phase of data collection (Creswell, 2009; Merriam, 2009). For this dissertation the primary method used to analyze the data was
open coding (Merriam, 2009) where the interview transcripts were reviewed for themes that helped draw accurate conclusions about deaf and hard of hearing participants’ perceptions of the community college experience. The data collected was used to identify categories, themes and patterns in the participants’ responses, with the research questions and Bronfenbrenner’s Ecological Theory (1977) used in conjunction as a “concept map” to help identify salient themes and relationships.

Analytic memos were also utilized in this research. After each interview, I wrote detailed notes, keeping in mind the conceptual framework and research questions. These notes assisted in analyzing patterns and relationships as they emerge. Codes were applied to various quotations from students and assist in identifying emerging themes and relationships even more.

The process of coding labels data systematically (Merriam, 2009). These labels or codes fall into categories that help organize the data. The process of open coding developed labels as the data was analyzed, and participant responses determined the codes. For example, since most of the Deaf students indicated the sign language interpreter significantly influenced their performance in a class or in extracurricular activities, “role of the interpreter” emerged as a code.

This study utilized manual coding (Creswell, 2009; Merriam, 2009). After reading the transcripts several times, I developed an initial list of codes. These codes and “subcodes” were marked where identified placed into categories in the written transcripts using Atlas.ti software. Subsequent readings of codes allowed for refinements and further assisted in identifying themes and categories. The themes and categories were organized in accordance to
how they answered the research questions, and student quotations which support the themes were showcased.

Validity and Reliability

Themes that have emerged from the data were discussed with a professional in the field of hearing loss and deaf education. A Deaf individual also reviewed some of the video-recorded interviews to ensure the accuracy of translations. This process of peer review includes colleagues reviewing some of the videotapes and assessing whether or not the findings are consistent with their knowledge of the Deaf community, based upon the data. This process also helps to ensure the soundness of the findings (Merriam, 2009).

Reflexivity and Researcher Role

The role of researcher reflexivity is an important one in qualitative research. Lincoln and Guba describe researcher reflexivity as “the process of reflecting critically on the self as researcher, the ‘human as instrument’” (2000, p. 183). This type of reflection allows the reader to understand why the researcher came to the conclusions s/he did, and allows for an explanation of the individual researcher’s values and expectations, and how these values and expectations influence the conduct and conclusions of the study (Merriam, 2009).

My interest in the field of deaf education is long. In third grade, my mother bought me a placemat with the sign language alphabet on it. I was enamored, and quickly memorized all the hand shapes. About the same time, I decided I wanted to become a teacher when I grew up. My high school offered American Sign Language as a foreign language course, and I quickly enrolled. That class introduced me to Deafness and Deaf culture. As I learned more about the values and interests of the individuals in this culture, I decided to combine my interest in
Deafness and education to become a teacher of the deaf after high school. I enrolled in the Deaf Education program at Baylor University where I earned my Bachelor’s degree.

My deaf education background and my role as a sign language interpreter place me in a unique position in the deaf community. I am already aware of the academic struggles deaf people face in elementary and secondary settings. As a hearing person, I have to be careful to respect the deaf culture, and not adopt a “hearing people know best” attitude. While I understand and empathize with the struggle of the deaf community, hearing loss is not something I have experienced myself. Therefore, I will never completely understand their experiences, and should not presume I can.

Sign language interpreters receive very explicit training about simply being the voice of the deaf person. We are taught not to speak for the deaf person, rather to act only as the conduit so the voice and opinion of the deaf client can be expressed. Qualitative researchers, of course, understand the complexity of this task. A researcher’s experiences and background always affect how s/he perceives and interprets information. With that in mind I was transparent with participants about my background and my reasons for wanting to pursue research in this area.

Reciprocity

A research brief was developed and shared with the campuses where the research was conducted, the Postsecondary Educational Programs Network (PEPNet2) a national center dedicated to improving postsecondary outcomes for individuals who are deaf or hard of hearing, local non-profit agencies such as the Deaf Action Center and Callier Center at UT Dallas, and the Department of Assistive and Rehabilitative Services, which oversees tuition waiver
program in Texas. Findings from this research have been submitted to the Community College Journal of Research and Practice, the Journal of Deaf Studies and Deaf Education, and the Journal of Higher Education and Disability. Additionally, some of this information has been presented at various national educational research conferences, including the Association on Higher Education and Disability (AHEAD), and Association for the Study of Higher Education.
Chapter C

Introduction

This chapter discusses the results of the one-on-one interviews conducted to explore the experiences of mainstreamed deaf students attending a southwestern community college. These students attend college with hearing peers, rather than attending an all-d/Deaf institution. After discussing participant demographic characteristics, this chapter reports findings that emerged from the research, including 1) reasons for enrolling, 2) the adjustment to the academic rigor of postsecondary education, 3) personal characteristics exhibited by students that aid in their navigation of community, 4) the role of family, 5) finances, 6) social aspects of college attendance, 7) campus administrative support, and 8) classes. A total of 19 individuals were interviewed for this study. Table C.1 provides a breakdown of student demographics, including major and transfer intent.

All students reported receiving a high school diploma. The participants in this study are relatively ethnically diverse, an attribute reflective of the demographics of the community college district as a whole. Most (12) of the students were enrolled in college part time, while seven were full time. Eighteen of the participants signed throughout their interviews, and one participant did not know sign language. Four had not declared a major. All but two students were collecting Supplemental Security Income or Social Security Disability Income. Four participants had part time jobs, one worked full time, and the rest were not working. While the students in this study were at various stages in their academic career, fifteen of the participants indicated that their current community college was the only postsecondary institution they had ever attended.
### Table C.1

**Participant Demographic Information**

<table>
<thead>
<tr>
<th>Name</th>
<th>Campus</th>
<th>Transfer Intent</th>
<th>Age</th>
<th>Enrollment</th>
<th>Race</th>
<th>Major</th>
<th>Non-Credit Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander</td>
<td>Excelsior</td>
<td>yes</td>
<td>20</td>
<td>full-time</td>
<td>Latino</td>
<td>Business and Culinary Arts</td>
<td>ESOL, DMAT</td>
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<tr>
<td>Aurora</td>
<td>Napier</td>
<td>no</td>
<td>20</td>
<td>part-time</td>
<td>Latina</td>
<td>Education</td>
<td>DREA, DWRI, DMAT</td>
</tr>
<tr>
<td>Avery</td>
<td>Napier</td>
<td>no</td>
<td>19</td>
<td>part-time</td>
<td>White</td>
<td>Computer Science</td>
<td>DREA, DWRI, DMAT</td>
</tr>
<tr>
<td>Cameron</td>
<td>Napier</td>
<td>no</td>
<td>42</td>
<td>full-time</td>
<td>Black</td>
<td>Electrician Certificate</td>
<td>DREA, DWRI, DMAT</td>
</tr>
<tr>
<td>Carrie</td>
<td>Napier</td>
<td>yes</td>
<td>22</td>
<td>part-time</td>
<td>Latina</td>
<td>Office Assistant</td>
<td>DREA, DWRI, DMAT</td>
</tr>
<tr>
<td>Cassie</td>
<td>Napier/Edebrook</td>
<td>no</td>
<td>27</td>
<td>full-time</td>
<td>Black</td>
<td>Medical Lab Technician</td>
<td>None</td>
</tr>
<tr>
<td>Denise</td>
<td>Excelsior</td>
<td>no</td>
<td>28</td>
<td>part-time</td>
<td>Black/White/American Indian</td>
<td>Occupational Therapy</td>
<td>ESOL</td>
</tr>
<tr>
<td>Geraldo</td>
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<td>yes</td>
<td>19</td>
<td>part-time</td>
<td>Latino</td>
<td>Computer Graphics</td>
<td>DREA, DWRI, DMAT</td>
</tr>
<tr>
<td>Harvey</td>
<td>Napier</td>
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<td>23</td>
<td>full-time</td>
<td>White</td>
<td>Computer Graphics</td>
<td>DREA, DWRI</td>
</tr>
<tr>
<td>Jennifer</td>
<td>Thayer</td>
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<td>31</td>
<td>full-time</td>
<td>White</td>
<td>Drafting Design</td>
<td>DWRI</td>
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<tr>
<td>Lan</td>
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<td>part-time</td>
<td>Latino</td>
<td>Computer Graphics</td>
<td>DREA, DWRI, DMAT</td>
</tr>
<tr>
<td>Name</td>
<td>Campus</td>
<td>Transfer Intent</td>
<td>Age</td>
<td>Enrollment</td>
<td>Race</td>
<td>Major</td>
<td>Non-Credit Courses</td>
</tr>
<tr>
<td>--------------</td>
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<td>--------------------</td>
</tr>
<tr>
<td>Marie</td>
<td>Thayer</td>
<td>yes</td>
<td>44</td>
<td>part-time</td>
<td>White/Asian</td>
<td>Accounting</td>
<td>DMAT</td>
</tr>
<tr>
<td>Marina</td>
<td>Carver</td>
<td>yes</td>
<td>23</td>
<td>part-time</td>
<td>Latina</td>
<td>undecided</td>
<td>DREA, DWRI, ESOL</td>
</tr>
<tr>
<td>Melissa</td>
<td>Excelsior</td>
<td>yes</td>
<td>19</td>
<td>part-time</td>
<td>Black</td>
<td>Fashion Design</td>
<td>ESOL</td>
</tr>
<tr>
<td>Monique</td>
<td>Edebrook</td>
<td>yes</td>
<td>43</td>
<td>full-time</td>
<td>Black</td>
<td>Digital Imaging</td>
<td>DREA, DWRI, DMAT</td>
</tr>
<tr>
<td>Naruto</td>
<td>Excelsior</td>
<td>yes</td>
<td>18</td>
<td>part-time</td>
<td>Latino</td>
<td>undecided</td>
<td>ESOL, DMAT</td>
</tr>
<tr>
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<td>part-time</td>
<td>Latino</td>
<td>undecided</td>
<td>ESOL</td>
</tr>
<tr>
<td>Pixie</td>
<td>Napier</td>
<td>yes</td>
<td>19</td>
<td>full-time</td>
<td>Black</td>
<td>undecided</td>
<td>DMAT</td>
</tr>
<tr>
<td>Sha’Condria</td>
<td>Edebrook</td>
<td>yes</td>
<td>40</td>
<td>full-time</td>
<td>Black</td>
<td>Social Work</td>
<td>DWRI</td>
</tr>
</tbody>
</table>

*Note.* ESOL=English for Speakers of Other Languages, DMAT=Developmental Math, DWRI=Developmental Writing, DREA = Developmental Reading.
Three students had deaf parents with whom they communicated in sign language, and the rest described a mixture of home sign language, writing, and lipreading as their primary forms of parental communication. Twelve participants’ parents had some college, four had at least one parent with an Associate’s degree, and three had at least one parent with a Bachelor’s degree. Ten participants had parents who received a high school diploma at most. Only one participant had never taken a developmental class. Two students wanted to receive certificates, one planned on earning a Master’s degree, and one wanted a Ph.D.

Findings

Reasons for Enrolling

Participants expressed a variety of reasons for selecting and enrolling in a community college, including a desire to transfer to university, transportation and proximity to home, course offerings, desire for employment, and the desire to improve their English skills influencing their college choice.

