It takes two to learn the truth,
one to speak and another to listen.
(Henry David Thoreau)

University of Alberta

Learning to Listen: The Voices of Post-Secondary
Deaf and Hard of Hearing Learners

by

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This thesis is dedicated to the people in my life who provided inspiration, kindness, and encouragement as I pursued my studies and chased my dreams.

Abstract

This study examined the experiences of Canadian postsecondary learners who are d/Deaf or hard of hearing and have received services from the campus accessibility office. Data collected from interviews with nine learners were analyzed using a constructivist grounded-theory approach, thus allowing the basic social process (BSP) to emerge. I called this process *negotiating communication access in postsecondary education.* It consisted of three key supporting processes: (a) advocating for self, (b) navigating the learning environment, and (c) building relationships. The research outcomes achieved in this study include (a) a documented analysis and synthesis of the perceptions of Deaf and hard-of-hearing students specific to the theoretical and practical issues involved in accessing communication support services in postsecondary institutions and (b) a theoretical model that depicts the above synthesis. Last, the discussion chapter contains recommendations for increasing accessibility to postsecondary institutions for learners who are d/Deaf or hard of hearing.

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CHAPTER 1:

INTRODUCTION

Legislation recognizing the rights of persons with disabilities has been

enacted since the civil rights movement in the 1960s. Accordingly, various

models of disability have emerged in an effort to understand the disability

experience. Over the past two decades the social model of disability has begun to

replace the more common and familiar medical model. Oliver (1990) coined the

term *social model of disability* and advocated for society's role and responsibility

in accommodating individuals who have differing abilities. This has resulted in an

increased focus on understanding accessibility for individuals with disabilities in

both educational and employment environments. Recent articles published on the

rights of persons with disabilities to have access to higher education institutions

emphasize the need for academics to begin developing more collaborative

relationships with persons with disabilities as a necessary step in creating insight

into the process of accommodating people with disabilities in today's society

(Barnes, 2006; Jacklin & Robinson, 2007).

The concept of disability is a social construct that has evolved over time.

Because of the evolving nature of disability, it is difficult to keep disability policy

aligned with current views of disability. In Canada, disability policies are

fractured, partly because they are left over from welfare-state policies and partly

because of multiple influencing medical, economic, and sociopolitical factors

(Jongbloed, 2003). As a result, there is some uncertainty about the role and

outcomes of disability policy. For example, is the government responsible for

supporting the participation of persons with disabilities? If so, what outcomes should be used to measure the participation of persons with disabilities? Before one can measure outcomes, it is helpful to understand the lived experiences of persons who live with a disability. To contribute to the development of disability policy, this research study focused on the experiences of learners with disabilities who are participating in postsecondary education. Specifically, the purpose of this study was to examine the experiences of learners who are d/Deaf or hard of hearing and pursue higher education in Western Canada.

Introduction to the Concepts and Language Used

It is important to identify some of the terminology used in this study. Most important, the language that I used to discuss disabling conditions is aligned with Social Development Canada's (2002) publication "A Way With Words and Images: Suggestions for the Portrayal of Persons with Disabilities." As a result, I have written this document person first, which means that I identify the person prior to identifying any type of health condition or disability. As well, I chose to avoid words that might conjure up positive or negative emotional responses. For example, I have not used words such as *inspirational*, *brave*, *suffers*, and *afflicted* in an effort to respect the dignity of individuals with disabilities.

Furthermore, Social Development Canada (2002) also identified ways to correctly address those with differences in hearing. Specifically, the term *deaf* refers to those with a clinical diagnosis of deafness, but who does not use American Sign Language. A capital D refers to a cultural linguistic of individuals who use American Sign Language. The term *hard of hearing* refers to individuals

who typically use amplification to assist with their hearing. I offer a more detailed

explanation of these important differences in identity in the literature review;

however, it is necessary to introduce these terms because I have used them

frequently.

I have used some terms interchangeably throughout the document.

Specifically, the terms *higher education* and *postsecondary education* represent

the same concept. However, it is also important to note that, for the purposes of

this study, the research is specific to students who are pursuing academic

credentialing at a diploma (i.e., associate's degree) program level or higher rather

than academic upgrading. In some postsecondary institutions academic upgrading

is available; however, this was not part of the study. I have also used the terms

student and *learner* interchangeably.

Last are the terms specific to communication support services and the

programs for students with disabilities on campus. I have used the term *campus*

accessibility office as a generic term to represent the various support service

departments across campuses. Each postsecondary institution has its own program

and/or department name. As a result, this use of the term includes all

programming specific to support for students with disabilities in higher education.

Communication support services is another generic term intended to represent all

communication-related services that students who are d/Deaf or hard of hearing

access. Services such as interpreting, captioning, and note taking are common

types of services provided. A more detailed discussion on the supports is found in

the literature review.

Problem Statement

The following section discusses the key factors that contextualize the need for research on the experiences of Canadians who are d/Deaf or hard of hearing and pursue higher education. Specifically, there is a well-documented relationship between employment and higher education for individuals who are d/Deaf or hard of hearing. Second, the Canadian context differs significantly from that of the US, and it is therefore difficult to generalize research results from the US, where the bulk of the available research is found. Furthermore, on an international level, the conflicting research makes it even more necessary to document the Canadian context. Third, tens of thousands of Albertans of working age are reporting hearing loss, and this community has specific identifiable communication needs that impact their ability to access additional training through higher education. Fourth, the Alberta Human Rights and Citizenship Commission (2004) released an interpretive bulletin: "Duty to Accommodate Students With Disabilities in Post-Secondary Educational Institutions." This type of official government statement is similar to other international decisions that are being implemented, and it would be informative to explore the impact (if any) on the experiences of those who benefit from the changes. Last, according to Russell and Demko (2005), the number of individuals with disabilities who are accessing postsecondary education institutions in Alberta is increasing. Specifically, the number of students with hearing disabilities who attended an urban two-year college increased from 12 to 22 in a span of nine years. As a result, this research

is timely, relevant, and clearly required to gain an understanding of how to best support learners who are d/Deaf or hard of hearing in higher education.

Relationship Between Employment and Higher Education

Several US studies have made explicit the benefits of postsecondary education to the employment status of individuals who are d/Deaf or hard of hearing. Schroedel and Geyer (2000) concluded that alumni who are d/Deaf or hard of hearing experience economic advantages as a result of their postsecondary education. As well, their research participants reported receiving a workplace promotion within their past five years of employment. Richardson (2001a) from the UK noted that higher education

> is certainly associated with access to better-paid occupations and professions, and so the underrepresentation of students with a hearing loss has major consequences in terms of a personal cost to the individuals in question and indirectly to the national economy. (p. 195)

And, more recently, US researcher Boutin (2008) documented the socioeconomic advantages to d/Deaf or hard-of-hearing graduates in terms of (a) career mobility, (b) earnings, (c) economic status, and (d) decreased unemployment rates (p. 25).

In Canada, Schein (1991) examined the participation of the d/Deaf or hard of hearing in the workforce and noted that "opportunities for employment are increasingly keyed to knowledge and skills acquired at postsecondary levels" (p. 1). Specifically, jobs traditionally held by d/Deaf or hard-of-hearing individuals such as keypunch operators or printers no longer exist as a result of technological advances in industry. It is important to point out that, according to Social Development Canada (1996), individuals with higher levels of education are more likely to participate in the workforce as well as earn a higher salary

compared to their less-educated peers. Therefore, increased access to higher education is critical to increased participation in the workforce of Canadians who are d/Deaf or hard of hearing.

Part of the rationale for this study stems from the relationship between employment and educational status. Workforce participation and success are linked directly to educational attainment. Therefore, by increasing accessibility in higher education, Canadians with disabilities can increase their presence in the workforce as well as experience a better standard of living because of the socioeconomic advantages associated with academic credentialing.

The Canadian Context

Fichten et al. (2003) completed a national study on higher education institutions that serve Canadian students with disabilities and predicted (by using extrapolated data) that 100,000 students access disability support services. After a literature search across several databases such as PsycINFO, ERIC, Medline, CBCA Education, ProQuest Education Journals, Academic OneFile, and CINAHL, I found limited published research on the provision of communication support services to postsecondary Canadian students who are d/Deaf or hard of hearing. I located only one publication on the increase/decrease in the educational attainment of students who are d/Deaf or hard of hearing. This dearth of research emphasizes the importance of researching the experiences of Canadian postsecondary learners who are d/Deaf and/or hard of hearing and access communication support services.

Several US studies have addressed the specific aspects of students who are d/Deaf or hard of hearing and attend postsecondary educational institutions. These studies have examined issues such as study skills, language skills, social relationships, and retention rates. However, the understanding of the broader scope of the day-to-day and classroom experiences of students in mainstream postsecondary educational institutions remains limited.

It is important to make explicit the differences between the US and Canada in terms of access to higher education for learners who are d/Deaf or hard of hearing. These differences are not documented in the literature, but instead are based on observation, discussions with international leaders in deaf education, and information and dialogue among presenters at the PEPNet conference in 2006.

Most important, US students who know American Sign Language have different choices from Canadian students in terms of choosing a postsecondary educational environment. Specifically, the US has two postsecondary institutions that specialize in serving Deaf students as well as several specialized programs across the US. Established in 1864, Gallaudet College offers a liberal arts education, and the National Technical Institute for the Deaf (NTID), part of the Rochester Institute of Technology (RIT), opened in 1968. These two postsecondary educational institutions remain world leaders in terms of providing support services for Deaf students.

In the past, various Canadian provincial governments have provided funding for Deaf Canadians to attend these two specialized institutions. This required that students leave their family, friends, and country to pursue higher

education. Over the years, with more Canadian individuals who are d/Deaf or hard of hearing choosing to pursue higher education in their own country, postsecondary institutions have begun to enroll higher numbers of learners who are d/Deaf or hard of hearing. These institutions are required to comply with national and provincial human rights and disability accommodation legislation by providing communication access. As a result, they have developed policies, programs, and processes for increasing accessibility on campuses for learners who are d/Deaf or hard of hearing.

Notably, there are some important differences between Canada and the US. Most obviously, the US has a substantially larger population than Canada has, and this means that substantially more people have disabilities, including individuals who are d/Deaf or hard of hearing. Local institutions are able to develop programming to meet the needs of students who are d/Deaf or hard of hearing and who attend campuses across the US. Comparably, one public comprehensive college in Western Canada has served only 10 students who are d/Deaf or hard of hearing in the past 10 years (L. Mutch, personal communication, December, 10, 2008). Therefore, because of low numbers, Canadian postsecondary institutions may not have sufficiently developed resources, awareness, or training to readily accommodate learners who require communication access. As a result, there is a steep learning curve for the postsecondary disability office advisors as well as the possibility of limited access to available trained service providers (e.g., certified American Sign Language interpreters).

Furthermore, research on issues such as student success and retention varies from country to country. The research findings discussed later in the literature review are conflicting, and it is therefore necessary to initiate research into the experiences of learners who are d/Deaf or hard of hearing and pursue higher education.

Prevalence of Individuals Who Are d/Deaf and Hard of Hearing in the Workforce

According to Statistics Canada's (2006a) Participation and Activity Limitation Survey, "In 2006, 1,266,120 (5.0%) Canadians aged 15 and older reported having a hearing limitation" (p. 1). In terms of workforce participation, 47.3% of Canadians who reported having a hearing limitation and who were between the ages of 15 and 64 reported actively participating in the workforce. This is in contrast to the 75% of Canadians without disabilities who participated in the workforce. Of those Canadians who are d/Deaf or hard of hearing and participate in the workforce, one third indicated that they required workplace accommodations. One in five respondents also indicated that they had experienced limitations in their ability to advance in their employment situation.

Disability Legislation and Interpretation

As I will discuss in more detail in the literature review, disability legislation, interpretations, and new policies are being introduced around the world. Here in Canada, the Alberta Human Rights and Citizenship Commission (2004) released an interpretive bulletin, "Duty to Accommodate Students with Disabilities in Post-Secondary Educational Institutions," which is critical to

ensuring access to higher education for learners with disabilities. Given the more detailed information and policies, it is now important to develop programs that not only align with the legislation, but also integrate the lived experiences of learners who benefit from these changes.

Significance and Contributions of This Study

Clearly, the demand for research in this area is important to further the social model of the understanding of disability and the experiences of persons with disabilities who are participating in mainstream higher education. Second, it will be helpful to create evidence-based policies and programming in postsecondary education. Documenting student perspectives in higher education advances educational initiatives in the area of deafness and provides a baseline from which future researchers can examine growth and change in relation to the experiences of students who are d/Deaf or hard of hearing and pursue higher education. Also, documenting and revealing the experiences of students who are d/Deaf or hard of hearing in postsecondary environments contribute to the future development of a theoretical framework for the provision of communication support services. Last, it is necessary for professionals to listen to the perspectives of the people who are being supported to develop relevant and beneficial policies and programming. A qualitative approach creates an opportunity to gain rich and meaningful insight into the lives of students who are accessing services. It is not enough to use self-rating inventories in an effort to understand learner's experiences (Jersild, 1960).

Stakeholders

Numerous stakeholders are involved in disability-related support services for students who are d/Deaf or hard of hearing. Foremost are the students themselves, as well as the staff and service providers of the postsecondary programs that offer disability-related support services. Formal professional organizations that directly benefit from the research findings include the following: (a) the Association on Higher Education and Disability, (b) the Canadian Society for the Study of Higher Education, and (c) the Canadian Association of Disability Service Providers in Postsecondary Education. The following consumer advocacy groups are also likely to benefit from this research study: (a) the Alberta Association of the Deaf (AAD), (b) the Canadian Association of Educators of the Deaf and Hard of Hearing (CAEDHH), (c) the Canadian Association of the Deaf (CAD), (d) the Canadian Hard of Hearing Association (CHHA), (e) the Canadian Hearing Society, and (f) the Western Canadian Centre for Studies of Deafness. Alberta government ministries and departments interested in this research study include (a) Alberta Culture and Community Spirit, (b) Alberta Employment and Immigration, (c) Alberta Advanced Education and Technology, and (e) Alberta Education. Individuals interested in this topic may include (a) high school guidance counselors and itinerant teachers who support students who are d/Deaf or hard of hearing, (b) university professors, and/or (c) students who are d/Deaf and/or hard of hearing.