Aurora, a pre-education major at Napier, indicated she was in college “just to get my basics” which would allow her to transfer to a university. Transportation also factored into students’ college choice decision. Marina, a Latina at Carver College said, “I picked this college because I can't drive all over. I don't have a car, so I depend on my parents for transportation and the school is close to home.” Another Latina student also decided to start at Napier because it was close to home. Naruto, a first-year Latino from Edebrook said, “I picked this college because...I don't have money to be able to travel to get to school. This campus offers a free [Metro] pass and so I decided to take classes here.” The recommendation of peers, as well as the college’s proximity caused Avery, a computer science major, to enroll at Napier. “My friend
told me about this college, and then I realized it was close to my home, it’s like 5 minutes away by driving.” Others chose their specific campus because of the course offerings. One first-year African-American student said,

I picked this college because they had a lot of programs...I went to the website and I looked for which school had my major and this was the one that had it...you can be anything you want to be, and I want to be in fashion design. So this college was a really good fit for me. Some colleges don’t have it. [Ravenwood] doesn’t have it and [Edebrook] doesn’t have it so that’s why I picked [Excelsior].

Employment

The desire to find gainful employment also factored into students’ college enrollment decisions. Although higher education does improve employment outcomes for individuals with hearing loss (Weathers II, et al., 2007) finding employment still proved difficult for Cassie, even though she graduated as valedictorian of her high school and received a Bachelor’s degree in Chemistry from Gallaudet. She later enrolled in a Master’s degree program, but had to withdraw due to health issues. Despite her success at the undergraduate level, as a Black Deaf woman in the sciences, she still struggled to find employment and chose to enroll in a certificate program at a community college.

[After I got my bachelor’s degree] I was applying at hospitals, everywhere. It was really frustrating. My apartment lease lapsed and I had to move back here with my family...So I moved back home, and I was really frustrated looking for work. I was really having to scrape the bottom of the barrel in the kinds of jobs I was looking for. And then I wasn’t even getting those because a friend told me I was overqualified. So it was really a conundrum. I couldn’t get the lower jobs because I was over qualified and I couldn’t get jobs in my field because I didn’t have enough experience. So I had to figure out what to do. I decided to go back for an AA. I know that a BA is more advanced than and AA but what else could I do? I couldn’t sit at home all year and not do anything. I decided I’d go back to school and get an AA degree in medical lab technician because I love working in a lab.
Even though another student from Carver had not received a Bachelor’s degree, she related with Cassie. “I’m in college because I want a job,” she said. Career advancement also played a role in students’ choice of transfer institutions. One African-American student said she considered transferring to Rochester Institute of Technology because “I want to be a fashion designer and that’s near New York and they have a lot of fashion stuff there.”

English Enhancement

Many of the students in this study reported that their first language was not English, but American Sign Language. Like other second-language learners in postsecondary education, they had difficulties with reading and writing English, skills necessary to succeed in postsecondary education and employment and many participants reported the desire to improve their facility with the English language as a reason for enrollment. A White Computer Science major at Napier said “I’m here to improve my English skills and my communication skills so that I can communicate with hearing people more fluidly and fluently.” Geraldo, a Latino from Napier wanted to

improve my math skills so that I can be an engineer or a carpenter and to improve my English grammar and sentence skills so that I can be smart and be an intelligent person...First I have to improve my basic English skills and then if I improve those and am successful in those then I’ll take credit classes.

Another computer science major from Napier said, “I want to improve my grammar, writing and typing.” These quotes indicate participants understand the connection between a college degree, a career, social advancement, and the fact that skill with the English language can assist with navigation of postsecondary education. Cameron, a 42 year old black male who transferred from Excelsior to Napier, added
I need to learn more, read and study to understand deeply and then when I understand fully and then when I’m done I can transfer to a university with hearing people so we can write back and forth when we communicate and I understand what they’re writing.

Sha’Condria, a 40 year old mother of two spoke positively of her developmental English classes, despite juggling the responsibilities of being a wife and mother, in addition to being a student. She admitted, “[Developmental Writing] has helped me a lot...if I want to become a social worker then I need to be able to write English correctly.”

Many of the students reported visiting the tutoring center, usually with an interpreter, when they needed assistance with classwork. Marie, a multi-racial single mother of two said, “I get tutoring at the college. They have free tutoring there.” Students reported visiting tutoring mainly because they struggled with composition and various aspects of English grammar. One student acknowledged

My English isn’t good, so I go there [to the tutoring center] and show them what I’ve written. And they’ll... explain until I get it and help me edit it until it has good grammar and then I’ll turn it in to the teacher.

Monique, an African-American single mother of four admitted,

I have a problem with grammar. On the internet ‘My Writing Lab’ has different questions and grammar help to help write better. Punctuation is also an issue. Colons, semicolons paragraphs, when to start one when not to. I mean I have gotten better...I go to tutoring. There’s a woman there that knows ASL real well, that can teach me in that way, through my language.

Lan, a student from Napier with a deaf mother said

Essays are sometimes difficult for me. I'll write something and then I'll get back all these corrections that I have to do on it. I'll go to the writing center. They have an English tutor there who will help me edit everything so I can make the English good and then I'll turn that into the instructor.
The students appreciated the individualized assistance offered by the tutoring center.

Sha’Condria said, “In the writing lab they’ll sit down and work with me one-on-one so I can learn the things about verbs and nouns and how that all works.”

However, the scarcity of interpreters posed a problem for some students when they needed tutoring. Harvey complained,

I go to the writing center to get tutoring ...but sometimes interpreters aren’t available because they’re out helping other deaf students so they might not have time to come to the writing center with me. There’s a scheduling conflict [but] sometimes in the CAO they have additional tutoring there with an interpreter.

**Academic Rigor and Time Management**

Like many first year students, the participants in this study reported underestimating the differences in work load between high school and college. Research shows that time management is of particular importance for part-time community college students like these participants (MacCann, Fogarty, & Roberts, 2012). Work prevented Peter, a Latino at Edebrook from being successful in his first semester at college. “I couldn’t get to class on time and I was tired because I’d been working so much...I got really behind in that class and so I dropped it and I just worked,” he said. A student from Napier stated

My first semester, in my Human Development class I got an F. It made me cry! It was the worst. It was the first time in my life that I’d ever gotten a failing grade, and I cried. I learned my lesson from that. And from then on I made sure that I was responsible to take care of my grades and do my homework and all of that. Time management is really important, you should focus on your studies more than on partying, focus on your grades, rather than hanging out and socializing, all of that. Make sure you arrive to class early so that you don't get into trouble.

Aurora, another Latina at Napier also talked about how time management was a crucial aspect of her college experience.
I really had to learn time management because I had four classes that first year and they were all different times and sometimes I wanted to do something during that time, I had an appointment during class time or whatever and that didn't work out. I didn't need to do that. I learned to prioritize my classes.

*Personal Characteristics that Support College Going*

The student responses in this study described several personal characteristics they perceived assisted in their navigation of a southwestern community college campus, including a strong sense of self efficacy, the idea that their hearing loss does not differentiate them from other students, the tendency toward self-advocacy, and the desire for self-improvement Their perceptions were influenced by the trends and changes in the macrosystem students witnessed and subsequently internalized.

“We’re not different from hearing students...we just can’t hear”

The “Deaf President Now” (DPN) movement at Gallaudet University in 1988 garnered national attention. The student body revolted and shut down the campus after the board selected the sole hearing candidate, Elizabeth Zinser, as university president out of three finalists. The protests brought national recognition to the rights of d/Deaf individuals. Zinser resigned and I. King Jordan, Gallaudet’s first deaf president was selected. In a press conference that evening Jordan stated, “Deaf people can do anything—but hear.” Subsequently, the idea that “deaf people can do anything except hear” is a common theme among Deaf advocates and those in the Deaf community, and was reflected in several participant responses. Aurora, a Latina in her second year of developmental coursework at Napier College, said, “We’re not different from hearing students. We can learn fast and everything...we just can’t hear.”
Carrie, another Latina at Napier, also believed deaf and hearing individuals did not have many differences. She urged hearing individuals, “Don't be afraid and say ‘Oh this student has a disability!’ No, we can interact normally…We can interact just like hearing people.”

Marie, a biracial 44-year-old mother of two agreed that deaf and hearing individuals’ only differentiating characteristic was their hearing loss.

[In my opinion, if deaf and hard of people will approach hearing people, they can teach them and then the hearing people can teach them in return. We do the same thing as hearing people and the hearing people can do what we do and the only difference is that we can't hear. As long as someone teaches them there is not a problem... I never say no to a person when they ask me [questions about my deafness] because it not just gives them, but it also gives me, the opportunity to show them, the hearing people, we can do it...because we are all the same.

Self-Improvement and Self-Efficacy

Students also exhibited a desire to improve themselves and the belief that they could do so through postsecondary education. When asked why he was in college one student said it was because “I want to be smart, not stupid. And I want to be independent.” Another believed, “The college experience is great. I can feel good about myself instead of just staying at home doing nothing, just going to work and coming back home. I'm doing something about my life.” Marie said, “I am keeping my promise to myself that I would finish college because my goal is to become an accountant...I am going to college because I don't want to complain about my life.”

One student who moved from Edebrook to Napier and mentioned, “I want to improve myself and improve my life” while another “decided to go to college to continue my education [after high school] and to improve my skills.” One first-generation student had no regrets about enrolling and was glad she had done so. “I really do like college. I feel really motivated because I want to do more in the future at the university. That’s what I want.”
The participants in this study exhibited a strong sense of self-efficacy. All participants expressed a strong belief in themselves and their ability to succeed in postsecondary education with hard work. When asked what advice she would give to other deaf students attending college, Melissa, a first generation student said, “Don’t give up, just work really hard, and don’t let people talk down on you and say you can’t do it. You can do it and that’s it...You can be whatever you want to be.” Jennifer attended three other colleges before receiving an Associate’s degree from Thayer College. When a friend expressed concern about Jennifer’s ability to complete a college degree, she used it as motivation to continue her education. “I did it [this degree] because someone said ‘you can’t do that. It’s really too hard for you.’ And I was like oh really? Well I’ll show you. I’m going to prove you wrong.”

In conjunction with self-efficacy, students indicated they believed they would achieve their desired results through hard work. Alexander is a hard of hearing Latino student at Excelsior. Alexander mentioned his expectations of and preparation for college included “get[ting] ready to work hard and study, and learn hard [sic] too.” Upon entering college, Naruto, another Latino student at the same campus said he knew he needed to go ahead and work hard, not to be stubborn, to try to always do my best no matter what, not to give up, to always try to be successful and graduate. Never to give up; just put to the side the naysayers just forget about them, and go ahead onto college. To always focus on my goals and doing my best.

Quotes like these indicate students have some understanding about the requirements of postsecondary education and its subsequent responsibilities and workload. Additionally, they felt academic success or failure rested almost solely with themselves, not the institution or their instructor.
Many participants expressed that their college attendance sprang from a desire for self-improvement, career advancement in general, and their English skills in particular. Avery, a Computer Graphics major at Napier stated “I’m here to continue my education... I’m motivated to learn interesting things...I have some basic skills and I need some advanced skills.” Naruto said “I have...to improve so that I can be better than I was in the past.” Cameron, a 42-year-old Black male who transferred from Edebrook to the Electrician program at Napier mentioned “[I want to] improve myself and improve my life.” Marie maintained she attended college because she loved learning and stated, “I want to know everything.”

Self-Advocacy

Research on students with disabilities shows that self-advocacy is an important aspect of student success (Barnard-Brak, Davis, Tate, & Sulak, 2009). The students interviewed exhibited a willingness to self-advocate when necessary. A student from Napier described self-advocacy the following way:

If you’re not satisfied [with your accommodations] discuss it with people. If you’re in the wrong class and or if you’re not satisfied with the interpreter you have to let the campus accessibility office (CAO) know. It’s your responsibility. You have to be independent. You can’t depend on anybody. Sometimes your efforts are successful and sometimes they’re not, but you have to do it.

Jennifer stated,

You have to learn to stand up for your rights. I have the right to pick which interpreter I want. I have a right to say which one matches my needs and communication style...I had to call the [main] campus. I was like “Hey can you tell them to quit messing up my schedule of interpreters?” I called the CAO there because she was changing the interpreters every day.

Cassie related the need to educate her hearing peers in the classroom about different aspects of accommodation. Cassie discussed one instance of a notetaker stepping outside the bounds of
her job description. The notetaker thought she was being helpful by telling Cassie and her interpreter where to sit and what to do in class, but Cassie thought otherwise.

She wasn't taking notes, she was telling me what to do and that made me angry. I said, “Excuse me. You know, I know what to do. I've been in all these other classes so you need to calm down.” It bothered the interpreter too. [The note-taker] was incorporating her own opinion then her thoughts into the note-taking. I said, “No, I can ask the teacher questions myself. Your job is just to take the notes and that's it.” She was asking questions the instructor questions. That really made me angry...and so finally I wrote her a note. I said, “Please don't ask the teacher any questions because you're just the note-taker. Save your questions for after class.” I didn't want them to think that I was the one asking the questions. Her attitude was like “Oh poor deaf person. I need to help the deaf. I need to help her.” In the lab tech class, another student came up and said, “The teacher said this and this and this.” I said, “The interpreter already told me everything.” The person was like, “Oh, I thought you're deaf and you needed help.” I said, “No, I'm good. Thank you.”

In another class, when she was inadvertently placed in a seat at the back of the classroom, Cassie was not afraid to speak up about her need for preferential seating. “I told them I'm deaf. I need to sit in the front. I can't sit in the back. I need to be up front so I can see the interpreter.” Cassie's independence and self-assuredness allowed her to educate her hearing peers and eliminate misconceptions about the ability of d/Deaf individuals to succeed in a postsecondary setting.

These statements indicate some deaf students understand the need to take it upon themselves to speak out. Not every student related an instance of speaking out about the need for accommodations or adjustments in the classroom. This might be because their instructors and classmates were proactive about providing the assistance or accommodations necessary, or simply because the students have become so accustomed to speaking up, they do so as a matter of course, and fail to recognize doing so as something out of the ordinary. Since students with hearing loss represent a smaller portion of the overall college population, their needs are
not always readily recognized. Therefore, many times it falls to the students themselves to let instructors and classmates know when their needs are not being met. This requires an environment where students feel comfortable in expressing their needs.

*Role of Family in College Going*

The role of family was varied for these participants. Some individuals stated family members as the catalyst for their college enrollment, others received support navigating the college environment, and still others reported turning to family for encouragement during difficult times. Sha’Condria said,

> Really [I enrolled in college] for my children. I want them to see me be successful. I tell them that they have to go to college and I want to be an example for them... I want to have success for my kids in the future.

“My motivation that got me into college was my parents,” a student from Excelsior said. “They didn't go to college, and I will be their second son that graduated from college.” Marie said,

> I want my mother and my father to feel good that they have three children with some kind of degree...I have two brothers who went to aviation school for their engineering degree, so now I feel that I need to earn a degree as well. Not only because of that...but I also want to motivate my own children.

Family also factored into some students’ decision to attend college. “My mom wanted me to go to college so that's why I'm here,” one student stated. Naruto even spoke of college for his future children as a forgone conclusion.

> When I have kids in the future, if they’re hearing, I need to figure out, I don’t how I’m going pay for them to go to college. I’m not going to be able to afford it. If they’re deaf fine you know we can use the tuition waiver, but if they’re hearing ...I really need the prices to be less, the cost [of college] to be less if my family is hearing.

Family members figured prominently in students’ description of their college experience. A student from Napier said her parents significantly assisted her with navigating college.
My parents, they encourage me…they help me with college…they help me find help, they help me if I have a hard time understanding something, they’ll explain. And they help me with my homework because my parents are really good at math so they help me with my math homework. If I can’t hear something, they explain what the people are talking about, what the people around me are talking about.

Peter, a Latino from Excelsior said

Mom, she helped me apply online at home then we came here [to campus]…My mom came with me to help me see how to find [the Campus Accessibility Advisor] and how to meet him. She helped me figure out where his office is and all of that…and she helps me make sure I understand what people are saying.

siblings also factored into students’ navigation of the campus. Pixie and Cassie are sisters, but very different in how they carry themselves. I interviewed them separately, and although they share many of the same physical characteristics, the difference in their personalities was almost immediately evident. Cassie radiated confidence, and she sat at the table across from me, head held high, shoulders back, and looked me directly in the eye. Pixie was almost the exact opposite. She sat across the table from me, shoulders slightly hunched, chin dipped down, and looked at me over the top of her glasses. Pixie mentioned that she looked to Cassie for leadership and advice on college-going. Pixie said, “My sister [Cassie] helps me by advising me about classes that are actually worth my time. For the Science class, she told me to take Biology and not Physics, because she knows I have issues with Math.”

Family served as a point of communication access for Jennifer. “[I chose this school] because I have a big advantage, my mother works here as an interpreter so I was able to get some really good interpreting here,” she said.

Sha’Condria, also stated her family helped her succeed in classes. “My husband and my daughter…the two of them help me. I have my daughter look over my papers…She’s a very smart girl.” Marie’s daughter was also a college student.
My daughter is currently in college. She is in the same college as I am ...she and I kind of challenge each other in college now...Sometimes my daughter helps me with homework and classes. She does a lot of my proof reading.

Naruto, another Latino student from Excelsior also discussed how his family provided encouragement.

My family helps me because they make sure I go to school every day, help me to focus, make sure I get good grades so that I can graduate and finish and they encourage me to go to college. I’m the only one in my family who’s gone to college.

Carrie, a Latina from Napier, echoed that sentiment. “My family, they do encourage me, they have encouraged me to go to college first and then get a job and then start a family, and that’s their expectations of me.”

Finances

The cost associated with college is a hurdle for many student in postsecondary education, and as the participants in this study showed, students with hearing loss are no different. Financial difficulties featured prominently in students' reports of their college experience. Eighteen of the nineteen students in this study were using the state tuition waiver. However, financial difficulties still were part of their college experience. Harvey said The only negative aspect of my college experience is the money I have to pay. Department of Assistive and Rehabilitative Services (DARS) didn’t pay for one semester and I had to pay for my books and art supplies myself. That was a big deal because I had to pay out the nose for them. Almost the whole fall semester of 2011 I paid for everything myself and that was really difficult...then the next spring semester DARS finally reimbursed me and I got the money and was able to pay that off. But that was tough.
The cost of textbooks was also a recurring theme among the participants’ responses. Naruto said,

I’ve had problems getting my books and paying for books. They’re expensive. It’s a lot of money for new books. I can’t really afford them, I wish they were cheaper. They’re so expensive…One time I needed a book for class but it was really expensive but I couldn’t afford it at the time so I had to wait and save up my money.

Despite having a full time job, Marie said

I usually have to save up my money with my overtime pay and set that aside for school [books]…but I am taking just one class… if I were a full-time student that would be a real problem to buy books myself.

Harvey said, “With the financial aid, I didn’t know how to pay for anything, I just had to figure it out myself.” Naruto found out about financial aid by accident.

I went on [the school’s web portal]to make sure I had the right books, and there’s all these links about buying books, your grades, the classes, the [financial aid] money. My mom told me to click that and then we did and then up popped a window that said the money was for college only. You can’t use it to buy a house or get an apartment or anything only for college related expenses. So the [financial aid] is to help you for your college classes to help pay for books and things like that, college related expenses. It’s a grant and I applied for that.

Sometimes, family members assisted students with their financial difficulties. Avery said,

Mom supports me by helping pay for my classes sometimes. I don’t have a lot of money right now so she supports me that way. My mom supports me a lot. She gave me $250 to pay for my classes, books and food. Anything I need. And for gas too.

Melissa said, “Sometimes if I need money for books or supplies I’ll ask my dad to give me the money for the books or the supplies.”

Department of Assistive and Rehabilitative Services (DARS)

Some students mentioned financial assistance provided by the Department of State and Rehabilitative Services, an entity designed to eliminate societal and communication barriers to improve equal access to employment for people with disabilities. Alexander said, “They help me
by paying my college and my books and stuff.” Marie also appreciated the monetary help. “I like how DARS provides a lot of help for college... they help pay for my college. I pay for my own books because of my qualifications.” Carrie did not report any problems either. “I asked them to help me pay for books, and they did and everything worked out fine for me. I haven’t had any problems.” Lan exhibited a basic understanding about requirements and DARS processes. “DARS used to help me but they’re not helping me anymore because they want you to take four classes, they want you to be in school full-time, and I can’t do that.”

Other participants had difficulties, and some students were not clear about DARS processes.

Melissa: Right after I graduated in 2012 from high school, my first semester in college they paid for my books.

Interviewer: But they haven’t paid since?

Melissa: No. No they haven’t.

Interviewer: Do you know why?

Melissa: Really I don’t know. I email them sometimes. They ask me how I’m doing in my class.

Avery said, “They didn’t accept me. They said I wasn’t eligible” and he did not completely understand why. Others mentioned slow response times from their counselors. “I don’t have DARS because they take too long to respond back to my e-mails so I just did everything on my own,” Peter said.

“They’re late on everything so I’m used to paying for my own books. DARS doesn’t reimburse me,” Aurora explained. “My mom’s helping me pay for books because DARS is always late.”
Social Aspects of College Going

Participants discussed various aspects of their social life in college, including their heavy reliance on deaf peers, communication barriers experienced with the hearing population and suggestions for alleviating those barriers, and participation in extracurricular activities.

The Role of Deaf Peers

The social aspect of higher education was evident throughout students’ responses. Students reported they typically met peers through classes and enjoyed the socialization opportunities afforded by the college environment. About half the participant responses supported the idea that a “critical mass” of deaf students is desirable for students to attend and thrive at postsecondary institutions. Critical mass refers to the idea that students with hearing loss should experience interaction with “age appropriate peers and common language users in order to experience authentic peer interaction” and that it is important for students to have classmates and teachers with whom they can identify and communicate (Bowen, 2008; National Association of the Deaf, 2011). This is sometimes difficult to do in the K-12 setting when students are co-enrolled in schools with hearing peers, and might be one of the few students with hearing loss on campus. Once they enter postsecondary education, they often seek out peers with similar backgrounds. Harvey said

When I first got into this college, I was the only deaf one. I was like do you have a deaf program? There was really no support but I just bore through it. I was mainstreamed in high school as well so the community college was really the same thing for me, [then] more deaf people started coming...so [the environment] has really improved and changed for the better.