Research Question and Objectives

The purpose of this research study was to investigate the perspectives of Albertan postsecondary students who are d/Deaf or hard of hearing and have accessed communication support services as part of their postsecondary experience. The research question was "What are the experiences of learners who are d/Deaf or hard of hearing and who have accessed communication support services while attending a postsecondary institution?" The research outcomes include (a) a documented analysis and synthesis of the perceptions that students who are d/Deaf or hard of hearing hold specific to the theoretical and practical issues involved in accessing higher education and (b) a theoretical model that incorporates the above analysis and synthesis of the researched experiences.

Methods

I answered the research question "What are the experiences of postsecondary learners who are d/Deaf or hard of hearing and who have accessed communication support services while attending a postsecondary institution?" by using grounded-theory methods for two specific reasons. According to Morse (2001), this method is an effective approach to research the lived experiences of people in relation to an event or service. Furthermore, Schreiber (2001) advocated this method in initiating research in areas that have not been previously studied.

Reflexivity

Qualitative research often recognizes the relationship between the researcher and the phenomenon of interest (Merriam, 1998). See Appendix A for a detailed account of my professional interest and expertise in this research topic.

This dissertation provides an overview of the current literature on issues that affect students who are d/Deaf or hard of hearing and who have attended a postsecondary educational institution. As well, it describes the research methods that I used to answer the research question. Last, it includes the results of the data analysis and a final chapter that presents the implications of the research findings.

CHAPTER 2:

LITERATURE REVIEW

Introduction

Over the past two decades new legislation has been introduced across the globe to increase access to higher education for learners with disabilities. To contextualize the need for research on postsecondary Canadians learners who are d/Deaf or hard of hearing, it is helpful to understand (a) the issues related to communication access to higher education, (b) the available communication support services, and (c) current research trends. This chapter also contains a summary of the current status of Canadians with disabilities as well as a more thorough discussion on key concepts related to hearing status. Note that, where appropriate, I have included research from other countries to compensate for the lack of available published research on Canadians who are d/Deaf or hard of hearing as well as to give a global context to the movement towards accessible higher education.

It is important to note that this area of research is emergent in multiple ways. Unlike other areas such as postsecondary students with learning disabilities, there is not a significant number of publications on the experiences of learners who are d/Deaf or hard of hearing and choose to attend postsecondary institutions with their hearing peers. This is not unusual given that hearing loss is recognized as a low-incidence disability in the kindergarten to Grade 12 education system. It is to be expected that higher-incidence disabilities would be addressed first. Accordingly, the following literature review is limited in its critical review of past

studies and research methods. Instead, the purpose of this literature review was to provide the background context that points to the need for this type of study. As a result, the discussion towards the end of the chapter defines the gaps in the literature.

Disability in Canada

It is helpful to report on Statistics Canada's current prevalence, employment, and educational attainment reports to fully comprehend the number of Canadians with disabilities who choose to pursue higher education. Where they are available, I have provided specific details on Canadians who are d/Deaf or hard of hearing.

Prevalence

Canadians With Disabilities

As of January 5, 2009, Canada's population clock indicated that Canada has 33,508,799 citizens (Statistics Canada, 2009). According to Statistics Canada (2006a), 4.4 million Canadians reported having an activity limitation/disability. This is an overall rate of 14.3%, up slightly from the rate of 12.4% identified in the 2001 Participation and Activity Limitation Survey. Of the total Canadians population with disabilities, 2,457,940 were between the ages of 15 and 64 and considered to be of working age.

Canadians Who Are d/Deaf or Hard of Hearing

Statistics Canada (2006a) distinguished between adults (15 years and older) and children (0 to 14 years) in reporting the prevalence rates of specific diagnosed health conditions. It defined *hearing loss* as difficulty hearing

participating in conversations with three or more persons or in a telephone conversation. For adults 15 years and older, hearing loss was the fourth most prevalent disability at a rate of 5.0% and affected 1,266,120 Canadians.

Statistics Canada (2006a) reported that 202,350 Canadian children under the age of 15 live with one or more disabling conditions. The prevalence rate for hearing conditions for children aged 0 to 4 years was 11.9%, dropping slightly to 11.5% for children between the ages of 5 to 14 years. Of the 10 disability categories reported for school-aged children, hearing conditions ranked the seventh highest, and the two most reported categories were learning disabilities and chronic health conditions.

The above statistical findings are not without controversy. The CAD (2007) challenged the accuracy of Statistics Canada's research protocols based on (a) inconsistent findings; (b) discriminatory data-collection methods, including the paper-pencil test and the content of questions; and (c) the need for people to self-identify as having limitations when indeed they might not experience any type of inconvenience related to their hearing. Instead, the CAD stated its preference for using the commonly accepted 1:10 ratio, accepting that there are currently no accurate statistics. "This formula concludes that there are 310,000 culturally Deaf Canadians and 2.8 million hard of hearing Canadians" (¶ 13).

<div align="center">***Employment***</div>

Canadians With Disabilities

Statistics Canada (2006a) measured the labor-force status of Canadians with and without disabilities. Of the nondisabled working-age population, 75%

reported being employed, 5% reported being unemployed, and 20% reported willingly not participating in the labor force (e.g., because of school attendance or family responsibilities). For the working-age population with disabilities, 41% reported being employed, 4% reported being unemployed, and 44% reported willingly not participating in the labor force.

Statistics Canada (2006a) further addressed the substantial difference in employment status between the disabled and nondisabled. It argued that, because of the challenges of differentiating clearly between those who choose not to be employed and those who are unable to obtain employment, the unemployment rate is the best indicator of the number of Canadians with disabilities who experience difficulty in the labor market.

It is important to note that there is room to interpret the numbers from another perspective to gain a noticeably different understanding of the data. For example, Canadians with disabilities have a 41% employment rate compared to 75% for their nondisabled peers. This means that the difference between disabled and nondisabled Canadians can be considered 24%, compared to the government's claim of 3.6%. Exploring this issue of nonemployment is important to understand the workforce participation of Canadians with disabilities.

When unemployment rates of Canadians with and without disabilities were compared across the 2001 and 2006 Participation and Activity Limitation Surveys, Statistics Canada (2006a) observed that both groups experienced an increase in employment that was likely associated with the strong economy. However, the rate of unemployment was greater for persons without disabilities—

5.8%—compared to 3.6% for those with disabilities. This indicates that Canadians with disabilities continue to experience higher rates of unemployment than those of their nondisabled peers, even in times of low unemployment rates.

Statistics Canada (2006a) identified the barriers related to the labor-force participation of Canadians with disabilities. Specifically, it recognized that the desire to work is different from being able to work and being able to accommodate a person with a disability in the workplace. Statistics Canada investigated perceived discrimination and found that 25% of unemployed persons reported being denied employment because of their disabling condition.

In addition to the rate of employment, Statistics Canada (2006a) also reported on the career situations of Canadians with disabilities. Using statistics from the 2001 Participation and Activity Limitation Survey, Williams (2006) showed that persons with disabilities are less likely to be employed in management positions and more likely to work in areas of health care and social assistance. Furthermore, "the median employment income of workers with disabilities was $22,600—about 17% lower than the $27,100 for other workers" (p. 19). These findings are congruent with the generally accepted concern that individuals with disabilities are a marginalized minority who continue to experience high levels of poverty.

Canadians Who Are d/Deaf or Hard of Hearing

Statistics Canada (2006b) also measured the labor-force status of Canadians with disabilities according to the type of disability:

In 2006, of those people with hearing limitations between the ages of 15 to 64, 47.3% reported being employed, 23.4% reported that they were not in

the labour force, while 5.1% reported that they were unemployed. Almost one-quarter (23.3%) of people aged 15 to 64 with a hearing limitation reported that they were retired. (p. 4)

For those who were employed, close to one third of the respondents indicated that their hearing condition limited their ability to perform job functions; as well, one third reported having difficulty in advancing in the work place because of their hearing condition (Statistics Canada, 2006b).

Educational Attainment

Canadians With Disabilities

Drawing on the data from the 2001 Participation and Activity Limitation Survey, Williams (2006) tabulated the highest levels of education attained by employed persons with and without disabilities. Canadians with disabilities were more likely to hold a high school diploma and less likely to hold additional academic credentialing compared to their nondisabled peers. Specifically, 41.9% of employed Canadians with disabilities had a high school diploma compared to 25.3% of their nondisabled counterparts. The percentage of individuals with disabilities who held a postsecondary diploma/certificate was 20.7%, compared to 33.7% of their nondisabled counterparts. Last, 13.9% of employed individuals with a disability held a bachelor's degree and above compared to 20.1% of their nondisabled peers.

Canadians Who Are d/Deaf or Hard of Hearing

Williams (2006) did not report on the educational attainment of specific disability groups. However, Statistics Canada (2006b) released an additional report on Canadians with hearing conditions. Specifically:

In 2006, over half (50.2%) of people with a hearing condition said their highest level of educational attainment was high school or below. The remaining half indicated various levels of attainment, with 20.1% having attained a college degree or diploma below a bachelor's degree, 17.5% a trade or apprentice certificate, and 7.5% a Bachelor's degree. (p. 3)

Statistics Canada (2006b) also measured the effect of a hearing condition on the pursuit of higher education. For example, nearly 4 in 10 respondents (39.8%) reported that their hearing condition influenced their choice of courses or careers, and 17.8% reported that it took longer to complete their studies.

In summary, despite the conflicting demographic research findings, over a million Canadian citizens are d/Deaf or hard of hearing, and each has the right to pursue higher education and employment opportunities. Recently published Canadian statistical reports did not indicate how many of these citizens have pursued higher education; however, past research found that Canadians who are d/Deaf or hard of hearing were significantly less likely than their nondisabled peers to hold a university degree. This finding is congruent with the experiences of the larger population of Canadian citizens with disabilities.

Given the relationship between employment and higher education, combined with the knowledge that Canadians who are d/Deaf or hard of hearing are less successful in completing postsecondary education, it is critical to explore the experiences of learners on campus.

Learners Who Are d/Deaf and Hard of Hearing

in Higher Education

Understanding Identity and Hearing Status

The terms *hearing loss* and *hearing impaired* are common terms used to describe the inability to hear functionally. However, this assumption has resulted in confusion, frustration, and dissatisfaction between individuals who are deaf, Deaf, or hard of hearing and those who are hearing. It is important to address the use of these terms.

The terms hearing loss and hearing impaired do little to inform others about a deaf, Deaf, or hard-of-hearing individual. Specifically, they draw attention to the individual's perceived deficit (within a hearing world) while providing little insight into the individual's strengths and communicative preferences. As a result, the literature differentiates between individuals who define themselves as Deaf and those who define themselves as deaf, deafened, or hard of hearing.

Hard of Hearing

This group of individuals with a diagnosed functional hearing loss label themselves *hard of hearing*. Several national and international organizations such as the International Federation of Hard of Hearing People and Self-Help for Hard of Hearing People represent the rights and interests of individuals who are hard of hearing. Canada has an extremely active national organization (CHHA) with numerous branches throughout Canada. In general, people who are hard of hearing perceive themselves as different from the Deaf community.

According to Ross (2000), individuals who are hard of hearing have often already created their own sense of identity prior to becoming hard of hearing and often struggle with the process of adapting to a hearing loss. For example, adult onset of a hearing loss can affect employment and educational opportunities in addition to creating communication challenges in daily living. As a result, the advocacy efforts of these groups are aimed at reducing the barriers (e.g., communication access) that prevent individuals from participating in their pre–hearing loss activities in, for example, work or school. This does not mean to imply that people who are hard of hearing cannot be born hard of hearing. As a result, many organizations such as the Canadian Hard of Hearing Association have developed customized programming from a lifespan approach. For example, they have groups for children, youth, young adults, seniors, and so on.

Deafened or Late-Deafened

The terms *deafened* or *late deafened* typically refer to individuals who have acquired a significant change in hearing later in life. Specifically, the onset of hearing loss occurs after speech and language acquisition; as a result, they face different challenges than do those who experience hearing loss earlier in life (Howe, 1993). More specifically, these individuals must learn new proficiencies in terms of adaptive living skills. For example, communication skills such as speech reading become critical in adjusting to a change in hearing. Assistive living devices such as flashing lights, hearing aids, and special phones are examples of the numerous types of specialized equipment that individuals might

need to learn to use as adults, having experienced a drastic change in their ability to function independently in their home and work environments.

This is an important issue. Those with adult onset hearing loss often experience a steep learning curve in adjusting to the technologies associated with accommodating their hearing loss. For example, they are unlikely to benefit from the use of American Sign Language interpreters, which is an unfamiliar language. The process of learning to use oral interpreters or captioners can take time. Furthermore, hearing aids also require an adjustment period. Therefore, it is critical to keep in mind individuals' experience with common communication supports in advising them on accommodations.

With regard to identity, individuals with hearing loss may describe themselves as deaf, deafened, late deafened, Deaf, or hard of hearing. Each of these preferred terms provides substantially more descriptive information about their communication preferences than the term *hearing impaired*, which is commonly rejected by all of these groups.

Deaf

As I discussed earlier, individuals who identify as Deaf see themselves as belonging to a Deaf community because they share (a) a recognized language, (b) common experiences, and (c) a history with others who are Deaf (Padden & Humphries, 1988). According to Corker (1998), these individuals "define themselves or are defined by others as having a minority group status based on their linguistic and cultural difference, and who distance themselves from notions of deafness as a hearing impairment and disability" (p.6).

Several national and international organizations such as the CAD and the National Association of the Deaf exist to support and advocate for the rights of Deaf individuals. Smaller local consumer-interest groups such as the AAD also exist, in addition to various other social groups such as drama and sports associations.

The word *Deaf* should not be confused with the term *deaf* or *d/Deaf*. A small-letter d denotes an audiological hearing loss in the severe to profound range. Individuals who are deaf may choose not to participate in the Deaf community and instead use other manual communication methods (e.g., Signed English), aural methods (e.g., speech reading), and/or amplification (e.g., a hearing aid). The term d/Deaf is often an inclusive designation that refers to all individuals with a hearing loss regardless of whether they identify as belonging to the greater Deaf community.

Cultural Definition of Deafness

Turnbull and Stowe (2001) described the value of documenting "disability and the role of the individual and family affected by disability from the perspective of how they are viewed within their particular society" (pp. 202-203), similar to Oliver's (1990) social model of disability. Considerable literature has been published on deafness from a cultural perspective.

In understanding hearing status, the advantage of the cultural model is that it recognizes the individual as a person who belongs to a larger community. Specifically, the difference in method of communication is not based on the individual's inability to hear; instead, it is based on an established heritage of

communicating by using American Sign Language. The individual belongs to a minority group who have values and norms separate from those of the hearing world. Inconsistencies between the hearing and nonhearing world are cultural differences rather than inappropriate behaviors that need to be fixed or remediated.

Turnbull and Stowe (2001) noted that the distinct disadvantage of the cultural studies model is that it does not appear "particularly useful to those who generate, implement, or evaluate policy" (p. 203). A second disadvantage of the cultural model that they did not address is that not all deaf or hard-of-hearing individuals know American Sign Language or are even aware of the Deaf community to which they may choose to belong based upon their hearing status (Richardson, 2001b). Therefore, educational interventions from a cultural perspective may not meet the needs of those who do not identify with the larger community to which they may be expected to belong.

Prevalence of Learners in Postsecondary Education Who Are d/Deaf or Hard of Hearing

Limited published research is available on the numbers of learners who are d/Deaf or hard of hearing and registered in postsecondary institutions across Canada. Therefore, it is helpful to access research from other countries to understand the rates of prevalence.

Canada

As Schein (1991) explained, determining the actual number of learners who are d/Deaf or hard of hearing and pursue higher education is a complex task

because most institutions can report only how many self-identified students applied and/or accepted support services, which does not take into account students who may not request services. As a result, it is unclear how many Albertans or Canadians who are d/Deaf or hard of hearing are attending postsecondary educational institutions. However, Schein (1992) reported that between 1985 and 1990, 20 of the 57 Alberta postsecondary educational institutions provided services to learners who are d/Deaf or hard of hearing. Given the increased awareness, resources, and changes to legislation, it is likely that this number has increased over the past decade; however, there is no current Canadian evidence to support this assumption.

In their recent report, Russell and Demko (2005) explained that the number of individuals with disabilities who are accessing Alberta postsecondary institutions is increasing, which mirrors the distribution of learners in the kindergarten to Grade 12 education system (p. 8). In the school year 2007–2008, Alberta Education (2009) reported serving 67,794 students with special-education needs. Of those students, 256 students were identified as experiencing deafness (code 52). These numbers are helpful in predicting the potential number of students who access disability support services. Russell and Demko also identified the number of learners with disabilities across six postsecondary institutions in Alberta. However, as I discussed earlier, the reporting processes varied from institution to institution, making it difficult at times to analyze the data both within and across institutions.

United States

Researchers in the US have not reported being hindered by the data-collection challenges that are common in Canada or the UK. As a result, the published reports contain more detailed statistics on the participation of learners who are d/Deaf or hard of hearing and attend postsecondary institutions. Using data collected between 1997 and 1998 from the "National Center for Education Statistics 1999 Report," Schirmer (2001) stated that "23,860 students with hearing loss were enrolled at two-year and four-year post-secondary institutions" (p. 224).

It is important to note that the number of deaf students in mainstream postsecondary programming in the US is increasing (Foster, Long, & Snell, 1999). In 2006, 11% of undergraduates self-identified as having a disability, according to Horn and Nevill's (2006) profiling report on US postsecondary undergraduate students, and 5% of students had hearing loss. In another study, Mitchell and Karchmer (2006) reviewed the demographics of learners who are d/Deaf or hard of hearing in the US. They initiated the research as a result of the perception that the number of learners who are d/Deaf or hard of hearing was decreasing in the K to 12 education system. The conclusions in this study emphasized that the ratio of students who are d/Deaf or hard of hearing to those who are hearing has remained consistent over the past 10 years, and "during this same time period, there has been a fairly steady prevalence rate of approximately 1.1 per 1000 students with hearing impairment in the schools" (p. 76). Mitchell and Karchmer also concluded that although the number of students who are d/Deaf or hard of hearing in the K to 12 education system remains the same, the

process of educating students has changed substantially. Over the past three decades there has been a significant shift from segregated residential school placement to mainstream education. In the past 15 years the percentage of students who receive instruction in the regular classroom has climbed from 45% to 65%.

United Kingdom

Richardson (2001a) recently reported that the number of deaf students continues to increase in higher education because of increased financial supports for full-time students with disabilities, an increased number of services available to assist with communication barriers, and better processes for accessing communication support services (e.g., access to and coordination of available resources). He too explained that the ability to count the actual number of students who are d/Deaf or hard of hearing on campus remains a challenge. For example, students may be counted twice if they are enrolled in more than one program. If they have more than one disability, they might be counted as having multiple disabilities rather than as being d/Deaf or hard of hearing. These types of bureaucratic record-keeping issues make it difficult to ascertain the exact number of postsecondary learners in the UK who are d/Deaf or hard of hearing.

Given the numbers that are available, 0.20% is the documented prevalence rate of learners in UK postsecondary institutions who identify as d/Deaf or hard of hearing (Richardson, 2001a). However, Richardson indicated that this number is likely underestimated because of (a) missing data, (b) the concern about hearing loss being hidden under the umbrella term *multiple disabilities*, and (c) the issue

that students might choose not to declare their hearing status for two reasons: They do not identify as being disabled or part of a culture or they fear prejudice from being labeled disabled.

In summary, numerous research findings suggest that the number of learners pursuing higher education who are d/Deaf or hard of hearing is stable, if not increasing because of changing legislation, more accessible funding, and increased awareness. These results support the need to more fully understand the actual experiences of the learners who access higher education.

Barriers for Learners Who Are d/Deaf or Hard of Hearing

Saur, Popp-Stone, and Hurley-Lawrence's (1987) findings indicate several barriers that limit postsecondary classroom participation for learners who are d/Deaf or hard of hearing. Specifically, the "barriers include a lag in the interpreted message and varying rates of class discussion and numbers of speakers taking part, as well as language and cultural barriers" (p. 277). In a more recent study, Foster et al. (1999) concurred that deaf students encounter several unique communication challenges in the mainstream classroom. In addition to interpreter lag time, they also identified the difficulty of speech-reading instructors who write on the board, the inability to receive laboratory instructions involving demonstrations of physical manipulation of objects (students must watch the demonstration *or* the interpreter, but not both simultaneously), and limited interaction with peers as key issues that hinder participation and learning in the academic environment. Last, Marschark, Sapere, Convertino, and Seewagen's (2005) results indicate that students who are deaf continue to score lower than

their hearing peers do on content tests following interpreted lectures. The researchers interpreted this finding to mean that the provision of interpreters in lecture environments was not sufficient to ensure equal access (Marschark et al., 2005; Saur et al., 1987). This finding was also upheld in a study by Australian researchers Napier and Barker (2004). They researched the interpreting preferences of four university students in a mainstream university and concluded that each student accepted the fact that university lectures are not fully accessible, regardless of the approach that interpreters use.

Recently, Woodcock, Rohan, and Campbell (2007) discussed their experiences as women in academia who are Deaf and identified common barriers for graduate students who are d/Deaf or hard of hearing. In terms of access to curriculum, they listed the following common issues: (a) unqualified interpreters, (b) error-laden note taking, and (c) limited access to spontaneous discussions with peers/advisors that arise outside the classroom. They also introduced additional challenges for students who are d/Deaf or hard of hearing and pursue graduate school: (a) maintaining enthusiasm for the chosen research topic while having less opportunity for feedback from advisors and peers, (b) finding a supportive academic advisor who is willing to accept the communication differences, (c) ensuring communication access in research settings—especially when they conduct research outside their home country, (d) evading subtle redirections from authority figures towards less resource-demanding research topics, and (e) participating and presenting effectively at national and international conferences. With regard to maintaining enthusiasm, despite smaller class sizes,

communication barriers limit the ability of students who are d/Deaf or hard of

hearing to exchange ideas with peers and professors in common areas such as

hallways. This academic exchange outside the classroom is important, and

informal exchanges can contribute significantly to a student's graduate academic

experience. In addition to the academic access barriers, Woodcock et al. also

identified environmental barriers such as (a) the lack of doorbell flashers, (b) the

limited number and location of TTYs, and (c) strobe fire alarms as barriers that

academic institutions must address.

In addition to the barriers specific to learners who are d/Deaf or hard of

hearing, Russell and Demko (2005) also identified common barriers that students

with disabilities face in accessing accommodations in postsecondary institutions:

(a) complex funding, (b) unfair admission requirements, (c) lack of equal access,

(d) lack of awareness, (e) undiagnosed disabilities, (f) cumbersome bureaucracy,

(g) the transition to postsecondary, (h) inadequate housing, (g) the lack of reliable

and accessible transportation, (h) the lack of alternative formats, and (i) the lack

of professional services. Most of these commonly experienced barriers are

relevant to individuals who are d/Deaf or hard of hearing because they are directly

related to access to accommodation. These findings are consistent with those of

Tinklin and Hall (1999), who completed 12 case studies on students with

disabilities in higher education. They classified the barriers that students face into

five categories: (a) the physical environment, (b) access to information,

(c) entrance to higher education, (d) assumptions of normality, and (e) levels of

awareness.

From this overview of challenges for learners who need to access accommodation and those who are d/Deaf or hard of hearing and pursue higher education, it is clear that barriers exist. Furthermore, these barriers are related to the actual access to information (e.g., interpreter lag/processing time) rather than student-centered issues such as the degree of hearing loss or academic ability.

Understanding the Academic Success of Learners
Who Are d/Deaf or Hard of Hearing

Enrolling and/or being accepted into a postsecondary institution is only one measure of access to higher education. Successful completion rates and common demographic factors are also being examined as possible indicators of the understanding of the experiences of learners who are d/Deaf or hard of hearing. As detailed below, current research on this topic varies from country to country.

Canada

In a census study Schein (1992) also examined the postsecondary completion rate for learners who are d/Deaf or hard of hearing. As noted previously, Schein reported that "although just over 10% of non-disabled persons have a university degree, only 3.1% of persons with impaired hearing have one" (p. 29). This finding can be interpreted to mean that individuals who are d/Deaf or hard of hearing are less likely to attend and/or graduate from a postsecondary educational institution than their hearing peers are. Furthermore, with regard to accessing (compared to completing) postsecondary education, the difference between hearing and d/Deaf peers remains consistent. Specifically, 18.7% of

hearing individuals reported having attended postsecondary educational institutions compared to 13.0% of individuals with hearing loss. This suggests that students who are d/Deaf or hard of hearing are less successful than their hearing peers in terms of successfully completing a postsecondary degree.

United States

Marschark et al. (2008) noted that studies have failed to demonstrate a statistical relationship between "deaf college students learning as a function of degree of hearing loss, parental hearing status, the age at which they learn to sign, their English based signing or ASL skills, or several academic measures" (p. 423). As a result, there is limited insight into the predictors of the academic success of learners who are d/Deaf or hard of hearing. Marschark et al.'s current research shed little insight into the previous findings of Walter and DeCaro (1986; as cited in Foster & Mudgett DeCaro, 1991), who "found that about 70% of deaf students who enter college exit without graduating, compared to 50% of hearing students" (p. 181). Again, although the Walter and DeCaro findings may be outdated and therefore possibly no longer relevant, current research is not necessarily providing any new insight into the learning outcomes for students who are d/Deaf or hard of hearing.

United Kingdom

According to Richardson (2001b), students who are Deaf and registering for courses at the Open University in the United Kingdom tend to be older than their hearing peers and have lower levels of educational attainment. They are also more likely to be female, register in a single course, choose intermediate (rather

than honors) courses, and prefer courses from the faculties of arts and social

sciences. In terms of outcomes, Richardson stated:

> Perhaps the most important finding from the present investigation is that, when any confounded differences in age, gender, prior education and academic level have been taken into account, there remained no significant differences between students with a hearing loss and those with no reported disability on any of the measures of academic outcome. (p. 311)

He concluded that hearing status has no negative consequences for learners'

academic achievements, including completion rates.

Given the outdated research available, it remains unclear whether there is

a discrepancy between the US and UK findings. Richardson (2001a)

acknowledged past US research findings on poor retention rates and attributed the

issue to communication problems and social isolation (Stinson & Walter, 1997).

Richardson also noted DeCaro and Foster's (1992) conclusions on poor self-

image and possible prejudices against learners who are d/Deaf or hard of hearing

as possible reasons for poor US retention rates.

In summary, completion rates and student retention are 'hot' issues in

higher education research. Findings on the retention rates of learners who are

d/Deaf or hard of hearing are difficult to compare because of outdated research;

however, they are recognized as conflicting across the US and the UK. This

confusion about the academic success of learners who are d/Deaf or hard of

hearing and attend postsecondary education is notable and points to the need to

initiate research on the experiences of Canadians.

Access to Higher Education for Learners

Who Are d/Deaf or Hard of Hearing

The following section includes a brief overview of key historical events and legislation related to postsecondary access for learners who are d/Deaf or hard of hearing. It is helpful to understand the critical historical moments of advocacy that have resulted in today's accessible postsecondary institutions.

Influencing Historical Events

Several historical events have marked the process through which learners who are d/Deaf or hard of hearing gain access to postsecondary educational institutions. Educators and leaders in the field of deafness have documented the events specific to the right to access postsecondary educational institutions in both Canada and the United States.

U.S. events. In 1864 the US congress recognized Gallaudet College as a liberal arts college designated to serve deaf students, and it remains the sole higher education institution in the world focused on serving Deaf students (Schirmer, 2001; Smith, 1997). For the next 100 years hearing academics presided over this institution, but this changed in March 1988 as a result of the Gallaudet Revolution, which Lane (1992) documented as "the most significant event in contemporary deaf history" (p. 186).

During this time a new president was to be selected from a pool of both hearing and deaf candidates; the board decided to hire a hearing individual over the preferred deaf candidate, Dr. I. King Jordan. This decision resulted in the "Deaf President Now" rally, which attracted the attention of international media.