Some indicated that peers with hearing loss were the reason they chose their institution, like in the case of Peter who picked Edebrook College because he “knew other deaf people there.”
Peers with hearing loss play an important role once participants arrived on campus, helping students’ navigate postsecondary education. One student said,

The first semester I came to this school I was so lost. I said, “Where am I?” I asked one of my deaf friends, “Where is this class? Where do I buy the book? Where’s the library?” My friends helped me a lot in figuring out how to navigate the campus, where the gym was, where the library was—everything. My friends showed me all that...If a deaf person is new to campus, if there’s other deaf and hard of hearing students they can help you a lot and they can give you advice.

Carrie, a student in an Office Administration Certificate program at a different campus, related an almost identical experience.  

I didn't know what to do after high school. When I came on campus I didn't know what to do so I asked my Deaf friends, “Hey do you mind helping me out and showing me where to go? Help me know how to navigate campus, get around campus, how to fill out the application to get into college.”

Naruto also relied on d/Deaf peers who had prior college experience. “[Lamar] and [Akil]...they already knew what to do. I asked them and they were willing to help me. I asked them questions and they told me different information to help me catch up.”

Peers also assisted Carrie with other aspects of college.  

[My deaf friends] help with homework, or if I’m not understanding something or if there’s a phrase or something that I don’t know, I’ve never seen before or heard before because I’m a member of the Deaf community. I'm still learning and I'm trying my best so I'll ask friends for help or assistance, if they don't mind helping me out with my homework or whatever.

Jennifer agreed, stating “There’s been one other Deaf student in my class...and we talk to each other. Like hey do you understand? Then I’ll explain or he’ll explain and we’ll help each other out a lot.” One Latino student from Excelsior said, “We tutor each other. I can tutor my friends and they can tutor me to help us all reach a better understanding.” Another student noted,
“[Pixie, another deaf student here] is really smart and she helps me...She's already finished the classes I'm taking so sometimes she helps me to understand. She explains it more.”

However, deaf peers were not always looked upon as conducive to academic success. Although participants did assist and receive assistance from Deaf peers when necessary, they acknowledged that sometimes Deaf peers could be distracting. While the adjustment to the freedom of postsecondary education can be a difficult transition for any student, it can prove even more challenging for students with hearing loss. This is especially true for students who come from the boarding school structure of deaf residential schools, and who sometimes find it difficult to focus on academics once they reach higher education (Drezner, 2008).

Lan is a student at Napier who was born in Mexico and moved to the United States with his mother, who is also deaf, in 5th grade. Despite his mother’s hearing loss, Lan indicated that she does not know formal sign language due to her isolated upbringing in Mexico, and that they communicate in home sign. Home sign language is not formalized, and typically consists of whatever gestures the family creates in order to communicate with each other. Other deaf individuals or individuals familiar with sign language typically do not understand home sign because much of the language is specific to the family.

Lan mentioned his familiarity with college campuses in general, and stated that he had visited colleges in middle school and high school for field trips. This afforded him some familiarity with higher education in general, and perhaps because of this, Lan was mentioned by several other students as a source of assistance for navigating the college campus. His connection to and relationship with other student was evident in his interview. “I tend to chat a
lot when there are other deaf people in class,” he said. “I have to remind myself to do my socializing outside of class.”

While a critical mass of deaf students was important, too much socialization with peers in the student center proved to be a hurdle for Harvey.

They set up this gaming area in the student center and I was like ugh, we should not be playing games! Wasting my time and distracting me from school work.[laughter] Ruining my time management skills because I have homework...That’s one of my bad habits. I love to play games, and if I see someone playing, I’m going to blow off my homework.

In fact, some students mentioned they preferred going to colleges without large numbers of deaf or hard of hearing students. Jennifer said,

I like going to a hearing college because I am by myself. I’m not distracted chatting in class with other deaf people. No—it’s just time to focus, I need to focus on my work and that’s what this is about. There’s a lot of temptation when there’s a lot of deaf people. And you have the tendency to procrastinate on your schoolwork.

Cameron echoed a similar idea. “I really don’t mind if the school has a lot of deaf students or not. That really doesn't matter to me. I'm comfortable either way.”

Hearing/Deaf Interaction

Participants expressed a desire to interact with hearing people and not be isolated because of their hearing loss and subsequent communication barrier. They achieved this in a variety of ways. One student stated, “I communicate with hearing individuals by gesturing—I’ve gotten people to gesture more. Along with writing, but sometimes writing can be misconstrued so we gesture. Whatever it takes to be comfortable.” Another said, “Deaf people try to do a lot of gestures when they’re talking with hearing people so that hearing people understand and get it.” Harvey, a computer science major said

Hearing and deaf individuals can socialize together. We shouldn’t be separate. We should be together—Hearing and deaf. We should communicate with hearing people
and the deaf improve their grammar and the hearing improve their sign language and learn and be able to socialize more. There’s really been these separate groups since I don’t know when and I really feel like we should interact together more.

Marie agreed,

Sometimes I will see a group of deaf people over here in one section and hearing people are all over but they do not want to intermingle saying hi or introducing themselves. I don’t see [intermingling] happening very often... if deaf and hard of hearing people will approach hearing people, they can teach them and then the hearing people can teach them in return. We do the same thing as hearing people and the hearing people can do what we do and the only difference is that we can’t hear. As long as someone teaches them there is not a problem...I think a lot of deaf people are afraid to socialize with other hearing people. Part of it is because they think hearing people don’t understand what deaf people have to go through.

When asked about his hearing peers, a student from Napier replied, “People are nice and willing to help. I’ll ask them ‘Do you mind helping me out?’ And they’ll say ‘Sure why not?’ I write back and forth with hearing people to communicate, to give more understanding. They’re pretty nice.”

*Communication Barriers*

For the most part, students indicated they enjoyed interacting with both deaf and hearing peers, and made an effort to socialize with their peers whenever possible. However, sometimes attempts to interact or socialize with hearing individuals were unsuccessful. Many hearing individuals fail to understand the importance of facing a hard of hearing individual when having a conversation. “Sometimes they turn around and I won’t understand them, because I have get them to repeat what they say,” Alexander said. “Sometimes it’s difficult to communicate with hearing people because I don’t always understand what they’re saying,” explained Naruto. “I’m not able to read their lips clearly and sometimes it’s hard for me to voice clearly so that they understand slowly and clearly enough for them.” “With hearing people you
can’t always understand what they’re talking about. They have overlapping conversations, they talk at the same time, and I can’t keep up,” one student complained. Another agreed saying,

With hearing friends, they can sometimes speak a little more quickly and I get lost. Sometimes I don’t understand what’s going on or what they’re talking about and so I have to stay quiet for a little bit because I can’t be in the conversation. When they’re talking with other hearing people and I don’t know what they’re saying, I just stay out of the conversation because I don’t understand it.

Pixie admitted

I think [hearing people] are mostly nice but I don’t know really how to approach them or how to get them approach me, so I don’t really do anything about it. I don’t really approach anybody. I just sit in the class, listen to the lecture and then go home. I don’t really have hearing friends…They have hands-off attitude, like “Here is this deaf person, but I don’t want to talk to her”…I don’t know what was going on.

Other students reported similar barriers to interaction with hearing people. “The hearing students are hesitant to approach me. It’s like they're afraid, they don't know how to communicate with the deaf student,” Cassie said. “Hearing people don't interact or try to talk to me or interact with me a lot,” one student said. “When they see a deaf person, they’re like, "‘Oh, he's deaf’ they think…They push you to the side.” Another student related a difficult experience with her hearing advisor.

Carrie: With the hearing advisor it's really hard for me to communicate, so we brought in an interpreter. I said ‘Hey, can you help me? I want to change my major.’ It was a little bit difficult for me mediating between the interpreter and the counselor and what the interpreter was saying and what the counselor was saying.

Interviewer: Why was it difficult?

Carrie: Well, I'm different, I'm deaf, and the counselor was hearing. And I've been exposed to hearing people, I have experience with hearing people, but it was a little difficult because this is a college level and college level isn't something I've experienced before. So that was difficult. There was a lot of vocabulary that I didn't know. And so that's why it wasn't easy for me.

Interviewer: How did you feel in that meeting with the advisor?
Carrie: I don't know. It's kind of hard to explain.

Interviewer: What do you wish had happened?

Carrie: Really, I wish that I was hearing. I wish that I was a hearing person, yes. Then I thought about it and I was like ‘No, I don't have to be a hearing person,’ because I'm proud to be deaf. I wish I was hearing because the communication would be easier, because I sign, people don't always understand that. And writing back and forth with hearing people is tedious and difficult, and it's not easy.

Interviewer: In that meeting with the counselor, even though the interpreter was there was it still hard for you to understand?

Carrie: Yes, because the interpreter was signing a different language the interpreter was signing English, not ASL. And I used to know English signs, but I've since learned ASL and so now it's hard for me to switch back. I've been hanging around with friends and people who know ASL, and I learned ASL from them, so I was really confused in that meeting because going back to English was really a shock. But, when I was in K-12, I signed English.

Rather than recognizing that the interpreter should have accommodated her needs and provided Carrie with communication access in ASL rather than Signed English, Carrie attributed the communication breakdown to herself and her lack of hearing.

Instances like these led some students to express their preference for interactions with other individuals with hearing loss. “It's more fun interacting with deaf people,” Carrie believed. “Hearing people’s speech, I can't really understand and it's not as fun and interesting as sign language.” One student said, “I can understand deaf friends more. I'm more comfortable with deaf than I am with hearing.” Pixie mentioned something similar. Despite feeling that sometimes hearing people were “more at her level,” she continued to “hang out with deaf people a lot, because it's easier to communicate with them.”

Alleviating Communication Breakdowns

Practitioners provide insight for best practices on communicating with individuals who have hearing loss. Making sure that you face the student so that’s/he can read your lips and/or
facial expression, rephrasing sentences, and writing information down are all practical tips to aid in communication (McConnell, 2002). Although students in this study cited barriers to communicating with hearing individuals, they also had suggestions for alleviating those barriers. “My advice is to be patient with them so that they can understand you need help,” Alexander cautioned. “If you’d like to help the hard of hearing, you can learn a lot from them, and maybe you will also learn a little about yourself.” Cassie supported Alexander’s suggestion. “Have patience and understand that they’re trying to read lips,” she said. “Don’t speak too quickly. And if they don’t understand, write it down, and be patient.”

“You can sign the ABC’s. You can learn some simple signs and fingerspell some things,” Carrie suggested. “If you want more in-depth conversations, learn more sign language and become more advanced in your skills. They’ll teach you. A Deaf person will teach you.”

Extracurriculars

Four of the participants reported involvement with extracurricular activities. Denise participated in a Black mentoring program as a mentee. Jennifer was extremely involved in campus activities.

I’m really proud of myself. I’m in Phi Theta Kappa, an honor society here, and president of the American Design Drafting Association. I was the first Deaf president that they had…it was a really fun activity. I had an interpreter there at the meetings with me….and a few students who knew a little bit of sign. They were really motivated they wanted to interact and I had more of a connection with them.

Monique, a single mother with four children, also reported campus involvement, at one point participating in a Deaf culture/ASL club on campus, and serving as a photographer for the school newspaper. Sha’Condria, a Black student from Edebrook spoke of her involvement in Phi Theta Kappa, the transfer honor society, as well as in the Deaf community as a deaf beauty
pageant winner. Alexander was not aware of any clubs that pertained to his major, and cited that as his reason for lack of involvement in extracurricular. Most of the other participants indicated they needed to focus on their academics, and were not able to allot the necessary time to extracurricular without their grades suffering. A Latina from Napier said, “I just need to focus on my schoolwork.”