Television crews and radio stations covered this revolution and captured the

attention of millions of North Americans. Many of the television and radio

audience chose to support the revolution through various contributions such as

bed linens for banners and offers of legal support. On Sunday, March 12, 1988,

following six days of protests on Capitol Hill, Dr. I. King Jordan was pronounced

the first Deaf president of Gallaudet (Lane, 1992, pp. 191-192). Lane summarized

the impact of the revolution as follows:

> Once deaf leaders came to understand fully, thanks to deaf studies, that
> they were members of a language and cultural minority in America, they
> saw hearing paternalism no longer as benevolent concern for their welfare
> but as brazen and intolerable discrimination against them. (p. 193)

Canadian events. Wolf-Schein and Schein's (1991) edited book *Post-*

Secondary Education for Deaf Students offers insight into two significant

Canadian events that have affected the postsecondary education of Canadians who

are Deaf. According to Leitch and Davis (1991), the first significant Canadian

event occurred in 1985 (prior to the Gallaudet revolution) when the federal

government established three centers of excellence to focus on Deaf education in

an effort to "to address barriers faced by deaf students in each region of the

country" (p. 76); they are located in three postsecondary institutions: (a) the

University of Alberta, (b) the University of Western Ontario, and (c) Saint Mary's

University.

At the University of Alberta, two distinct resources were developed, the

Western Canadian Centre of Specialization in Deafness and the endowed Chair of

Deafness Studies, which is now known as the David Peikoff Chair of Deafness

Studies. The goals for this centre focus on accessibility and integration of

Canadians who are Deaf. The Centre for Communicative and Cognitive

Disabilities was established at the University of Western Ontario with the goal of

addressing communication challenges that Deaf Canadians face. Saint Mary's

University established the Atlantic Centre of Research, Access, and Support for

Disabled Students and focuses on postsecondary accessibility for d/Deaf or hard

of hearing as well as general disability issues in postsecondary education.

    The establishment of these three centers is important to the history of deaf

education in Canada because it was the first large-scale initiative to improve

access to higher education for Canadians who are Deaf. Previously, Canadian

students who were Deaf did not have access to support services in postsecondary

educational environments and often pursued their studies in the US.

    The second Canadian event occurred in 1990. After the Deaf President

Now Rally held at Gallaudet in 1988, it was natural that there would be some type

of advocacy efforts in Canada. MacDougall (1991) explained that on May 12,

1990, Deaf Canadians "called for their fundamental rights to be recognized"

(p. 79). Unfortunately, despite the descriptions available of these important

events, little is known about the outcomes for and/or impact on accessibility to

higher education.

    It is important to recognize these large-scale advocacy efforts across the

continent that focused on better access and resources for postsecondary students

who are d/Deaf or hard of hearing. Not only does it attest to the effective

advocacy efforts of the d/Deaf or hard of hearing, but it also speaks to the fact that

persons with disabilities have been overlooked in the past and that this practice is no longer acceptable.

Human Rights Legislation

The following section on legislation pertains to access to educational programming for persons with disabilities. It is worth noting that most legislation on this issue occurred in the early 1990s. The release of updated legislation and interpretive bulletins coincided with the Salamanca Statement (UNESCO, 1994), where 95 countries participated in discussions on the need to provide educational access for all.

International legislation. The Commonwealth of Australia (1992) enacted the Disability Discrimination Act in 1992, followed closely by the Disability Action Plans, in an effort to address equity within higher education for its identified marginalized populations (Komesaroff, 2005). The Disability Discrimination Act of 1995 was subsequently introduced to help define the roles and responsibilities of postsecondary institutions. These events are similar to the enactment of the UK's Further and Higher Education Act of 1992, implemented on April 1, 1993 (Bolt, 2004). Furthermore, in Australia between 2000 and 2003, several projects were funded by the Higher Education Equity Plan to promote resource development and programs aimed at helping students who are Deaf and pursuing higher education. Two highly publicized initiatives involved raising the profile of deaf students by (a) creating a mentorship program and (b) profiling the successes of deaf alumni.

As I discussed earlier, the US has had a long-standing world-recognized commitment to educating the d/Deaf or hard of hearing. The country currently has two world-famous higher-education institutions that serve citizens who are Deaf and has numerous programs based in mainstream institutions. As a postsecondary education institution, Gallaudet preceded the Americans with Disabilities Act (1990), which was built on the civil rights movement in the US during the 1960s. Discrimination against persons with disabilities is clearly addressed in both Section 504 of the Americans with Disabilities Act and the Individuals with Disabilities Education Act's (1997) zero-rejects principle (Turnbull & Stowe, 2001, p. 201).

Canada. In 1982 the Department of Justice Canada passed the Canadian Charter of Human Rights and Freedoms to guarantee the access to educational institutions. Similarly to the United Kingdom and Australia, in August 2004 the Alberta Human Rights and Citizenship Commission released an interpretive bulletin, "Duty to Accommodate Students with Disabilities in Post-Secondary Educational Institutions." This bulletin extends section 4 of Alberta's Human Rights, Citizenship, and Multiculturalism Act, which explicitly forbids discrimination against or denial of services that are typically available to the public to people with disabilities or any other defining feature such as age, gender, sexual orientation. This section is consistent with section 15 of the Canadian Charter of Rights and Freedoms (1982), which speaks to the equality of all Canadians before and under the law.

The interpretive bulletin (Alberta Human Rights and Citizenship Commission, 2004) defines the concept of *accommodation* in an effort to guide postsecondary institutions in developing suitable policies and procedures. It also contains information specific to the responsibilities of students and postsecondary institutions in arranging accommodations as well as offering resources related to funding. Although this document is not specific to learners who are d/Deaf or hard of hearing, it is an important step in supporting the legislated right to accessible education for postsecondary students who require accommodations.

Limitations of Legislation and Policy

Legislation related to disability accommodations tends to refer to *reasonable* or *undue hardship* in definitions. This means that institutions are not required to alter programming that would comprise the nature of the program or to pay for single accommodations that are considered excessive and cause undue hardship to the institution (Hawke, 2004). However, Woodcock et al. (2007) reported that "there is no agreed-upon formula or suitable legal precedent for what is and what is not reasonable" (p. 366). Social constructs such as undue hardship and justifiable accommodation remain vague and at the discretion of the institution and/or funding officer. This puts learners who are d/Deaf or hard of hearing in the position of needing to negotiate their communication services, knowing that available institutional and government resources will be a substantial part of the decision making associated with adherence to human rights legislation. Clearly, the right to services is limited, depending on the institution's available resources and the individual's advocacy efforts.

American researchers Hurtubis Sahlen and Lehmann (2006) made explicit the challenges of requesting and/or providing accommodations in higher education. They discussed in detail the following five considerations: (a) the legal responsibility of the postsecondary institution, (b) the legal responsibility of the student, (c) the context of the postsecondary institution's request (e.g., policies), (d) the context of the student's request, and (e) the context of the course request. They also indicated that students and faculty depend on the campus accessibility office for appropriate legal direction and policy interpretation. Clearly, this is a very complicated situation for the campus accessibility office staff because they are required to wear multiple hats in, for example, advocating for students, counseling students, approving requests, and so on. Despite the necessary legislation in place to ensure equal access for disabled citizens, the processes are not yet in place to ensure access.

In summary, access to higher education has become well legislated across many countries over the past 15 years. Many have enacted specific legislation with regard to access and accommodations for learners with disabilities. However, the vagueness of the terms *reasonable* and *undue hardship* creates some angst for those who interpret the legislation.

Postsecondary Communication Support Services

Philosophy

As Hadjikakou and Hartas (2008) explained, "Much of the research on disability and provision has been at an institutional and policy-making level" (p. 105). Although legislative and policy documents are readily available, it is

difficult to find articles on the underlying values and philosophies that inform the policies. However, a Scottish study by Tinklin and Hall (1999) contained a two-line description of their institutional model that is reflective of practices in Canada. The model is twofold: (a) The postsecondary institution is responsible for informing eligible students about available services and supports, and (b) students are responsible for declaring their disabilities to the institution. This model draws on the assumption that people with disability are not normal and require extra supports to be successful. As a result, funding and services are provided to help the students overcome the barriers that they face.

Tinklin, Riddell, and Wilson (2004) examined the impact of policy revisions on postsecondary institutions and on students with disabilities. They discussed the challenges with the current model of disability and emphasized that it does not respect the social model of disability. This new philosophical shift requires that the environment change in an effort to remove the barriers. This approach is recognized as a universal design and refers to the process of creating environments that are accessible to the most people with the smallest number of adaptations. An example of this at a postsecondary level would involve making copies of lecture slides/handouts accessible to all students rather than to only those with disabilities who request them.

In Canada, published research is limited and likely outdated given the shifts in disability perspectives. In the 1980s services were aligned with the medical model of disability as a deficit that resides in the individual, and communication support services were provided based upon the assumption that

the learner had a predetermined capacity to learn and/or acquire knowledge (Martin, 1988). Over time, disability perspectives shifted, and it became evident that the role of instructor could significantly influence academic outcomes. Canadian authors Carver and Vasahlo (1991) agreed and explained that "many parents, teachers, and other professionals tend to have low and/or unrealistic expectations of deaf students. The approach commonly used in educating them has been that of one-way teaching and passive learning" (p. 216). This philosophical shift away from focusing on the limitations of the student to understanding the larger picture of accessibility in the early 1990s was critical. Students were no longer perceived as passive recipients of communication support services; instead, equitable access to information had become the new goal. Carver and Vasahlo stressed that postsecondary institutions have an important role in promoting academic opportunities for learners who are d/Deaf or hard of hearing and that it is important to look at capacities and potential as well as the communication needs of the students.

The key principles that Carver and Vasahlo (1991) discussed supported the basic human rights of learners who are d/Deaf or hard of hearing, promoted equal opportunities and access to postsecondary educational environments, and encouraged research into the processes involved in attaining equality between hearing students and those who are d/Deaf or hard of hearing. The move towards a more educational perspective on hearing loss resulted in formal discourse on the provision of support services to learners who are d/Deaf or hard of hearing.

Future Directions

Several different theoretical articles have addressed the future direction of support services (Carver & Vasahlo, 1991; Gorard, 2008; Lang, 2002; Lowell, 1987; Prowse, 2009; Richardson, 2001b; Tinklin & Hall, 1999; Tinklin et al., 2004). Several recommendations consistently emerged in the research published on this topic. First, Carver and Vasahlo made explicit the need to establish "an effective international network of postsecondary institutions and programs specializing in providing support to students who were d/Deaf or hard of hearing in order to facilitate exchange of new and existing ideas and methods" (p. 220). Lang also discussed the need for an international network 10 years later and emphasized the importance of creating formal lines of communication in which new and existing practices can be shared among national and international researchers, administrators, and teachers interested in expanding the body of knowledge on deafness and postsecondary educational institutions.

The second area necessary to enhance the quality of support services for learners who are d/Deaf or hard of hearing is faculty development. Specifically, Lang (2002) reinforced Carver and Vasahlo's (1991) call for professional development for university faculty (also see Lowell, 1987). Specifically, he postulated:

> If participation is to be optimized in the higher education environment to increase the success of a wider population of deaf students, increased professional development efforts are needed for college and university professors, with particular emphasis on helping them to understand the critical nature of classroom participation and the psychosocial and communicative factors that may inhibit participation by deaf students. (p. 276)

The third identified area for development is technology, to provide accessible environments for students who are d/Deaf or hard of hearing. Lowell (1987) suggested that quality postsecondary educational programs for the deaf must include "utilization of current technologies to aid education and willingness to explore new ones" (p. 344). Along with Lang (2002), Lowell emphasized the necessity to stay abreast of new technologies and be innovative in incorporating technology into curriculum.

More recent recommendations for future directions from Tinklin et al. (2004) emphasized the importance of monitoring and evaluating statistics specific to learners with disabilities. They postulated that systemic evaluations are necessary to inform practice. UK researcher Gorard (2008) addressed the challenges of establishing a clear count of the participation of of students in diverse categories such as ethnicity, disability, and occupational background. Specifically, given the UK's movement to widen participation in higher education, it has become important to develop benchmark measures to make explicit the participation and completion rates of various subpopulations of students. Currently, the statistical analysis of current data is confounded by missing data, error, and incompatible aggregate data sets (p. 426). Furthermore, measuring concepts such as participation is difficult considering the multiple delivery methods such as face to face, online, and distance education. Being able to accurately identify and measure the participation of learners who are d/Deaf or hard of hearing remains a challenge. This issue is further complicated, as Prowse (2009) noted, because "disabled identities are more fragile and negative than other

oppressed groups, and less prone to collective identification and group affiliation"
(p. 95).

In summary, the shift in disability perspectives is important and directly
relevant to the provision of communication support services, yet it is difficult to
find philosophical statements on campus disability support services. Instead,
policies and program decisions appear to be based upon legislative changes, case
law, and statistical data that are limited in accuracy and scope.

Types of Communication Support Services

Multiple communication approaches help to support learners who are
d/Deaf or hard of hearing. They can choose from a variety of options: speech
reading, amplification aids, sign language interpreters, and/or any possible
combinations thereof. Therefore, it is important that a variety of communication
support services be made available to make learning environments accessible to
students who are d/Deaf or hard of hearing. Whereas some support services
involve technology, others involve trained professionals such as American Sign
Language–English interpreters or computer-assisted note-takers. The following
section introduces common communication resources for learners who are d/Deaf
or hard of hearing and want access to postsecondary institutions. This will provide
the necessary background to understand the experiences of the participants in this
study.

Note Taking

Formally established at the NTID in 1968, note taking involves soliciting
another individual to take notes during the lecture (Hurwitz & Kersting, 1993). As

Lang (2002) noted, "Language skills and the challenge of attending to multiple visual tasks (e.g., interpreters, teacher demonstrations) make note taking inefficient" (p. 272). Furthermore, the quality of the notes often varies from student to student. To address this issue, two students are often solicited with the expectation that all pertinent information will be recorded (in at least one of the two copies). An alternative to accessing students in the class is to hire and train a note-taker/scribe. According to Lewis, Farris, and Greene (1994), note taking is the most frequent support service requested by students who are d/Deaf or hard of hearing.

Amplification and Group Listening Devices

Many individuals who are d/Deaf or hard of hearing rely on amplification, which often involves the use of a hearing aid or cochlear implant. There are various types of hearing aids ranging from in the canal to behind the ear. Each type is designed to address different types of hearing loss. Some cochlear implants involve "a surgical procedure in which electrodes are implanted into the ear within the cochlea. Small electric currents delivered by the implanted electrodes stimulate the auditory nerve" (Scheetz, 2004, p. 264).