_Campus Administrative Support_

Campus Accessibility Office

Each college has a campus accessibility office, (CAO) which is responsible for provision of necessary accommodations for all students with disabilities. The law fails to articulate the manner in which the accommodations should be provided, so such details are at the discretion of each institution. The extent of coordination for accessibility services is left to each college, and it depends largely on the size and financial means of the institution. The number of students with disabilities on a campus has little or nothing to do with what kind or how many accommodations the college or university is required to provide (Wilson, Getzel, & Brown, 2000). Students’ needs and requests undergo review on an individual basis, and that process differs by institution, but each student must provide documentation regarding their disability by an appropriate medical professional.

The CAO serves as the gateway for many students with hearing loss’ college experience, since the CAO and individuals in it often control accommodations such as interpreter choice. Students reported interacting most frequently with an advisor or interpreter coordinator in the CAO and that most CAOs ensured they received the proper accommodations, but did little else. Of note is the more extensive services offered at Napier and Excelsior.
At Napier, one individual served a dual role as the CAO advisor and interpreter for students with hearing loss. This advisor had support from the dean, who attended specialized orientations with communication access for the deaf and hard of hearing students. This orientation included information about DARS, the transition from high school to college, and self-advocacy. At Excelsior, d/Deaf students were placed in a specific English for Speakers of Other Languages (ESOL) class with sign language interpreters and a Deaf tutor who was fluent in ASL. However, despite the CAO providing these services, when asked how the CAO influenced his college experience, one student had to stop and think for a while, as if he had not ever considered the role of the individuals in the CAO. Although students reported interpreters from the CAO also acting as advisors, participants generally did not report frequenting the office because the institutions had processes in place that made selection and provision of accommodations a relatively smooth process.

Some students reported infrequent, transactional interactions with the campus accessibility office. Cassie said “I go [to the campus accessibility office] every once in a while...the only reason I would go there is if I needed some help with my accommodations...but everything is already set up at the beginning of the semester.” Melissa noted that “I don’t really need to go in [the CAO] very often.” Carrie described it as “[the place] where I go for interpreters...if there’s an emergency I could go in there and ask them for help. I haven’t had to do that but I know that I could.” Alexander simply said, “They provide me with CART when I need CART for my classes...[because] sometimes I don’t hear the teacher or understand them.” Others noted they frequented the CAO for various forms of assistance. Pixie said,

[The advisor for deaf students] helps me find good qualified interpreters, and she makes sure that I’m comfortable in my classes. She tells teachers how to communicate with a
deaf student, what they need to do and she makes sure that the classes I’m taking are on my level. That they’re not too easy or too hard, just that they are just right for me.

Aurora, another student at the same campus, also mentioned the advisor’s assistance. “She helps me register for my classes.”

Occasionally, students referred others to the CAO. Peter had this suggestion: “My advice for a new Deaf person on campus would be to talk to the Deaf counselor.” Naruto went on to elaborate,

[The counselor for deaf students] helps me with knowing what tests to take, to figure out what level I’m on for the developmental classes so I know what my level is...if you need help or advice and you don’t know what to do about your class, then you need to talk to the advisor [for deaf students Jamal], and tell him “I don't like my class” or whatever.

Pixie also visited the CAO for direction. “I go to the disability office when I have questions and [the counselor] tells me what to do.”

However, some participants indicated that individuals in the CAO lacked understanding of specific issues related to deafness and hearing loss. For example, one student complained

You have to learn to stand up for your rights because that director of the CAO she’s clueless about deaf issues. She doesn’t know how to match all the students with interpreters to give the best fit for their needs. She literally has no clue, so you have to stand up for yourself and say hey, you know there’s the ADA. I have the right to pick which interpreter I want...I have a right to say which one matches my needs. Before she was hired on we had really good interpreters, but these last two semesters things have really gone to pieces.

Carrie also indicated that knowledge of ASL might be beneficial to those in the CAO. “I wish other people in the CAO would learn sign language, because [the advisor for deaf students] is the only one and they're working her to the bone.” However, the lack of people in the CAO who knew sign language did not seem to bother Lan.
I usually communicate with the people in the disability office by writing back and forth with them. First I tell them English is my second language before we start writing notes. So, I’ll say, “Hey, you know, English is my second language so please, write in basic English.” And they’ll do that for me. They’ll simplify the English so that it's easier for me to understand.

Marie wanted more contact with the staff in the CAO.

I think the CAO should interact with deaf and hard of hearing students more, so that they can get to know them better. They are usually in the office and the students are in the classes, I understand that but they should have some kind of social gathering.

While most students expressed familiarity with the CAO and how it worked, Alexander, an oral hard of hearing student was unaware of the resources available through the college.

I did not know that I should not have been going to class without CART...The teacher didn't know I was hard of hearing, or that I didn't know that we had an Accessibility Office downstairs. [It] was my first time [in college]...I made a mistake, I didn't know about it. I got there [the Accessibility Office] almost the third class of this semester. I was talking to the teacher after class to see if by any chance if they can help me out. She let me know that ...we had an Accessibility Office in the basement, she said, “You should go there to see if they can help you out.”

Interviewer: What happened when you went to the Accessibility Office?
Alexander: I was surprised that we had an Accessibility Office, they helped me out and they provided me CART and all of that stuff.

Accommodations

Accommodations including interpreters and other forms of communication access like Communication Access Real-Time Translation providers and notetakers also play an integral role in the academic experience of students with hearing loss. While there are many different kinds of accommodations including amplification devices and FM systems that pipe sound directly
into a user’s hearing aids, the participants from this study almost exclusively used interpreters. Often, interpreters are the gatekeepers for students’ access to educational services, from everything to classroom lectures to academic advising sessions and meetings with financial aid counselors.

For this study’s participants, the interpreter facilitated much of the communication students have in the community college. Quality interpreters have a sufficient grasp of all aspects of American Sign Language (ASL), and accurately convey the spirit of the message being provided by both the d/Deaf and hearing individuals using proper facial expressions and any necessary specialized vocabulary. They serve an integral role in facilitating communication between those in the d/Deaf and hearing world, since interpreters are knowledgeable of both Deaf and hearing cultures and norms and provides cultural and linguistic mediation, making any implicit information or ideas explicit when necessary. For example, if an instructor uses sarcasm, the interpreter should convey that to the individual with hearing loss, rather than simply interpreting the instructor’s words verbatim. Sign language interpreters are typically certified by a state (e.g. Board for Evaluation of Interpreters) or national agency (e.g. Registry of Interpreters for the Deaf). Because a relatively small number of hearing people are proficient in American Sign Language, qualified sign language interpreters can be difficult to obtain because their services are in high demand. Proper communication access is mandated by the American’s with Disabilities Act, but colleges sometimes have a hard time finding qualified interpreters due to budget limitations. However, without qualified interpreters, students do not have access to much of the information that occurs within their classrooms because of the hearing majority’s
inability to communicate in ASL. Jennifer even went so far as to recommend her college specifically because of its interpreters.

If a Deaf person is about to enter college, I would tell them to come here to this campus. Don’t go to other campuses. This campus has the best interpreters. You want to make sure that you get qualified interpreters. That’s really important.

Peter acknowledged “I communicate with my teachers through an interpreter” and Aurora said “[the interpreter] helps me go to the financial aid office and she interprets there.” Cameron explained, “One problem I have is like when the teacher would explain something I wouldn’t get it so I had to have the interpreter really explain it in depth, and then I was like, oh THAT’S what the teacher meant, and then I’d get it.”

Although students overall were satisfied with the skill level of their interpreters, they also acknowledged the variety that exists within the interpreting community and expressed a desire for highly qualified interpreters. Geraldo stated

I feel frustrated sometimes yea, because the interpreter doesn't interpret correctly and I'm sitting there trying to figure out what they’re saying. Sometimes I’ll go to Google for the answer I’m looking for. We need good qualified interpreters. The good [interpreters] I like because they match my communication level but the ones who only know basic signs, well. I try to understand them but sometimes I get confused...They’ll say something really off topic, and then we’ll have to get back to the subject and keep coming back to the subject. And then I’m waiting and waiting for the teacher to answer my original question and then finally I’ll get an answer.

Another student had a similar experience to share.

Sometimes, there are misunderstandings when I sign something and they interpret it, and they have to ask me, “Hey, can you sign that again?” Sometimes they don't understand my American Sign Language. I have a little bit of residual hearing so I can understand sometimes if they're voicing for me or not. Sometimes when I'm signing they just stop the voicing, and I'll look over and say, “Hey, why did you stop?” They'll say, “Oh, because I missed what you said. I can't understand. You're signing too fast.” Sometimes I feel like it's a waste of time and I don't like having to repeat myself all the time. But I have to go ahead and sign it again.
Interpreter quality influenced more than just students’ classroom experiences. In fact, low quality interpreters factored significantly in students’ college decisions. Jennifer said I didn’t like Middlebury College because the interpreters really sucked so I quit going there...[and] the reason I changed my major from Vet Tech to Engineering was because the interpreters there weren’t qualified or certified and they were really horrible. They didn’t know what they were talking about or how to interpret.

Despite occasional dissatisfaction with the quality of interpretation or communication style of the interpreters, students did not typically address these issues directly with the interpreters. When asked if he confronted the interpreter directly about the need to repeat himself, Cameron replied, “I don’t really say anything to the interpreters when they don’t understand me. I just go ahead and sign it again for them.” Geraldo handled the situation similarly. Rather than talking with the interpreter directly, he said “I’ll ask [a more skilled interpreter] if s/he can come interpret instead of them but if I can’t get that then I’ll just suffer through their interpretation.”

Carrie avoided direct confrontation with interpreters as well.

If I don’t like how they’re interpreting, I don’t tell them directly but I’ll go and I’ll tell the interpreter coordinator and say “Hey, this interpreter isn't working out for me,” and the coordinator understands that. And [the advisor for deaf students] will change the interpreters for me if I need it.

Part of this reluctance to confront interpreters may have to do with the students’ understanding of the resource scarcity. One student said “We need more interpreters here. I just want a bunch of interpreters to converge on Napier. We need good qualified interpreters.” Cassie received the accommodation of a CART writer for her speech class even though she preferred a sign language interpreter because according to the campus accessibility office (CAO), “There aren’t enough interpreters.” When asked about his transition and adjustment to college, another student cited one of the main struggles was the fact that “There weren’t enough interpreters.”
The struggle to find enough qualified interpreters also affected students’ precollege experience, which is reflected in Marie’s story of her placement in a class below her skill level due to the interpreter scarcity in the K-12 setting.

There were three students my age: one was in honors, I was in the middle and one was in the basic classes. When they wanted to put me in regular classes they did not have enough interpreters so they ended up putting me in the basic classes and it affected me because I was making straight 100s, the basic classes were too easy... it affected me for years until I finally told my parents that I need to be back on my level and they did finally put me at my level when I started Junior High School and that was here in [Abbyton].

This shows the importance and long-term effects that quality communication access can have on a student’s educational career. Educational institutions should make every effort to ensure that students have the proper communication access so that they are successful in the postsecondary setting.

Pixie related an account regarding a presentation in her speech class. She and the interpreter did not have enough time to practice and adequately prepare, which resulted in the teacher lowering Pixie’s presentation grade.

The interpreter in that case made me look stupid. I discussed it with the interpreter and the interpreter was very apologetic. The interpreter explained to the teacher that it was her [the interpreter’s] fault, not my fault. But the teacher just thought I was just making up excuses. I decided to deal with it. I didn't get a bad grade. I got a passing grade.