Group listening devices (compared to hearing aids) provide a type of amplification for individuals who are d/Deaf or hard of hearing and participate in larger settings. Communication support services often provide portable or built-in amplification systems such as frequency modulation (FM). The two more common devices, audio loops and FM systems, are often available in special classrooms, meeting environments, and churches.

Speech to Text

These services are another alternative for individuals who have a hearing loss and do not use sign language. Typically referred to as *captioning*, this service is generally familiar to most individuals running across the bottom of television screens. Communication Access Real Time (CART) reporting, also known as Real-Time Graphic Display of Speech or speech to text, is an alternative for individuals who require immediate access to verbal communication.

Preminger and Levitt (1997) described the CART process as follows: "A stenographic captioner (stenographer) provides simultaneous, word-for-word transcription of a speaker's words. The stenographer types the speaker's words as phonetic symbols on a stenotype machine. The stenotype is connected to a computer that translates the phonetic shorthand into English" (p. 220). The English text can then be displayed on a laptop computer screen or television screen or projected by using an LCD projector. Captioning creates access to spoken language for individuals who are d/Deaf or hard of hearing and typically use amplification for their everyday interactions, but do not use American Sign Language.

Two other programs currently provided in several US postsecondary institutions include TypeWell and C-Print. Like CART, these services offer a similar end result (e.g., English text on a computer screen), but use a meaning-for-meaning approach rather than a word-for-word approach. Individuals who are hard of hearing typically access these speech-to-text support services in addition to using amplification and speech-reading strategies. Marschark et al. (2008)

explained that "real-time text frequently is promoted as a less expensive

alternative to interpreting" (p. 424). CART reporting is considered an important

communication accommodation for hard-of-hearing individuals.

Manual Communication

In brief, language is conveyed using hand shapes, gestures, and facial

expressions. Scheetz (1993) explained:

> American Sign Language is a language with its own syntax and
> vocabulary separating it from other foreign languages. Its linguistic
> structure is different from English. Signs represent words, while non-
> manual cues such as facial expressions, head tilts, body movements, and
> eye gazes can be incorporated to express specific grammatical functions in
> the language. (p. 75)

Other types of manual communication codes include Signed English,

Seeing Essential English, Signing Exact English, and Cued Speech. As the names

suggest, these techniques typically involve creating visual representations of the

English language by following English grammar rules. Individuals who use

variations of Signed English are more likely to use these forms of manually coded

English in addition to amplification and speech. Furthermore, they do not

necessarily identify with other individuals who are d/Deaf or hard of hearing.

Educational interpreters continue to remain a common resource for

students in mainstream classrooms who are Deaf. Mallory and Schein (1992)

reported the results from their survey on the provision of interpreting services in

postsecondary educational institutions. Using the term *visual language*

interpreters (VLI), they reported that 61 of 63 institutions that support students

who are d/Deaf or hard of hearing "employed one or more VLIs during the 1990-

1991 academic year" (p. 29).

Oral Interpreters and/or Speech Reading

Falvo (2005) explained that "speech reading is a type of communication skill in which spoken words are identified by watching the formation of the words on the lips of the speaker" (p. 98). Individuals who are hard of hearing and who also use amplification devices such as hearing aids often use this type of communication. Scheetz (1993) noted that this method is often referred to as the *aural-oral* communication method, which incorporates "the early use of amplification and auditory training" (p. 74). Individuals who use an aural-oral communication method often do not use sign language and instead rely on amplification in addition to speech reading.

Language Tutors

The findings of Canadian researchers Rodda and Eleweke (2002) were consistent with those from other research, and they concluded that the reading and academic outcomes for deaf students compared to their hearing peers continue to be poor. To address this disparity, language tutors are available to assist learners who are d/Deaf or hard of hearing in bridging the gap in communicating in written English. British researcher Barnes (2006) defined language tutors' responsibilities as (a) to help students prepare for assignments, (b) to advise students on the presentation, (c) to facilitate access to texts by modifying language (including examinations), and (d) to work bilingually to assist students in accessing curriculum as well as university life (p. 180). From her interviews with students who were deaf and their language tutors, Barnes concluded "that the role of the LT is necessarily complex and not fully understood by tutors or

students" (p. 200), and therefore additional research, training, and discussion are necessary to improve the policies and practices associated with language tutors for the deaf. Furthermore, the need for standardized qualifications and proficiency in British Sign Language is critical to address the issue of equitable access and support services.

Instructor Accommodations

US researchers Foster et al. (1999) developed a continuum to visually portray the range of instructors' comments in interviews on instructor-generated modifications at the RIT. Specifically, they noted that some instructors were unwilling to make accommodations in terms of teaching style and the use of classroom time (e.g., giving interpreters breaks in a two-hour class). Conversely, other instructors were willing to make substantive changes, including eliminating term papers, because students who are deaf appear to be unfairly disadvantaged when assessment relies heavily on English grammar. Regardless of their level of willingness to make changes, the faculty interviewed in this study emphasized the responsibility of support services in assisting learners who are deaf. Other issues that the faculty in Foster et al.'s study identified include the limited training and orientation to foster an understanding of deaf students and the use of interpreters in the classroom. The faculty emphasized the issue of low numbers as a primary reason for not requesting additional training or putting forth additional effort to meet the needs of less than 5% of their classroom students.

Other

According to Mallory and Schein (1992), additional typical equipment that postsecondary educational institutions purchase includes (a) caption decoders for television sets, (b) telecommunication devices for the deaf, and (c) flashing systems for doors and alarms. Furthermore, 30 of the responding 63 Alberta institutions reported having purchased these kinds of communication and assistive devices in the past year to accommodate learners who are d/Deaf or hard of hearing.

In summary, postsecondary institutions provide various types of communication support services for learners who are d/Deaf or hard of hearing. These specialized support services typically include visual language interpreting, speech-to-text captioning, and note taking. The information above is helpful to be able to understand the types of communication support services that the participants in this study requested. It is important to keep in mind the diversity of communication preferences of individuals who are d/Deaf or hard of hearing. It is also necessary to emphasize that the preferred type of communication method can change according to the environment and/or the users' preferences and can also include more than one of the alternatives described above. For example, a CHHA branch uses hearing aids, CART, and FM systems at its monthly meetings to ensure that all members can access the discussions.

Research Trends

The following section summarizes the current research trends in the area of deafness studies as well as general studies on campus accessibility offices in

postsecondary institutions. It also discusses the gaps and challenges in research that addresses individuals who are d/Deaf or hard of hearing.

Deaf Studies

Articles published in the last decade have focused on the issues of stress and social-emotional adjustment (Jones, Ouellette, & Kang, 2006; Lukomski, 2007). A second major recent theme in research on psychological issues and deafness has focused on identity (Hintermair, 2008; Hole, 2007; Najarian, 2008). It is interesting to note that Hole found "that their Deaf cultural identities coexisted, completed, contradicted, and overlapped with other constructions of identities relating to hearing loss" (p. 272). This is an important area of research that will continue to inform education practices related to the d/Deaf or hard of hearing.

Social Relationships

It is important to review research specific to the relationships between students with and those without hearing loss because Schroedel and Schiff (1972) argued that "negative attitudes towards deafness held by hearing people may act as real barriers to the success of deaf persons seeking employment, educational opportunity, or interpersonal relationships" (p. 61). Notably, most studies on this topic have been situated at the RIT, which is closely tied to the NTID (Brown & Foster, 1991; Foster & Mudgett De Caro, 1991). This is important to acknowledge because the NTID has a large number of students who are Deaf and access the RIT; thus the experiences of the students may be different from those

of a student who is Deaf and accesses another postsecondary institution where he or she may be the only learner who is d/Deaf and/or hard of hearing.

Brown and Foster (1991) examined hearing peers' academic and social perceptions of learners who are d/Deaf or hard of hearing. In terms of classroom interaction, the hearing students reported that "deaf students always sat in front to have better access to the teacher and the interpreter, and the classroom interactions mainly occurred among students in adjacent seats" (p. 26). Hearing students found this a considerable barrier to developing relationships within the classroom and noted that they tended to speak to persons sitting next to them rather than going out of their way to meet a deaf student. Brown and Foster also found that the hearing students generally accepted the learners who were d/Deaf or hard of hearing.

Other studies published on this topic offer different insights into social interactions between hearing students and those who are d/Deaf or hard of hearing. In their ecological study, Foster and Mudgett DeCaro (1991) found that "anger and frustration resulting from communication difficulties and 'rude' behavior were cited by both hearing and deaf students" (p. 189). Furthermore, dissension between the two groups has resulted in discriminatory language such as the reinterpretation of the acronym NTID to National Technical Institute for the Dumb (Brown & Foster, 1991; Coryell, Holcomb, & Scherer, 1992; Foster & Mudgett DeCaro, 1991). The results that Brown and Foster (1991) reported contradict previous findings, and they concluded that "in general, the hearing students felt that deaf students have the same range of competencies and success

in their academic programs as they do, but that deaf students are less competent in the social domain" (p. 25).

Lukomski (2007) examined the social-emotional adjustment of learners with hearing loss in college. The conclusions from this study indicated more similarities than differences between hearing students and those who are d/Deaf or hard of hearing on seven of the nine indicators used in the study. In her discussion, Lukomski noted that "it appears that for the emerging adult deaf college student, the social emotional construct may have an added layer of complexity" (p. 492). Although Lukomski did not examine the relationships between hearing students and those who are d/Deaf or hard of hearing, I hope that my new study will prompt further research into the social experiences of postsecondary students in mainstream environments who are d/Deaf or hard of hearing.

Self-Esteem and Coping

Jambor and Elliot (2005) explored self-esteem and coping strategies among students who are deaf (note that the researchers did not define their usage of the term *deaf*) by using a self-administered questionnaire that they provided to 207 students; the response rate was 38% (78 completed surveys). They asked questions on their modes of communication at home, the type of schooling prior to college, their age at the onset of hearing loss, and their group identification. The strategies for coping that individuals who are d/Deaf or hard of hearing used included withdrawal from social settings, covering for material that they missed

due to their hearing loss, and using bicultural awareness to make appropriate responses in given situations.

Deaf-Teacher Education

There is a considerable amount of published research on the educational barriers that learners who are d/Deaf or hard of hearing face. For example, articles and studies published in journals such as the *American Annals of the Deaf*, *Volta Review*, *Journal of American Deaf Rehabilitation Association*, and the J*ournal of Deaf Studies and Deaf Education* focus primarily on educational concerns and issues related to hearing conditions. This does not preclude educational articles on deafness from being published in other non–deaf-specific journals such as *Disability*, *Society & Handicap*, or the *Rehabilitation Counseling Bulletin.* Notably, recent publications have called for a shift in the education programming and teacher-preparation programming to foster a broader understanding of and perspective on deafness. In a recent endnote, Sofia Freire (2007) addressed the political aspects of education programming for the deaf. Using the Salamanca Statement (UNESCO, 1994) as a foundational political document, Freire emphasized that educational programming must address more than the academic progress of the learner; it should also address aspects such as the linguistic, social, and emotional development of learners who are d/Deaf or hard of hearing.

In Canada, only two universities prepare teachers of the Deaf (e.g., with a master's degree or after-degree diploma). They are the University of British Columbia and York University. The curriculum in these programs typically addresses issues such as social development, language and literacy development,

audiology, speech, and curriculum and instructional methods. Simms and

Thumann (2007) recently examined US teacher-training programs for educators

of the d/Deaf or hard of hearing and challenged the defining characteristics of

teacher-training programs, as exemplified above, in an effort to move toward a

different education paradigm that considers linguistic and cultural differences.

Audism is a type of discrimination that is directed (often by professionals)

towards individuals who are d/Deaf or hard of hearing based on the biological

difference of hearing (Humphries, 1977). Simms and Thumann argued that there

in underlying audism prevalent in teacher-education programs. Specifically, they

identified the characteristics of the teacher, low expectations, and a predisposition

toward English over ASL as key factors in the poor academic outcomes of Deaf

education. In "In Search of a New, Linguistically and Culturally Sensitive

Paradigm in Deaf Education," Simms and Thumann recognized the oppressive

nature of past Deaf education practices and saw benefit in the recent shift in

Gallaudet's teacher-preparation program to incorporate Freirean principles in

redesigning the program. These paradigm shifts in the K to 12 education system

will directly impact the educational experiences of learners who are d/Deaf or

hard of hearing, which will subsequently influence their postsecondary

experiences and expectations.

General Disability Support Services Research

The following summaries provide insight into recent relevant research

findings on campus disability support services for the larger disability population.

Prevalence of Learners With Disabilities

Fichten et al. (2003) examined the representation of persons with

disabilities in the Canadian postsecondary education system by telephoning 247

institutions across Canada and interviewing participants from 183 institutions that

provide services to learners with disabilities. These researchers concluded that,

> based on 1998-1999 enrollments in Canadian postsecondary education
> (Statistics Canada, 2001a, 2001b), we estimate that there are well over
> 100,000 students with disabilities currently enrolled in Canadian
> postsecondary education, although only between 1/4 and 1/2 of them are
> registered to receive disability related services. (p. 91)

In the US, Stodden and Conway (2003) quoted government reports that

indicated that "as many as 17% of all students attending higher education

programs in the United States are now identified as having a disability (learning

disabilities are by far the most common type of disability reported by college

students)" (p. 1).

These findings reveal two critical points. First, there is a large student

population with disabilities on campus. Combined with the fact that faculty and

other staff members also have disabling conditions, it is important to continue to

understand the social model of disability and the institution's role in addressing

barriers on campus. These barriers may be physical, communication, attitudinal,

or systemic; however, they must be addressed to ensure equality among the entire

institutional population. The second key point that emerges from this finding is

that at least one half of students are choosing not to access accommodations and

disability support services. Not only does this create challenges in measuring the

need for services as well as developing suitable programs, but it also suggests that

the lack of awareness of services and/or the stigma associated with the campus accessibility office might still be issues. As a result, more research is needed in this area to understand the decisions of individuals who choose not to access support services.

Campus Experiences

With regard to the perceptions of students with disabilities at a Canadian university, Duquette (2000) discussed three key themes associated with the academic and social integration of students with disabilities on campus. Specifically, she reported her findings in relationship to Tinto's (1975) model of dropout for students in higher education. This model contains three factors that predict dropout, and Duquette found that, for students with disabilities, two factors, academic integration (e.g., appropriate support services) and background characteristics (e.g., preparation for higher education), were consistently involved in students' decision to remain in postsecondary institutions. Social integration, Tinto's third factor, was not congruent with Duquette's findings in her study of students with disabilities. Specifically, she found that learners with disabilities did not socialize with their peers and that this factor is therefore not a predictor of dropout, as per Tinto's proposed model. Additional themes that emerged from Duquette's research on learners with disabilities included commitment, faculty participation, and moral family support.

Defining the Concept of Support

British researchers Jacklin and Robinson (2007) investigated staff and student concepts in an effort to understand the support that is offered to students

with disabilities on campus. This study was very informative and helped make explicit the multiple meanings behind the term. The researchers developed a model that portrays three distinct types of supports: (a) material resources such as equipment, people, and services; (b) guidance, direction, advice, and information; and (c) encouragement and the hope of being able to succeed. This research is helpful in explaining the meaning of commonly accepted terms in research, disability policy, and programming. This foundational research is necessary because it creates opportunities for evaluative studies on disability support services in higher education that are based on shared understandings of key constructs. Furthermore, it helps to demystify for policy makers and institutions the term *reasonable* with regard to accommodations.

Students With Learning Disabilities

Hadley (2006) noted the lack of research on the experiences of students with learning disabilities on campus. In an effort to contribute to this lack of knowledge, Hadley interviewed 10 first-year students with learning disabilities and found that the learners highly valued the support of their professors. They recognized the different expectations between high school and college and acknowledged that strategies that they had used in the past did not always work at university. For example, memorizing key factors was not a sure strategy when analytical thinking was the expectation. The students highly valued organizational skills as well as the ability to manage time well because they often required extra time to read and process information.

Curious about the coping strategies that learners with learning disabilities use in higher education, Israelite researchers Heiman and Kariv (2004) asked postsecondary learners to complete surveys designed to measure (a) stress, (b) support, and (c) the strategies that they had employed in their academic journeys. It is interesting that students with learning disabilities experienced less stress than their nondisabled peers did; however, they received more support and used emotional support strategies. These types of research studies are important because they help to dispel myths about the experiences of learners with disabilities on campus and lead to ideas for future programming.

Outcomes

Canadian research findings on the outcomes of students who access support services at campus accessibility offices indicate positive outcomes. Specifically, Jorgensen et al. (2005) found no difference in academic outcomes such as grades and successful program completion between those with and those without disabilities. However, they noted a difference in the duration of study between disabled and nondisabled students in that students with disabilities typically take lighter course loads and therefore commonly require one extra semester to graduate.

US researchers Stodden and Conway (2003) noted that "more than one half of all the students with disabilities who enroll in postsecondary education persist in the completion of their program of study" (p. 2). These results are encouraging and indicate that disability support services have helped to ensure the success of students with disabilities on postsecondary campuses.

Existing Gaps in Research

Knowledge

There are critical gaps in our knowledge about postsecondary learners who are d/Deaf or hard of hearing. Most notably, little Canadian research has been published on the prevalence, demographic characteristics, accommodations accessed, academic outcomes, and actual lived experiences of these learners. As a result, there is limited literature on the additional academic decisions that students who are d/Deaf or hard of hearing make, the strategies that they employ, the resources that they access, and their success. The purpose of this study was to provide insight into the experiences of learners who are d/Deaf or hard of hearing who have attended postsecondary institutions and accessed communication support services. The grounded theory that has resulted from this study will create an important foundation for future research. Most important, it will help to understand how to create access and support these learners.

Methods

It is difficult to effectively conduct research on the experiences of students with disabilities. Poor documentation processes make it very difficult to track the number of students with disabilities who are actually enrolled and/or using support services. As I discussed earlier, isolating the actual number of students who are d/Deaf or hard of hearing in some institutions is virtually impossible considering that these student can be properly identified only if they (a) self-identify, (b) enroll in only one program, and (c) do not have any additional disabilities. In Canada the assumption is that less than half of learners with

disabilities access the campus accessibility office (Fichten et al., 2003). As a result, the ability to fully determine the number of learners with disabilities in higher education, let alone specific institutions, is a challenge.

In research on learners who are d/Deaf or hard of hearing, additional barriers become evident. Specifically, most data-collection methods involve self-reporting instruments. These types of paper-and-pencil surveys depend on several factors. First, the participants must have a suitable understanding of the language used in the survey. Given the challenges with English language that many ASL users face, this is often a critical oversight by researchers who are not familiar with the Deaf culture. Second, there needs to be a shared understanding of the concepts being researched. As I mentioned earlier, researchers are just beginning to define concepts such as *support*, and therefore the validity of self-administered surveys is in question. Thus, the methods of collecting data are important considerations in research studies on individuals who are d/Deaf or hard of hearing.

On a different note, according to Richardson, Barnes, and Fleming (2004), it is difficult to find published research on the experiences of students who are d/Deaf or hard of hearing in higher education. Publications that are available on individuals who are Deaf pertain to the education of the Deaf as a cultural linguistic group. As a result, these publications do not necessarily apply to those who do not identify as a cultural linguistic minority (e.g., hard of hearing and late deafened). Richardson also noted that publications in the field of higher education continue to address deafness as a low-incidence disablement and a less-visible

disability that may be overlooked. This holds true in Canadian institutions where

the actual number of learners who are d/Deaf or hard of hearing may be low (as I

reported earlier, 10 students in 10 years at one institution; [L] Mutch, personal

communication, December, 10, 2008). Therefore the ability to access this

population and generalize the findings can be considered limited compared to the

population with other disabilities such as learning.

In summary, there are distinct challenges in researching the experiences of

postsecondary learners who are d/Deaf or hard of hearing. As a result, I designed

this study with these methodological limitations in mind. For example, (a) I

solicited learners from multiple institutions in an effort to ensure a sufficient

sample; (b) I interviewed learners who are deaf, Deaf, and hard of hearing to

address the distinct *cultural* perspective associated with being Deaf; (c) I

conducted interviews rather than administering surveys; and (d) I used a

semistructured interview process to create shared meanings of constructs related

to communication support services.

Conclusion

In summary, this literature review began with an introduction to disability

in Canada, with a specific focus on the prevalence of Canadians who are d/Deaf

or hard of hearing and some basic demographic information such as rates of

employment and academic attainment. Next, I included an overview of current

national and international human rights legislation that protects and promotes

accessibility in higher education. Following this was a discussion of identities

associated with hearing loss as well as an overview of current research findings

on the academic success of learners who are d/Deaf or hard of hearing and pursuing higher education. This section also contained a discussion on the barriers that learners who are d/Deaf or hard of hearing face. The next section discussed the philosophy of postsecondary support services and common types of communication support services that are offered. Last, the review included research on current research trends related to disability support services in general as well as in the area of deafness studies. The final section also summarized the existing gaps in research knowledge and methods with regard to the experiences of learners in higher education who are d/Deaf or hard of hearing.

The available literature demonstrates wide gaps regarding access to higher education for learners who are d/Deaf or hard of hearing. The limited insight into the participation of learners who are d/Deaf or hard of hearing in mainstream postsecondary institutions across Canada is notable, especially in consideration of the documented formal advocacy efforts, case law, and government policies. As a result, it is difficult for campus accessibility offices, institutions, faculty, and funders to develop evidence-based practices and policies in the area of accommodations for learners who are d/Deaf or hard of hearing. In the literature review I argued for the need for a qualitative study to specifically examine the experiences of learners who are d/Deaf or hard of hearing and pursue higher education.

CHAPTER 3:

RESEARCH METHODS

This chapter contains details on the research methods that I utilized in addressing the research question. The topics include (a) grounded theory, (b) the sampling method, (c) the data-collection method, and (d) the data-analysis process.

Grounded Theory Perspectives

According to Schreiber and Stern (2001), the defining feature of grounded theory is the emergence of the mid-range theory from the data collected, rather than the testing of concepts and theory that are predefined. Glaser and Strauss (1967) introduced grounded-theory methods, and as time progressed, these two founding researchers diverged in their respective approaches to grounded-theory development (Charmaz, 2006; Heath & Cowley, 2004; Morse, 2001). Glaser remained committed to the original positivist stance and continued to emphasize the emergent process of developing theory. This is in contrast to Strauss and Corbin (1998), who made explicit the need for a forced systematical approach to data analysis through axial coding. This means approaching the data analysis in a very systematic way in an effort to make the theory explicit. Glaser argued against this approach by explaining that theory resulting from axial coding is not a theory, but instead a forced description (Heath & Cowley, 2004, p. 142).

For this study the methodological approach that I used drew heavily from an emerging perspective on grounded theory. Specifically, Charmaz (2006) introduced her constructivist approach, which "explicitly assumes that any

theoretical rendering offers an *interpretive* portrayal of the studied world, not an exact picture of it" (p. 10). The underlying assumption varies from Glaser and Strauss's (1967) in that Charmaz recognized that "we are a part of the world we study and the data we collect. We construct our grounded theories through our past and present involvement and interactions with people, perspectives, and research practices" (p. 10). This constructivist approach fits well with my perspective (Appendix A).

Methods

Participants

Inclusion Criteria

The criteria for inclusion in the study were that (a) the participants had to be d/Deaf or hard of hearing, regardless of the degree of hearing loss or the age of onset; and (b) they did not need to be local residents; however, they were required to have attended one of four chosen postsecondary institutions located in a mid-Western Canadian city. I selected three publically funded institutions (one college, one technical institute, and one university) and a private university because they provided a cross section of educational credentialing, including certificate, diploma, apprenticeship, and degree (undergraduate through graduate). They are also the main institutions that serve a metropolitan population area of 1,076,103.

It was also necessary to set criteria with regard to the learners' experience with communication services. Specifically, the participants were not required to be currently registered as students; however, they must have attended one of the

institutions within the past three years to be familiar with current changes in service provision, technology, assistive listening devices, and legislation. As well, the participants must have accessed communication support services to assist with their full- or part-time studies in their respective postsecondary educational institution. To qualify as an experienced communication support services user, the participants were expected to have requested and/or received services for a minimum of one full academic term.

Participant Recruitment

I initially used purposive sampling to recruit participants whom I thought would be able to offer insight into the phenomenon of interest. The initial call for participants was through posters and leaflets that I posted in the campus accessibility office, and I asked for volunteers through the AAD and the CHHA. Eight individuals responded, and seven met the inclusion criterion and chose to participate in the study.

Charmaz (2006) explained that "initial sampling in grounded theory is where you start, whereas theoretical sampling directs you where to go" (p. 100). In undertaking the data analysis and as the initial categories began to emerge, I found it necessary to sample again to further the conceptual development of the categories. As I will discuss later, a noticeable imbalance emerged from the first data analysis because the first seven interviews revealed peer relationships that the participants perceived as mostly negative and it was therefore important to explore experiences that they would consider more neutral and/or positive.

I then used snowball sampling (i.e., I asked others for specific recommendations) to choose participants who could fill in the gaps and saturate the categories by providing more breadth (Charmaz, 2006). After interviewing two more individuals, I decided that the categories were sufficiently saturated because no new insights were emerging from the data.

Data Collection and Analysis

Initial Interviews and Analysis

The purpose of the first round of interviews was to develop a general understanding of the participants and their experiences in accessing postsecondary communication support services. The secondary objectives were to present an overview of the study, obtain informed consent, and establish the rapport necessary to hold meaningful conversations. The interviews typically lasted between 1.5 and 2 hours, and I conducted them in a private office at the University of Alberta. I compensated the participants for their parking expenses and provided bottled water.

I used a semistructured approach in the interviews that involved asking a series of open-ended questions, which created an opportunity for me to follow up on the participants' responses rather than following a strict set of questions (Merriam, 1998). In the first interview I asked some highly structured questions to gain specific information (i.e., the length of their involvement with postsecondary communication support services and basic demographics); however, I included several open-ended questions to facilitate the discussion. Examples of these types questions included "What advice would you offer to your peers who are d/Deaf or

hard of hearing?" and "How has your experience with communication support services affected your experience as a student?"

The flexibility of the semistructured format created an opportunity to follow the participants' lead and reduced the likelihood of focusing on my own possibly preconceived agenda (see Appendix B for a list of the questions for the semistructured interviews).

Data Recording

I conducted the interviews according to the communication preference of each participant. For example, I conducted the interviews orally, using American Sign Language and Signed English to support speech. I also made visual and/or auditory digital recordings, depending on each participant's communication style (e.g., if they used a form of manual communication, videos were required to capture the conversation). Specifically, I video-recorded three of the participants' interviews and used digital audio recording for the remaining six.

Please note that I have four levels of American Sign Language and have worked in an ASL signing environment for over 10 years. Furthermore, I am connected to the hard-of-hearing community and am well aware of communicative strategies to help people who rely heavily on speech reading (e.g., I introduce the topic first). Appendix A includes more information about my background). Print copies of the questions were also readily available if the participants appeared to be uncertain.

Data Generation

I transcribed the initial three interviews verbatim. After three interviews I decided that documenting the salient comments would be more informative because the excessive and unrelated details were interfering with the messages in the text. Therefore, I documented the subsequent interviews by using the approach that P. Stern and P. Wishart (personal communication, May 8-9, 2006) recommended at the Grounded Theory Jamboree in Calgary. Wishart indicated that verbatim transcriptions result in too much information, and it became cumbersome for me to sort through the copious amounts of information to isolate the main points. He emphasized the importance of identifying the key ideas that emerge from the conversation rather than paying attention to every minute detail. Furthermore, he explained that because the essentials of the conversation rise to the surface and are obvious to an experienced researcher, it is therefore necessary to work with only the researcher's notes from the conversation.

Not all grounded theorists agree. Stern (personal communication, May 8-9, 2006) noted that her ability to take sufficiently detailed notes while simultaneously actively participating in the interview was limited, and, as a result, she preferred to review the auditory recordings to fill in her notes. For this study, given the communication differences (in speech perception or use of sign language), it seemed prudent to take notes as well as to listen to the audiotapes (or watch the videotapes) because my initial notes served as the framework for my review of the interviews. As a result, I did not transcribe the remaining interviews word for word. Instead, I extracted relevant comments from the conversations and

added them to my initial notes. I transcribed word for word when I anticipated that I would need a quotation to support the research findings. The notes thus became sufficiently comprehensive without being overwhelming. As a researcher (and interviewer) who has worked in both English and ASL, it was helpful to me to use this approach because it assured me that I had missed no key points during the interview.