If an instructor does not clearly understand an interpreter’s role, that ignorance can have a negative impact on the student’s college experience and success in the class. In addition, it is the responsibility of the interpreter to ensure that s/he is providing the most effective communication for the student with hearing loss.
Student Perspectives on Classes

Participants from this student discussed their classes in a variety of ways, including their placement in different class types (e.g. developmental, credit-bearing, ESOL), instructional pacing, class content, and interactions with peers in the classroom.

Many students entering postsecondary education are not academically prepared for the rigor of postsecondary education (Bettinger & Long, 2005). Research indicates that developmental classes generally have a negative impact on student retention, since they increase student cost and time to completion (Hoyt, 1999). Harvey discussed the differences between his developmental and credit bearing classes and the difficulties with transitioning from one to the other.

[Developmental] writing is a good class but when I went into the writing class there was no help. You just had to do it yourself. Just individual work. I didn’t really like that...in the regular classes, it’s a lot more interaction and a lot more discussion and really the developmental and regular classes should be the same. You can’t have all this independent work and then when you get to your regular classes you have all this group work. You’re not ready for that...There should be more continuity... [The teacher] had us doing group work in the regular class while she was checking papers. So then when she was finished she went around the room asking “What did your group say? What did your group say?” There was a lot of discussion and people providing their opinions... We didn’t have in class assignments. It was a lot of discussion. And I wasn’t used to that because of the way my developmental classes had been.

Some students were taking developmental reading and writing classes while others were in English for Speakers of Other Languages (ESOL) classes. Students were divided on their opinion about their placement in developmental and remedial classes, although they understood the college’s reasoning for it.

It wasn’t that I wasn’t smart enough, it’s like you going to Japan and trying to write that without hearing the language. Same as someone from Spain or Mexico trying to write English if they only grew up with Spanish.
Cameron added “I really didn't mind taking developmental classes because I knew I needed to learn that content.” Carrie said “I liked the reading class, I really love reading, and I liked the writing class.” Pixie thought

developmental classes make me feel like everyone is not a genius, everybody has their own particular issues with different subject courses and different subject matter. It's okay to ask for help. They'll accommodate to your level better, so that's what I think my developmental classes do for me and I don't feel that they are a waste of time.

Other students reported dissatisfaction with the need for non-credit bearing classes.

Peter believed “the ESOL class is slowing me down I think. I want to go ahead and take classes that are challenging.” Jennifer “felt a little funny about those developmental classes. They weren’t me. I felt like I was too smart for them.” Aurora said.

If I could change one thing about this school, it would be to not have to take developmental classes. Really, the developmental classes, they prevent me from taking credit classes...Because I have to finish my developmental courses before I can take regular classes so that's why I'm a little...Well, I'm not really behind but I have a hard time taking credit classes that require the developmental classes first. That really makes me frustrated. Luckily, I only have two left...and I'll be done and I'll be able to take credit classes...I want to just hurry up and be on my way to credit classes.

While most students were mainstreamed and simply placed in classes with hearing peers and interpreters, Excelsior’s campus had ESOL classes specifically for students with hearing loss. This class was small, comprised of approximately 10 students with hearing loss. However, institutional support was strong. The class provided these students with an instructor, two sign language interpreters, and a Deaf tutor who was fluent in American Sign Language. Most of the students expressed satisfaction with this setup.

Laila, a student who had experienced both developmental English and ESOL classes at Carver College, clearly had a preference for the latter, even though her ESOL classes did not
I need something at a slower pace that I can understand that goes step-by-step. That's more beneficial for me. Something that helps me understand clearly step-by-step, that's what I need. ESOL class where they take you through the English and explain it to you is a lot better than the developmental classes that I have taken in the past....I would recommend deaf people take the ESOL classes because they'll help you so much more with your English development. They'll help you with your writing and all of that much better than the developmental classes. Because the developmental classes, you just go in. You immediately start doing the work independently all the reading and all the writing without the explanation. You're taking that test and everything, but the ESOL class is a lot better than the developmental classes.

Being able to personalize the pace of instruction was also helpful for some students.

I'm in personalized courses, so everything is on your own, at your own pace. I decided to take those classes because if I'm in, like in the math lecture, it's hard, really hard for me to take notes and when they are explaining, I have to look all over the board and all of that, so I decided to take the personalized math.

Lan felt the same way.

I can't stand lectured Math classes...When someone's explaining the lecture, I'm like, "Wait. Do you mean this? Do you mean this?" Then I just get more confused. Personalized instruction, that works really well for me. I can read it at my own pace and then when I have a question I can ask the instructor about it for more explanation...it's easier for me to understand, there's less confusion that way when I can read it at my own pace. With the lecture, sometimes that doesn't happen.

Sometimes specific class content served as a source of frustration for students. When asked about the last level of developmental writing, Sha’Condria said, “It’s frustrating when I'm trying to remember verbs and that type of thing.”

When it comes to doing an essay, sometimes I struggle a little bit with that....I’m pretty good with grammar but sometimes the concepts the verbs matching with the pronouns and nouns sometimes that gets a little bit confusing for me... And I’m trying to remember am I using ‘was’ or ‘is.’ The tense of the verbs and things like that is confusing.
Cameron acknowledged that these elements represent difficulties for many students with hearing loss.

"Reading and writing is a big problem for a lot of deaf students. They drop out of those classes very frequently...I dropped reading and writing at [Edebrook] I didn't pass that. I just dropped it the one time. The nouns and the verbs and all of that, it was tough."

Students generally had positive perceptions of their interactions with instructors, characterizing them for the most part as student-focused. Students were careful not to overgeneralize their positive experiences to all instructors at the community college, recognizing the diversity that exists between instructors, sometimes even on the same campus. Monique acknowledged, "The teachers are just different. It just depends on the individual really. Some are really friendly. Some can be haughty. Some can be rather strict and mean. They’ve always been sweet to me. It just depends on the individual."

Sha’Condria stated that “the teachers themselves also are very supportive whenever I ask questions...if you try, then the teachers will talk to you.” Cassie believed that “basically all of the teachers are really very helpful to take the time to explain things to students. They’re very involved with their students. They're encouraging, too.” “Most of the teachers here really love deaf students. They’re really willing to help and work with you,” Jennifer said. The reputation of instructors actually drew one student to Napier. “I heard they had good teachers here. My friends and [the advisor for deaf students] told me that. And I thought really? Ok. I was curious and I came here and yep, they do have good teachers here.” Lan initially did not have a positive perception about instructors at his community college, but that perception changed during his time in postsecondary education.

“When I first got here, I didn't think they would be very flexible or very willing to work with deaf people but now that I’m here I’m seeing, hey they're willing to work with us."
I’ve got good professors. They’re willing to help. When I first got here, I thought, “Oh, I'm Deaf. They're not going to be very helpful or very friendly to me.” But that's not what happened at all. My professors are like, “What's your specific interest, what are you interested in doing?” And I told them...then they tailored the assignments to what my interests are. I feel they've done a good job. They're always very helpful. They help me a lot. They don’t leave me behind just because I’m Deaf. They're very encouraging and motivating as I pursue my certificate and degree.

Participants reported wanting instructors to treat them fairly, and for the instructors not to be apprehensive about teaching students with hearing loss. When asked what advice she had for instructors with deaf students in their classes for the first time, Cassie encouraged instructors “to make d/Deaf students feel welcome and part of the class. Don’t feel intimidated. Try to acknowledge them. Talk directly to them, not the interpreters.” Pixie said, “The teachers will need to make time for the deaf students and be patient, but don’t let the deafies push you over just because they're deaf. Don’t be soft on them, treat them just like anybody else.”

Findings from this study indicate that the teacher plays an integral part in the students’ experiences in the classroom. While many students reported satisfaction with their instructors and teaching methods, not all students had such a positive perception of the student/teacher interaction.

**Tips for Success**

The participants in this study had several suggestions for assisting other students with hearing loss in navigating a college campus. Much of what the participants had to say they had learned through trial and error. One first year student said

Make sure you do your homework. Make sure you study. Don’t just push your work off to the side and procrastinate because it’s going to cause your grade to go down and you won’t get credit for that class, and you won’t be able to graduate in your two years and get your AA degree. I thought homework would be no big deal but you really do have to take homework seriously in college. It’s not like in high school. There’s a lot of
homework and it’s actually a bigger portion of your grade than the class work is sometimes.

“You need to complete the assignment before it’s due,” a fashion design major warned. “And make sure that it’s ready on that day so you don’t waste the teacher’s time.” Cassie noted,

I cannot emphasize enough the importance of good study skills. Most of my Deaf friends tend to just play around about things like that. So my advice is to make sure that you take studying seriously. Make sure you go to class because you might miss some important information. And know that the instructor is there to help.

Some of the students’ suggestions related directly to their accommodations. A computer science major said,

Make sure you get duplicate paper so you can give to the notetaker. It’s hard to take notes and look at the interpreter at the same time so after class is over you can get the duplicate notes from that person.

A student from Edebrook said

I would highly recommend students know about all the campus resources available to them. I would suggest that a d/Deaf person see if the college provides ... if they have a campus accessibility office, if they do, you can get a lot from that office like CART or an interpreter.

Aurora said, “Do your work first and then hang out with friends. It's hard because the first year students sometimes think that four classes, being full-time is easy but it's really not.”

Pixie urged

Be prepared for class. Be serious about classes. You need to take time for college. College isn't a joke, so don't waste people's time, don't waste your time. Deaf people can...waste a hearing person’s time by doing other things while the teacher is talking and not paying attention, not respecting the interpreters. When Deaf students do that, then members of the hearing community think, “Oh, we wasted our tax dollars on this person who is taking advantage of us and our hard earned money.” And they'll be more standoffish, they won't want to socialize with deaf people as much.
Summary

This chapter discussed the findings from 19 interviews with students who self-identified as having hearing loss and who were receiving services from their campus accessibility office (CAO). After providing demographic information regarding the participants, this chapter discussed students' reasons for enrolling, student's adjustment to the academic rigor of college and difficulties with time management, and personal characteristics students exhibited that assisted them in navigating a college campus. In addition, students related their generally positive perceptions of the role of family in their college-going experience. They also discussed the financial burden of higher education in general and working with the state rehabilitation program specifically, their views on the accommodations provided by and individuals in the CAO. Participants also talked about their experiences in the classroom with instructors and classmates. Finally, they provided suggestions for other d/Deaf students to succeed in the postsecondary environment.
APPENDIX D

DISCUSSION AND IMPLICATIONS
Introduction

This study focused on the experiences of students with hearing loss navigating community college in a metropolitan area of the southwestern United States. This chapter summarizes the findings from chapter four, provides implications for policy, outlines promising practices, and identifies areas for further research.

Discussion of Findings

Overall, this study sheds light on a virtually un-researched segment of the community college population. Most of the research on deaf students in higher education occurs at institutions developed specifically for students with hearing loss and reflects the “generally accepted notion that [these institutions] represent an exceptional educational environment for people who are deaf” (Schriner, 1991). While most research in the literature has been conducted on students at all d/Deaf institutions, demographic information shows that 61% of the 400,000 students with hearing loss attend mainstreamed schools; that is, environments where most of the student body is not deaf (Lewis & Farris, 1994; Raue & Lewis, 2011; Watson, Schroedel, Kolvitz, DeCaro, & Kavin, 2007). With the recent national focus on community colleges and college completion, it is important for stakeholders to have a better understanding of the community college student population, including special populations like students with hearing loss. The insight provided from this study will allow for more effective service provision for these as they progress through higher education.

Finances

Despite most of the students’ utilization of the state tuition waiver, they still reported financial difficulties. Some of these financial difficulties were due to the fact that many of the
participants were not using the help of the Department of Assistive and Rehabilitative Services (DARS), which could have assisted in paying for textbooks. However, one student noted some DARS requirements indicate the need for students to be enrolled in college full time, and most of the participants did not meet that criteria. In general students did not have a basic understanding of the DARS processes. Additionally, students that did meet the criteria reported difficulty navigating the bureaucracy and complained of delayed or no responses at all from their DARS counselor. Another important factor is that DARS services are specifically linked to employment outcomes for students. More education for participants on DARS eligibility requirements and better follow up from DARS counselors could help alleviate the financial issues students reported.

*Time Management*

Managing time when adjusting to college was an issue many of the students discussed. More than one participant emphasized the importance of arriving to class in a timely manner. While college students who are members of the hearing community have to learn how to be more responsible for getting to class on time, this issue is compounded for students with hearing loss in Deaf culture because Deaf individuals are much more focused on people and relationships than time on the clock (Padden, 1980). It is not uncommon for events sponsored by those in the Deaf community to start 15 or 20 minutes late as a matter of course. The difference in hearing and Deaf culture’s perception of and emphasis on time is one that should be made explicit to individuals with hearing loss by the campus accessibility office. Doing so could aid students in their transition to community college.
Family

Since so many individuals with hearing loss are born to hearing parents, anecdotal evidence suggests that these individuals experience isolation when attempting to navigate the educational system due to the lack of clear communication with family members. The findings from this research do not support that idea. Although many of the participants reported their family members did not know sign language, relatives featured more prominently and in a far more positive light in participant descriptions of college than initially expected. Younger students indicated their families expected them to attend college, while older participants noted they attended college to serve as an example to their children. Not only did some family members assist financially, some students also indicated their relatives helped them navigate campus, including facilitating their contact with the campus accessibility office and assisted them with homework. One reason for this might have been the fact that many of the participants came from Latino families, and research shows that Latino family value and are highly involved in their children’s college education (Fann, Jarsky, & McDonough, 2009). These findings indicate the potential for family members to serve as a valuable resource in helping students navigate college. CAOs can provide brochures or family orientations about what to expect and provide information on ways family members can assist as their student attends postsecondary education.

ESOL Status

Several participants were taking an ESOL class specifically for students with hearing loss. Most students reported enjoying the ESOL classes and believing they were beneficial for their college education. Additionally, some students commented on their preference for ESOL or ESL
classes over developmental reading and writing classes, giving credence to their status as English Language Learners and their need for assistance with the mechanics of English grammar and syntax. This finding suggests that other community colleges students with hearing loss might benefit from placement in ESOL classes.

**Hearing/Deaf Interaction**

Participants desired and had suggestions for interaction with hearing individuals. Despite the communication barrier presented by the majority not knowing sign language, participants in this study still made efforts to communicate with the hearing majority, and specifically criticized separation between groups of hearing and deaf individuals. Although they understood the barriers to communication with hearing people, the participants offered suggestions for interacting with d/Deaf students, such as making sure you face the deaf individual so they can read your lips if necessary, having patience, learning the ASL alphabet, and using cell phones to type out text messages. The participants’ desire for cross-group interaction represents a step toward eliminating any barriers that exist between the deaf and hearing worlds. For the most part d/Deaf people live in a hearing world, so by necessity, they learn various ways of interacting with the hearing community. The participants suggestions show that with some effort, hearing individuals can make themselves understood by individuals in the deaf world as well.

**Instructors**

Within their positive perceptions of instructors at the community college level, students also discussed an interesting juxtaposition of wanting teachers to treat them the same as hearing students, and knowing that sometimes deaf students needed additional assistance. In
general, good instruction is explicit and stimulates critical thinking, two attributes that are absolutely essential for students with hearing loss (Bain, 2004; Luckner & Handley, 2008 Marschark et al., 2009). Instructors should be sensitive to the individual needs of their students. Automatically assuming that students with hearing loss will not be successful in the postsecondary environment is unfair, but so is assuming students will need no additional support. These issues should be evaluated on a case-by-case basis. Instructors should be knowledgeable about the specialized needs of deaf and hard of hearing students, and should understand that provision of communication access does not always alleviate problems students encounter. Rather than expecting instructors to educate themselves on the best way to assist students with hearing loss, the CAO can serve as a resource center and provide handouts or brochures on promising practices.

Findings Consistent with the Literature on College Students

Overall, there were several findings from the research that were consistent with what's currently known about the population of college students in general and students with hearing loss in particular. For example, the reasons these students cited for enrolling in college, including their desire for employment and to improve their basic skills, were consistent with members of the hearing communities’ reasons for enrolling in college (Foster & Walter, 1992; Luckner & Handley, 2008; Porchea, Allen, Robbins, & Phelps, 2010; Weathers et al., 2007). We also know that first year students have difficulty managing the difference in academic rigor from high school to college, and problems balancing academic and other commitments (Bueschel, 2004). Students’ complaints about non-credit bearing classes are also consistent with the general literature, and participant complaints about communication breakdowns with members
of the hearing community (Boylan & Bonahm, 2011; Foster, 1989). Additionally, the need for quality accommodations, specifically American Sign Language interpreters were also consistent with what we know about d/Deaf students in college in general. The participants’ emphasis on effective communication strategies for hearing and deaf interaction is also supported by Martin’s (2009) findings, which suggested members of the hearing community be cognizant of the special communication needs of the d/Deaf population.

Findings Unique to these Participants

Unlike the findings from Menchel’s (1995) study on d/Deaf students co-enrolled with hearing students at a university, the participants from this study reported difficulty with the transition to college, citing the academic rigor of college and time management as challenges. The way participants discussed the role of peers as a distraction is a unique aspect not always discussed in the literature on students with hearing loss. Most research indicates a need for a critical mass of d/Deaf students so that they feel socially integrated and have a core group of peers with whom to interact (Bowen, 2008; National Association of the Deaf, 2011). However, these participants stated that other peers with hearing loss actually provided a distraction from their schoolwork, and interfered with their academic studies. While this finding is unique to these participants with hearing loss, it is a common occurrence for college students who are members of the hearing community.

The idea that “Deaf can do anything except hear” is prevalent in Deaf culture at large, but not often discussed in the research on students with hearing loss. The participants from this study internalized this idea of self-efficacy and used it to assist them with their navigation of the community college setting. Another finding unique to these participants was the involvement of
their families. Anecdotal evidence, and the fact that many parents of individuals with hearing loss are members of the hearing community and do not know sign language, would suggest that their parents would exhibit high levels of involvement in the college-going experience. However, these participants expressed quite the opposite, with family members not only providing support and encouragement, but financial and academic assistance as well.

*Findings Related to Theory*

In relation to the lens of Bronfenbrenner’s ecological theory, this study examined the student perceptions of their postsecondary environment regarding culture in general (the macrosystem), their campus (the exosystem), and their classroom (the microsystem). Figure 2 shows that student responses were relatively evenly distributed between these three areas. Students discussed the microsystem of the classroom environment and the individuals within it, and they talked about some aspects of the exosystem and like the state tuition waiver and institutional practices as well. Student perceptions of the influence of the macrosystem were also evident, especially with the idea that “Deaf can do anything except hear”, which is a reflection of cultural expectations of the Deaf community. People in Deaf culture choose not to allow their hearing loss limit their options in life, and strive to educate members of the hearing population about the capabilities of the Deaf community.
Findings from this study indicate students with hearing loss have a strong sense of self-efficacy and know to advocate for themselves, which aids them in navigating a community college campus. These students do not view themselves as being inherently different from their hearing peers, and attend college out of a desire to improve themselves and expand their opportunities. In part, self-advocacy and the self-efficacy of these students is a reflection of the Deaf community at large. Having internalized the idea “we’re not different from hearing students” can make students feel more comfortable and confident to speak up and make sure that their needs are being met.
When referring to administrative components that assisted students with hearing loss in navigating a community college campus, the campus accessibility office did not feature prominently in participants’ responses, which might suggest they did not view it as a major component of their college experience. In fact, the opposite was true, since the CAO controls the accommodations provided to students. One reason the CAO might not have featured prominently in student responses is that they did not fully grasp the influence of individuals in the office on their college career. Students reported limited interactions with individuals in the office, outside of the provision of communication access such as CART or interpreters. One student even specifically requested more interaction and opportunities for socialization with individuals from the CAO. Therefore, a unique opportunity exists for CAO staff to interact with and provide resources for students with hearing loss. These individuals should understand the specific needs of students with hearing loss, and according to one student, make attempts to learn some sign language so they can more easily communicate with deaf and hard of hearing students.

Many of the participants discussed the need for more and higher quality communication access, specifically qualified sign language interpreters. Participants discussed the occasional difficulty of obtaining tutoring because of the lack of available interpreters. Interpreter scarcity is an issue in the deaf community at large, and not necessarily specific to postsecondary education. Since few individuals know American Sign Language, interpreters are the gateway for much of the communication between deaf and hearing individuals. In the postsecondary setting, an unqualified interpreter can make course content incomprehensible, and have a detrimental effect on a students’ educational career. One way to alleviate this issue is to
increase the number of interpreters trained, and provide more training for those already working in the field. Using input from the deaf community and the population of students with hearing loss, community colleges with interpreter preparation programs should work with recruitment and outreach efforts to increase the number of students in interpreting pipeline.

Implications

The following section briefly summarizes implications for research, policy, and provides information on promising practices that could be adopted by campus accessibility offices.

Research

Other research on deaf students in postsecondary education (specifically PEPNet2) focuses primarily on technical assistance and personnel development for colleges that have students with hearing loss. However, the student voice and perspective from studies such as this represents an important and necessary aspect of research. Future studies could more deeply examine the influence and impact of family on deaf students’ postsecondary education, and explore ways to leverage family influence. Instructor perspectives of teaching students with hearing loss should also be gathered so as to gauge the perception of the college teachers for students in this special population. Participants reported more favorable experiences in their ESL classes than in developmental English classes, so future research might quantitatively compare the benefit of these classes. This study might also be replicated in other areas of the United States, in order to gain a better understanding of the deaf community college student experience as a whole.
Several policy implications arise from this research. First, full time enrollment was an issue for these participants. Most of them did not receive assistance from DARS because they were not enrolled full time, and many also reported financial struggles. Additional financial assistance from the state rehabilitation service would relieve some issues for participants like this. Most of the participants were enrolled in course sequences that did not bear college credit, but which required several semesters to complete, before they could enroll in credit bearing classes. This requirement added additional time and cost to their college degree. One suggested policy change would be fast-tracking these students’ non-credit bearing sequence.