Data Analysis

According to Schreiber (2001), "First-level codes, also known as *in situ*, *in vivo*, or open codes, are those in which small portions of data are conceptualized, using the participants' words as much as possible" (p. 69). I examined the documented comments/thoughts and then coded them with corresponding gerund phrases. Charmaz (2006) argued that the advantage of coding with gerunds is that it (a) helps to detect processes while sticking close to the data, (b) offers a sense of action and sequence, (c) prevents topics, (d) preserves the fluidity of the experience, (e) presents new ways to look at the data, and (f) allows the analysis to begin from the participants' perspectives.

The following example of first-level coding resulted from the first round of interviews:

> In terms of classroom-participation face-to-face delivery, I prefer CART. . . . I refuse to go back to the classroom where I can only hear the professor's voice. I missed so much, . . . only hearing answers that I have no idea where they came from. I can't put them in context.

I coded this comment with the following gerunds: (a) preferring CART, (b) missing verbal comments made in class, (c) depending on professor's voice,

(d) being unable to contextualize comments in class, (e) refusing to be without services, and (f) being able to hear peers is important.

By examining the first-level codes and collapsing them into processes and defining properties, I was able "to identify gaps in the data where more information is needed" (Morse, 2001, p. 70). I coded each set of interview notes independently from the others to ensure that the codes best represented each participant's experience. This differs from establishing a preliminary set of codes from the first transcribed data set and then applying it to subsequent data sets (Charmaz, 2006). The advantage of coding each set individually is that the codes reflected each participant's experience, which was important because I returned the notes and codes to the participants for verification. The obvious disadvantage of coding in this manner was the creation of several first-level codes that were extremely similar in nature. However, combining similar first-level codes into a group and choosing one of the codes to represent the group easily addressed this problem. I then examined the first-level codes by using second-level coding processes (Schreiber, 2001).

By comparing incidents and first-level codes, I began to notice similarities and differences, which thus allowed a level of abstraction to emerge (Glaser & Strauss, 1967). Over 20 similar codes emerged from the participants' experiences. Examples of the second-level coding included (a) understanding self as learner, (b) applying strategies for learning, (c) acquiring policy information, (d) advocating for self, and (e) perceiving inequities.

After identifying the second-level codes, I then examined each code in order to fully characterize the respective defining properties (Schreiber, 2001). The questions for the second set of interviews were founded on the ideas that emerged from the second level of coding. Figure 1 is a graphical presentation of the coding process.

First Level Codes	Second Level Codes	Third Level Codes	Grounded Theory
• Emerged Using Raw Data from the Interview Notes	• Emerged Using First Level Codes Verified by Participants	•Emerged by Hypothesizing Relationships from Second Level Coddes	•Emerged by Hypothesizing Relationships from Third Level Codes
Being president of student society	•Reported as properties for the three supporting processes	•Reported as a key supporting process	• Reported as the Basic Social Processes
	Participating in campus life	*Building relationships*	*Negotiating communication access*

Figure 1. A sample of the coding and data analysis process.

Second Round of Interviews and Analysis

Prior to the next set of interviews, I gave the participants electronic copies of the interview records, including my first-level codes. They corrected some details (e.g., names of schools, names of health conditions, exact timelines) but made no changes in the coding. The second round of interviews (also 1.5 hours in length) consisted of addressing the participants' questions/comments that resulted

from the first interviews and/or interview records and then expanding the discussion to include the categories that emerged from the first level of analysis.

I documented the second interviews by using the same approach that I used in the first round, which involved taking notes during the interview and combining them with key comments and thoughts that I captured on the audio-/videotape. I then coded the notes and analyzed them using the same processes that I used for the data that I collected from the first interviews. I coded the interview records and returned them electronically to the participants for feedback and corrections. Again, they made no changes to my coding.

After I had completed all of the first- and second-level coding, I decided to purposefully sample more participants for the second round of interviews to saturate one of the categories related to peer relationships. It was important to obtain positive examples of the emerging concept of relationships with others because the initial participants had described few positive experiences with their peers. As a result, I solicited two more participants who had had more positive relationships with their peers, which helped me to understand the category more thoroughly.

It should be noted that I conducted the face-to-face interviews that I described above with eight of the nine participants. One participant had relocated, and I completed the exchange of information electronically. This limited the opportunity for an interactive dialogue; however, the resulting data were rich in detail and supporting examples.

The initial first- and second-level codes resulted in the following categories: (a) communication services, (b) advocacy skills, (c) relationships, (d) knowledge, (e) self-awareness, and (f) decision making. The third-level, or hypothetical, coding process resulted from "hypothesizing relationships among the lower level codes" (Schreiber, 2001, p. 69). Each of the above subcategories had several defining features, but it was difficult to develop hypothetical relationships amongst the codes because there was considerable overlap and it was difficult to make the categories sufficiently distinct. Therefore, it was important to return to the second-level coding and use the defining gerunds to stay closer to the processes that the participants described. This helped in theory construction because it was easier to ask questions of the data to gain an understanding of the relationships within and among the subcategories (Charmaz, 2006; Wilson Scott, 2004). Next, I added the defining gerunds to a chart to make their properties explicit. Specifically, I applied the questions What? When? Where? Why? How? and the consequence to each subcategory. These questions reflected Wilson Scott's in her conditional relationship guide and reflective coding matrix.

Answering these questions moved the analysis process away from a focus on the skills of the individuals to a more conceptual understanding of their experiences. For example, the starting category of knowing self involved eight different supporting subprocesses that included the following: (a) Defining personal learning characteristics had five supporting subprocesses, (b) applying strategies for learning had three supporting subprocesses, (c) setting personal

goals had one supporting subprocess, (d) matching communication wants/needs had four supporting subprocesses, (e) self-advocating had two supporting subprocesses and 25 additional supporting processes, and so on. Applying the reflective coding matrix created the opportunity to further condense all of the data into a total of six supporting processes.

The above reflective coding matrix that addressed cause and effect was effective in further defining and condensing the key supporting processes. I then approached these six supporting processes from a chronological perspective to elicit a storyline (Schreiber, 2001). Although these approaches were informative and helpful in terms of understanding the processes better, they were not effective in revealing any further subtle differences underlying the various subcategories.

The next step in the data analysis involved conceptualizing the relationships among the supporting processes and examining the underlying conflicts that were being addressed. Specifically, asking the question "What is the problem being solved/addressed by this process?" made the processes visible in a more meaningful way. Using this approach, I reconceptualized the initial six supporting processes into three (see Figure 2).

Theory Construction

After I completed the first- and second-level coding, I began the third-level coding process, which involved determining the relationships among the three supporting processes that emerged from the second-level analysis (Schreiber, 2001). As the supporting processes became more explicitly defined, the core category emerged. Morse (2001) explained that

Negotiating Communication Access		
Advocating for Self	Navigating the Learning Environment	Building Relationships
• Understanding personal learning style	• Selecting a post-secondary institution	• Participating in campus life
• Determining communication requests	• Choosing a program of study	• Developing relationships with hearing peers
• Evaluating the effect of services on academic outcomes	• Managing the learning environment	• Pursuing relationships with d/Deaf and hard of hearing peers
• Leveraging human rights policy and government resources	• Responding to instructional approach	• Establishing relationships with faculty
		• Collaborating with the campus disability office advisors

Figure 2. Model that explains the experiences of learners
who are d/Deaf or hard of hearing and have access
to supported services in postsecondary education.

> the core process is the central phenomenon or main concern of the people in the setting, when viewed from their own perspective. It encapsulates the substance of a pattern of behavior seen in the data and summarizes what is happening. (p. 74)

As in the first- and second-level coding process, generating the third (and final) code involved comparing and contrasting the second-level codes to understand how they interact to form the core process.

Specifically, after the three supporting processes emerged and became more clearly defined, I examined the core process. In this study I labeled the supporting processes in the gerund form in an effort to keep close to the data that

reflected the actions associated with the conceptual processes. In grounded theory the core process that emerges from the data is recognized as the basic social process ([BSP]; Schreiber, 2001). As Schreiber suggested, "The use of a gerund captures the notion of change over time, and embodies the action of the participants" (p. 76). The resulting BSP in this study emerged as *negotiating communication access.*

Additional Data-Generation Tools

In addition to the notes that the discussions generated, I used other research tools: (a) A demographic questionnaire (Appendix C) ensured that I would solicit consistent background information from the participants, (b) the interview guide provided the semistructured format for the interview, (c) my contact notes tracked the interviews and helped me to keep records of the atmosphere of the interviews, and (d) the memos that I wrote during the data-collection process helped to detail the methodological decision making and identify critical concepts that did or did not appear in the data (Charmaz, 2006; Schreiber, 2001). It was interesting to reflect on information that did not arise in the discussions. For example, none of the participants identified personal safety (e.g., the inability to hear fire alarms or emergency announcements) as an issue.

Criteria of Soundness

Lincoln and Guba (1985) presented four constructs for assessing qualitative research. The first construct, credibility, addresses the participants' perceptions of the legitimacy of the results. In this research study the participants reviewed the notes that I took during the interviews, along with my first-level

coding, to ensure not only that my notes were accurate, but also that the participants had an opportunity to correct any misinterpretations at the foundational level of the data analysis. I also used negative case analysis to flush out categories with a limited variety of responses.

The second construct that Lincoln and Guba (1985) identified is transferability, which involves providing a thick description. Its purpose is to create the opportunity for others to apply the research findings to other settings (at their discretion). I achieved this higher level of abstraction through providing a sufficiently documented section on the participants' demographics and the data collection tools used.

Dependability, the third construct (Lincoln & Guba, 1985), speaks to the researcher's ability to adapt and account for changes in research design in response to changes in the phenomenon of study. As a result, the methods section contains detailed descriptions of all pertinent research decisions. In this study no known external changes (e.g., policy changes) influenced the research process.

The last construct that determine soundness is confirmability (Lincoln & Guba, 1985), which is determined by the extent to which others can corroborate the results. For this study I gave my academic advisor copies of the data-analysis process and verbally reviewed the interview records and each level of coding. Regular consultation meetings during the interviews and data-analysis process resulted in open dialogue and feedback opportunities for guidance and support and thus contributed to the confirmability of the research process and the subsequent findings.

In summary, I took multiple actions to address the soundness of the research findings presented in this dissertation.

Ethical Considerations

As required with the involvement of human participants and the gathering of potentially sensitive information, the University of Alberta's Research Ethics Board, Faculty of Education, formally reviewed and approved this study.

Informed Consent

I used a multistage approach to ensure the participants' ongoing commitment to informed consent. For example, I gave them an information sheet that described the research study and their role and a signature sheet for consent (see Appendixes D and E). As well, prior to the interviews, I reviewed the issue of informed consent and asked the participants to verbally state their willingness to continue to participate in the study. Finally, at the end of each session, I again gave the participants an opportunity to verbally commit to continuing their involvement in the research process.

Privacy and Confidentiality

I took steps to protect the privacy of the participants. Specifically, I solicited only personal information pertinent to the research study. I also informed the participants that I might publish or present the data collected in this study at a conference at a future date. To protect the confidentiality of the participants, I minimized my use of identifying information as much as possible, under the guidance of my advisory committee.

Storage of Data

I will store the data and the material that I used for this study for a minimum of five years. The print data will remain in a locked cabinet in a locked room in my private home office. All computer files remain on one private computer, with a backup file stored on the University of Alberta server. Upon successful oral defense of this research, I will scan the print data, transfer all electronic data files to an external hard drive, and store them in the locked cabinet. I will use a shredding machine to destroy all print records.

Summary

This chapter has described the methods that I used to address the research question. Specifically, it has detailed the processes specific to the recruitment and selection of the participants, the data collection and analysis, and the ethical considerations associated with this study.

CHAPTER 4:

RESEARCH FINDINGS

The purpose of the research study was to explore the experiences of learners who are d/Deaf or hard of hearing and who have used communication support services to access mid-Western Canadian postsecondary institutions. I interviewed nine participants for this study who offered their own perspectives on their experiences. This first part of this section contains important descriptive and demographic information that were helpful in contextualizing the findings. Then I describe the three key supporting processes that emerged from the participants' personal accounts: (a) advocating for self, (b) navigating the learning environment, and (c) building relationship with others. Each process consisted of several supporting subprocesses that made the differences among them explicit (Figure 2). Last, the concluding section defines the emerging BSP: negotiating communication access in postsecondary education for learners who are d/Deaf or hard of hearing.

Descriptions of the Participants

The following section contains detailed descriptive and demographic information on the participants in this study.

Introduction of the Participants

This section provides basic biographical information on the participants to help the reader to contextualize their comments and contributions to the research process.

Laura

Having attended multiple institutions in both the US and Canada, Laura is extremely knowledgeable about support services and her own communication preferences. Deaf since birth, Laura has relied on a variety of communication strategies, including American Sign Language, assistive listening devices, CART, and note-takers. Now in her 30s and a learner, Laura described herself as extremely intelligent, lazy, and conscientious.

Shauna

Shauna is in her 30s and has completed her business diploma at the local technical institute. Hard of hearing from birth, Shauna also experiences additional health concerns that have impacted her learning experiences. She described herself as inquisitive, curious, and very independent in her learning style. In the classroom she preferred CART and used note-takers and assistive listening devices to facilitate communication. Shauna values her advocacy skills and knows the importance of talking to the right people.

Tannis

In addition to being hard of hearing, Tannis has additional health concerns that limit her classroom participation. Relying on manual communication, lip reading, and assistive listening devices, being in graduate school has required that Tannis improve her one-on-one communication skills. She does not perceive herself as different from her peers and has good social relationships. Furthermore, as a graduate student in her 20s, Tannis's advisors have described her as

independent, resourceful, and normal, which she considers a compliment because she believes that her success is tied to her abilities, not to her disabilities.

Bryan

In his 30s, Bryan is finishing his credentialing in a business program at a local community college. Hard of hearing since birth, Bryan and his mother have faced considerable barriers in the education system, and Bryan continues to advocate for himself. Specifically, his communication preferences have not been satisfied, and he is required to use older models of assistive listening devices and volunteer note-takers rather than his preference, CART. Bryan has received feedback from his instructors that he is a good student with strong mentoring skills. This surprises him, but he noted that he is hard working and creative.