Additionally, there arise policy implications with the identification of students with disabilities. One student did was not aware that the campus accessibility office existed his first semester. Privacy laws prohibit K-12 institutions from disclosing students’ disability status to their college. Therefore, the responsibility falls solely on the student to know his or her accommodation needs and provide that information to the CAO. Policy changes that would allow for the disclosure of accommodations at the K-12 level to the postsecondary institution would be helpful. Additionally, there should be a way to embed the option to disclose disability information and the desire for accommodations in the information gathered after the student has applied. Finally, vocational rehabilitation counselors should forge stronger relationships with high schools so that students can adequately prepare for college and transition successfully into higher education.
Promising Practices

In light of these findings, campus accessibility offices should offer a wide range of accommodations and services to ensure the needs of their deaf and hard of hearing students are met. CAO personnel must understand that there is no template of accommodations, even for students with hearing loss, and each must be evaluated on a case-by-case basis (McCleary-Jones, 2005). Working with the same population can cause workers in the CAO to become complacent, and believe that there might be opportunity for “one size fits all” accommodations. Being sensitive to the needs of students is important for the proper provision of student accommodations and services. Components exhibited by exemplary campus accessibility offices include specialized deaf student orientation, specialized advising, soliciting and incorporating student feedback regarding services, including the campus and surrounding community in awareness about students with hearing loss and their issues, and interpreter orientation for instructors (Watson, Schroedel, Kolvitz, DeCaro, & Kavin, 2007).

Class Delivery

Student commentary on the difference between remedial and credit-bearing classes has implications for future class delivery. It is interesting to note none of the participants mentioned that high school did not adequately prepare them for college, as is the case among some hearing students. Rather, some students complained the format of the remedial classes did not adequately prepare them for credit bearing classes. Because of this, greater collaboration between developmental educators and instructors teaching credit classes is necessary. Since American Sign Language and English have such different syntax and grammar, explicit training
on the structure of the English language might be beneficial, especially for d/Deaf students entering the community college, who already might exhibit risk factors for college persistence.

Specialized Orientation

Institutions can aid in students with hearing loss acclimating to the school culture by providing a special orientation for these students. One participant stated

When I came on campus I didn't know what to do so I asked my Deaf friends, “Hey do you mind helping me out and showing me where to go? Help me know how to navigate campus, get around campus, how to fill out the application to get into college.”

Orientation can serve an important place in helping students understand the culture of the campus and informing them of available resources and services. An orientation is also a great opportunity to review the campus accessibility office handbook, and assist with registration. Orientation also provides an opportunity to highlight the overall differences between high school and college which is beneficial because understanding these changes in environment is important for student success.

Additionally, students’ with hearing loss sense of self-efficacy and tendency toward self-advocacy can be supported by campus accessibility offices. Providing workshops on how to advocate for ones’ self in the educational setting could also provide students with hearing loss the skills necessary to flourish in the among the hearing majority. Findings from this study also indicate that peers play a significant role in their college experience, typically as guides who shared knowledge and experience for adjusting to and succeeding in college, as well as social support. Because of this, a peer mentoring model is recommended for campus accessibility offices which allows d/Deaf students to teach their peers tools for self-advocacy. Doing so helps
to bolster the idea that “deaf can do anything except hear” and provides students with positive peer role models, further supporting the deaf students’ self-efficacy.

Specialized Advising

In addition to orientation, deaf and hard of hearing students have specialized needs that individual advising sessions may help address. Students should understand the extent and impact of their hearing loss, as well as the need for self-advocacy regarding it. One student discussed the benefit of participating in advising.

[The counselor for deaf students] helps me with knowing what tests to take, to figure out what level I’m on for the developmental classes so I know what my level is...if you need help or advice and you don’t know what to do about your class, then you need to talk to the advisor [for deaf students Jamal], and tell him “I don’t like my class” or whatever.

During their special advising session, they should be informed of the accommodations offered by the campus. College can be an overwhelming experience, so a referral to a personal therapist might be necessary.

Utilizing Student Feedback

Student feedback is important to the success of a campus accessibility program. Soliciting and incorporating feedback shows the institution cares about the experience of the students and takes their opinions into consideration. This helps the students with hearing loss feel as if they are a part of the campus and ultimately assists with retention because services are being adjusted according to students’ expressed feedback.

Providing Campus and Community Awareness

Increasing campus and community awareness of deaf issues is important for making students feel as if they are a part of the campus. Some individuals are ashamed or not willing to
admit they have hearing loss. Providing campus and community awareness about available resources might make them more apt to seek out the assistance they need and can aid in student success and retention (Watson et al., 2007). It can also be beneficial for individuals who are not aware of available resources for students with hearing loss, such as Alexander, who was unaware the campus accessibility office existed until an instructor told him about it. This can be accomplished by partnering with organizations in the community that provide services to deaf and hard of hearing individuals. Institutions can also host events such as Deaf Culture week, put up Deaf awareness displays, and sponsor clubs and support groups for students with hearing loss.

Communication Access Orientation

For instructors who have never worked with an interpreter or CART provider, having these service providers in the classroom may seem daunting. Faculty might not know how to properly utilize the communication access. Advance instruction about the proper interaction with interpreters and CART providers could ease anxiety and help avoid awkward situations in the classroom.

Conclusion

This study represented the first qualitative inquiry into the experience of students with hearing loss in community college. Many of the findings from this study validate and provide empirical evidence for the experience of practitioners who work primarily with students in the d/Deaf and hard of hearing community. People familiar with Deaf culture and students with hearing loss understand the importance of many of the issues d/hh participants discussed. The aspect heretofore missing from the literature is the student perspective. While it is important to
provide resources to the institutions, the students’ perception of navigating campus may open up other avenues and areas for exploration. Too often individuals in positions of power and privilege conduct research on these marginalized populations without truly taking the time to listen to and understand the population’s unique perspective.

The findings here represent a first step in understanding the d/Deaf student experience at a community college and provide valuable information and ideas for simple ways to improve the college experience of students with hearing loss. Community college enrollments continue to grow, and that includes the number of students with hearing loss enrolled at these institutions.

By understanding the student experience, researchers can start to improve education outcomes for this group of marginalized individuals, thereby benefitting society as a whole.
APPENDIX E

PROTOCOL
1. How long have you been at this school?

2. Why did you choose to attend college?
   a. Is this the only college you’ve ever been to?
   b. When you decided on this school what goals did you have set in your mind?

3. Please describe any individuals who help you be successful in college
   a. How has your family influenced your educational experience?
   b. How have individuals at the school helped you navigate the college campus
   c. What role does DARS play in your college experience?
   d. What role does the Disability services office play in your college experience?

4. Tell me about your relationships with students here
   a. How are your interactions with hearing and deaf students different?
   b. What advice do you have for hearing students when interacting with deaf?

5. What are you interactions with teachers like?
   a. What advice do you have for teachers with deaf students in their classes for the first time?

6. Tell me about your classes
   a. How do you study for classes?
   b. What or who helps you be successful in class?
   c. How good are your interpreters?
   d. Have you taken any remedial classes? If so, how have your remedial classes influenced your college experience?
   e. How do you feel about your remedial classes?
f. What’s the difference between remedial and regular classes?

7. What did you expect college to be like?
   a. How is your experience similar or different from what you expected?

8. What problems, if any, have you experienced in college?
   a. What did you do about them?

9. What advice do you have for a deaf student who is going to college for the first time?

10. What advice do you have for the Disability Services Office?

11. Is there anything else you’d like to express about your college experience?
APPENDIX F

RECRUITMENT FLYER
Are you deaf or hard of hearing?

Are you in community college?

Inform me!

You will be compensated ($$) for your time.

If you have questions or want more information, please contact

Serena Johnson

214.555.1212 (text)

Serena.Johnson@unt.edu
APPENDIX G

SAMPLE LETTER TO INTERESTED PARTICIPANTS
Dear [Name of Student]:

I am writing to ask your help with a project I am doing as part of my work as a doctoral student in Higher Education at University of North Texas. During the course of my studies, I have become interested in learning more about the experiences of deaf students in mainstream community colleges. I am interested in how they navigate community college, and their current feelings of academic and social success and satisfaction.

I would like to interview students who are deaf or hard of hearing and enrolled in a class at a community college. Each student will be interviewed for approximately one hour, in a place and time that is comfortable and convenient for you. The interviews will be conducted in American Sign Language, signed English, or spoken English, and will be videotaped. During the interview you can refuse to answer any question and you can ask to stop at any time.

After the interviews, I will interpret the videotapes into spoken English onto audiotapes, and then transcribe the tapes for analysis. I will get help from my UNT professors to appropriately review and analyze these conversations. No one else, other than these professors, will see the interviews and all information will be kept confidential.

Thank you for your help.

Respectfully,

Serena Johnson, M. Ed.
University of North Texas
Doctoral Candidate
Serena.Johnson@unt.edu
214.555.1212 (text)
APPENDIX H

INFORMED CONSENT FORM
Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: Silent Voices: Deaf Students in Community College

Student Investigator: Serena Johnson, University of North Texas (UNT) Department of Higher Education.

Supervising Investigator: Dr. Amy Fann, University of North Texas (UNT) Department of Higher Education

Purpose of the Study: You are being asked to participate in a research study which involves the college experiences of deaf students in community college.

Study Procedures: You will be asked to participate in a video recorded interview that will take about 60 minutes of your time and possibly one follow up interview lasting 60 minutes.

Foreseeable Risks: No foreseeable risks are involved in this study.

Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you, but we hope to learn more about how deaf students navigate their college experience and may help us learn more about how to support deaf students in community colleges.

Compensation for Participants: You will be given $20 after completing your interview.

Procedures for Maintaining Confidentiality of Research Records: The confidentiality of your individual information will be maintained in any publications or presentations regarding this study. You will be given a pseudonym and no personally identifiable information will be included in transcripts or records.

Questions about the Study: If you have any questions about the study, you may contact Serena Johnson at 214-555-1212 or Amy Fann at 940-555-1231.

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants’ Rights:

Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:
• Serena Johnson has explained the study to you and answered all of your questions. You have been told the possible benefits and the potential risks and/or discomforts of the study.

• You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.

• Your decision whether to participate or to withdraw from the study will have no effect on your grade or standing in this course.

• You understand why the study is being conducted and how it will be performed.

• You understand your rights as a research participant and you voluntarily consent to participate in this study.

• You have been told you will receive a copy of this form.

__________________________
Printed Name of Participant   Date

__________________________
Signature of Participant   Date

For the Student Investigator:

I certify that I have reviewed the contents of this form with the subject signing above. I have explained the possible benefits and the potential risks and/or discomforts of the study. It is my opinion that the participant understood the explanation.

__________________________  Signature of
Student Investigator   Date
APPENDIX I

DEMOGRAPHIC QUESTIONNAIRE
Pseudonym____________________________________________________________

1. Which did you finish? ___High school diploma ___GED ___High School Certificate

2. Did you take the SAT/ACT? Score___________

3. How old are you? ______

4. Are you in college
   □ Full time □ Part time □ My credit hours vary from semester to semester (it depends)

5. Do you have an area of study (major)?   Yes   No

   If yes, please list _______________________

6. Are you working at a job?

   Full time       part time       I am not working

7. Are you on SSI or SSDI?_____ Yes _____No

**Demographic Information**

8. Please select your race/ethnicity

   Black/African-American   White, non-Hispanic   American Indian/Alaskan Native

   Hispanic   Asian/Pacific Islander   Other _______________________

9. Gender   Male   Female

10. How do you communicate with your parents?

    Lipreading   writing   sign language   other_____________________

11. Are your parents deaf? Yes   No

Turn over →

12. Please circle the remedial classes you have taken, if any.
13. What degree do you want/plan to earn? (Certificate AA, BA, MA, PhD)? ____________

14. Did your parents finish: (see below)

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<th>Father</th>
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