Paul

Because of his struggle to adapt to the requirements of the campus accessibility office, Paul's use of formal support services was limited during his four-year business degree. He is in his mid 20s and highly values social relationships and campus life, and he was not concerned about attending class on a regular basis. Thus he was unwilling to report in when he was absent. Instead, he strategically chose to take classes to avoid having to use communication support services. He described himself as a learner as visual, experiential, and conversational.

Jackie

Jackie is now in her 40s, and her education in biological sciences has spanned a decade and two institutions. Being diagnosed with additional health

issues has required that Jackie pursue her education intermittently rather than consecutively, and she has seen assistive technologies change over time. At the request of her faculty, Jackie has been required to use a variety of communication supports to facilitate her participation in the classroom, laboratories, and community field placements.

Darrell

An experienced learner, Darrell has attended institutions both in the US and across Canada in his academic journey. Preferring American Sign Language interpreters for communication access, Darrell has learned to interact effectively and develop relationships with his peers in the education department, especially in graduate seminars. He is in his mid 30s and has enjoyed all aspects of campus life; he described himself as extremely smart, ambitious, and conscientious.

Kelly

Deaf since birth, Kelly, now in her 40s, has always relied on manual communication methods in the classroom. She has found CART more helpful in the learning process and has switched to CART exclusively for communication access as she pursues a graduate degree in education. She described herself as tenacious and conscientious and reported that, despite her handicap, she hands in quality work.

Mike

In his 20s, Mike has attended both a community college and a university in his academic journey in the field of biological sciences. Extremely competitive academically, Mike has struggled to find meaningful social relationships with his

peers. He has found that the use of CART interferes with his ability to connect with those around him, and he believes that he has to work much harder than his peers do to obtain similar grades.

Demographic Description

This section summarizes the participants' demographic information. They ranged from 22 to 42 years of age; the mean age was 32.5 and the median age, 33. Of the nine participants, four were male and five were female. With regard to hearing status, the participants self-described their hearing loss as severe (two) or profound (seven), and they reported using a variety of communication strategies, including (a) a form of sign language (e.g., American Sign Language), (b) manually coded English (e.g., Signed Exact English), (c) amplification (e.g., hearing aids), or (d) a combination of the above. With regard to identity, two participants identified as culturally Deaf, five as hard of hearing, and the final two as deaf. Tables 1, 2, and 3 summarize the participants' demographics.

Table 1

Highest Level of Study, Gender, and Additional Health Concerns

	Gender (N = 9)		Additional health concerns		
Highest level of study	Male	Female	Mobility	Respiratory	Other
2 years	1	1	1	1	1
4 years	2	2	1	0	2
4+ years	2	1	0	0	1

Table 2

Faculty in Which Students Were Currently Enrolled /Last Enrolled

Faculty	Business	Biological sciences	Arts	Education
Number of students	3	2	2	2

Table 3

Services Accessed Through the Campus Accessibility Office

	Type of service					
	CART	FM system	Assistive listening device	Interpreters/ transliterators	Note-takers	Social clubs
Number of students who used services	2	1	9	5	5	5

Five of the participants disclosed additional health concerns that have affected their academic experiences. These health concerns tend to be physical in nature (e.g., asthma, arthritis, deteriorating vision), and for several of these individuals, their health issues require ongoing medical care and attention that includes hospital visits and medications with side effects. As a result, three of the participants accessed additional supports (e.g., extra time on exams, tutors) designed to minimize the impact of the additional health concerns on their academic achievement.

Academically, three of the participants had completed graduate degrees, four had completed undergraduate degrees, and two had received diplomas. Notably, all participants had finished at least one academic credential (this was not part of the inclusion criterion). Their chosen fields of study were diverse (i.e.,

sciences, humanities, and business). With regard to institutional experience, all of the participants had attended multiple institutions during their postsecondary education and were able to speak about their experiences across the institutions.

All nine students accessed communication support services in their respective institutions. As the findings from the literature review reveal, the types of services (e.g., CART, ASL) vary depending on several factors. For example, the participants chose communication access services based on factors such as class content, lecture style, instructor features, and availability of the services. As well, they were familiar with the advantages and disadvantages of the various types of communication access services available (e.g., FM systems, ASL/English interpreters, Signing Exact English transliterators, CART) and made decisions according to the specific learning environment of each class.

All nine of the students had interacted with their communication support services coordinators on a monthly basis during the academic term. Five had also connected with the communication support services offices to benefit from social events for students who are d/Deaf or hard of hearing (available only at one of the universities).

In summary, I interviewed nine participants to gain an understanding of their experiences in mainstream mid-Western Canadian postsecondary institutions. They varied in age, gender, faculty of study, communication preferences, hearing identity, and academic credentials.

Foundational Supporting Processes

This section discusses the results of the data analysis. In the methods section I identified three key supporting processes that emerged from the data analysis: (a) advocating for self, (b) navigating the learning environment, and (c) building relationships. The following are conceptual descriptions of each of the foundational supporting processes; they include supporting quotations from the interviews.

Advocating for Self

This key supporting process consists of the participants' efforts to self-advocate. Specifically, it is comprised of their efforts to understand and communicate their learning and communication requests to their campus accessibility office advisors. This key supporting process includes the following properties: (a) understanding personal learning style, (b) determining communication requests, (c) evaluating the effect of services on academic outcomes, and (d) leveraging human rights policy and government resources.

Understanding Personal Learning Style

The participants spoke to the importance of first understanding their own learning potential to be able to effectively advocate for the right to determine their own communication services. By intentionally pursuing a well-developed understanding of their preferred learning style, they were then able to request the supports necessary to support their learning.

The participants discussed several strategies that they believed facilitated their academic success in the postsecondary environment. They involved

understanding their own learning style, including their personal strengths and

weaknesses. This knowledge came from previous experience rather than any type

of formal assessment: "I am a visual leaner. Show me once, show me twice, and

then leave me alone. I will ask if I have questions" (Shauna); "I am an

experiential learner; I like things hands on" (Paul); "I was behind educationally in

my reading and had to catch up" (Darrell); and

> People don't realize hearing loss has two parts. They forget about the cognitive part. It takes longer to process language because I have to understand what I am reading. When listening, it takes me longer to find out what they are asking. And I am easily distracted. Any movement distracts me. If I don't hear anything, I often look up to see if I miss anything. My studying is interrupted. (Bryan)

Next, the participants identified strategies according to their individual

learning experience: (a) learning from the textbook, (b) working individually

instead of doing group projects, (c) adjusting the number of classes that they took,

(d) accessing tutors, and (e) investing more time in studying than their peers did:

"I had to study twice as much as everyone else, reading twice the amount of

notes, then making my own notes. I taught myself to study. I needed to. Who else

was going to help?" (Mike); and

> I used a tutor to help me prepare for the exams. I let my time build up, and then the week before my exam, I scheduled as much time as possible for help. Any problems I am having, anything I don't understand, that was the time to fix it. (Shauna)

> I stopped going to class; there was no point. She [the instructor] had too quiet of a voice. I learned everything from the textbook. It is the only course I got a perfect grade in. I needed to learn everything myself. (Paul)

It was evident that all of the learners thought about their individual

learning styles metacognitively. Specifically, they reflected on how their own

learning styles influenced their choice of communication services.

> I would encourage people to make the decisions about services on their own. They need to find their own learning style first. That is probably the most important! Then find the bridge that will support the learning style. DON'T try to change the learning style based on the tools they are given: learning styles first! (Paul)

> The campus accessibility office should be a bridge between learning style and instructional delivery. Students should not be pressured in terms of what services [are] offered; they should be helped to articulate their own needs. Don't put them on the spot and say "what do you need?" Let them have space and time to figure it out. (Tannis)

This is conceptually different from the idea of assigning communication support

services based on the degree of hearing loss or assigning one type of

communication support service across all courses. Specifically, the participants

expressed the desire to choose supports/resources based on their personal learning

strengths in addition to other variables such as their preferred communication

method (oral, aural, or sign), the classroom environment, and the course content.

As a result, the importance of learners understanding their own learning styles is

critical to advocating for the right to determine their own communication services.

Determining Communication Requests

Advocating for the right to determine their own communication services

also involved choosing their preferred communication support services. As I

discussed above, the participants' reasoning for their decisions involved both

internal and external factors. As a result, they did not necessarily choose one type

of service (e.g., captioning) for all course environments but, in general, relied on

past experience, recommendations from peers, and trial and error to make these decisions. Despite the orientations that the campus accessibility offices offered, the participants had different levels of understanding/knowledge of the services available to them: "They gave me information about the different technology" (Jackie); "I didn't really have an orientation. They just gave me what I had at the other institution. I don't think I really know what is available" (Paul); and "Nobody ever assessed my needs; I think they wanted me to be responsible. I know what I need; I don't need anybody to assess me and tell me what I need" (Laura).

One participant explicitly recommended consulting with experienced peers to make communication service decisions:

> I really think what needs to happen is for the campus accessibility office to have someone who will show new students the technologies who use it themselves. Rather than some hearing person telling me I should use this technology because it is great, I would rather much hear it from someone who has a hearing loss themselves [*sic*]. Perhaps senior-level students who use the technology can explain to me how to use it effectively in the classroom. (Paul)

Three of the participants also discussed the fact that they were not necessarily skilled in using their chosen communication supports because of their limited previous exposure in their high schools or work environments. For some, this created an additional learning curve when they began their postsecondary education: "I needed to have an interpreter because I was missing things. Learning how to use an interpreter was really hard. I never knew who to look at when someone was speaking" (Jackie); "I had to use interpreters for three weeks. It was interesting because my ASL grammar is not that strong. I don't think it

affected my grade that much, but it was hard to switch back and forth" (Bryan); "I knew the interpreters had a bit of a lag, so if I missed something, I learned to quickly catch up using them" (Laura); and

> I want more integration before I get to university; have these people show me technologies when I was in high school. It might be difficult to adjust, but if you can become comfortable with technology at this stage, it might be easier to adjust in postsecondary. It might help the transition. Coming to postsecondary is entering a new world, then having to change learning styles—it is really hard to change that much. (Paul)

In addition to knowing their own learning styles and learning how to use the communication supports, two participants reported that the perceptions of their peers also influenced which technology they requested. Specifically, the visual presence of and physical space necessary for CART became a factor in the decision to use the service or not. One person chose not to use CART, and the other student recognized that, with the laptop, stenography machine, and captioner, it was unlikely that peers would be able to sit next to him. This impacted his ability to meet new people or participate easily in small-group or paired discussions: "The stigma factor was an issue too. I mean, everyone in the classes notices you have someone sitting beside you. It was not a huge factor, but it definitely influenced my decision not to use CART" (Paul); and "The only thing I can do is get an interpreter or a CART reporter by my side. Then it is so embarrassing. I mean, I sit at a table all by myself" (Mike).

Last, the nine participants discussed the process of actually choosing their requested communication services. They emphasized the importance of identifying all possible options, as well as having access to all options. Several felt that factors such as the availability of interpreters, the cost, and past services

limited their options because they limited their ability to make free and clear

decisions based on their learning styles. Furthermore, technology has changed

over the years, and they were not necessarily able to take advantage of the new

technology:

> The website said it [the campus accessibility office] would provide what I
> wanted, but it was not happening that way. I remember one episode after
> the term started. I got an e-mail asking me to switch courses because it did
> not work for the interpreter's schedule. (Tannis)

> I needed parts for my FM system and classes started, so I had to use a
> CART reporter and note-takers. I liked them; I wanted to keep them. I did
> much better with captioning. But when the parts came in, I had to go back
> to the FM system. (Bryan)

In summary, the process of making communication requests is complex

and involves multiple factors, some external and some internal. Being able to

make decisions and communicate them effectively is an inherent part of the larger

process of advocating for oneself.

Evaluating the Effect of Services on Academic Outcomes

Assessing the effect of services on academic outcomes is also part of the

process of self-advocating. For students who access communication support

services, academic success is tied not only to academic ability and knowledge of

individual learning styles, but also to access to information in the classroom.

Therefore, the participants spoke about the impact of the actual communication

support service on their learning: "I think the services helped me achieve what I

needed. It was not possible for me to succeed without supports. They definitely

helped me with my schooling" (Jackie); and "I need the note-takers. I need the

hearing aids. I can't get by without the FM system. I would get lost. I need them"

(Bryan).

The participants considered continuity of service providers across courses

and semesters important:

> We pulled in signing interpreters for those two classes, and they both
> continued with me for eight months. So that was good, to have the same
> people, because they understood the material. There wasn't any transition
> issues or training issues for them in learning new vocabulary and whatnot.
> (Laura)

Several of the participants freely noted that even with support services,

there were still gaps in their access to information. As learners, they were left

trying to compensate for what they missed in class: "I think I capture only about

80% of what hearing people capture. This makes it harder for me. I have to fill in

the blanks" (Jackie); "But there is still that unseen wall, which perhaps made it

more challenging to interact fluently with hearing peers that were not signers"

(Darrell); and "You always miss so much in a conversation [in group work]. I feel

like I am always missing something. I feel there are missed opportunities to

discuss that subject, to follow up on something that was said and I missed" (Paul).

Another example of an issue with quality that surfaced repeatedly

involved the use of volunteer note-takers. The five participants who accessed peer

note-takers expressed frustration with the poor quality of the notes. Because the

peer note-takers were mostly volunteer (in all but one situation), there was no way

of monitoring the accuracy or thoroughness of their notes. Furthermore, some

learners were hesitant to ask a peer to take notes, especially when he or she had

limited (if any) insight into the student's academic ability and/or commitment to the class:

> There were times when I wished I could have had professional note-takers because the quality of notes you get from students can really vary at times. . . . I always ask for volunteers, and it is a case of, who you get is who you get. I can't just arbitrarily choose people. I wish I could, but by the time you know who can take good notes and you know who the top-quality students are, you are still stuck because you can't just volunteer them; you have to ask. If I had had professional note-takers in some of my classes, I think I would have done better. I have one class right now, the teacher is an extremely talented instructor in my mind—in fact, one of the best instructors I have ever had—but I get concerned when at the end of the class I get one page of notes and it is a three-hour lecture, or the other person gives me two pages of notes for a three-hour lecture. (Laura)

Again, not all of the participants had negative experiences when they requested help from their peers. One participant found that asking peers for their notes was a great icebreaker and resulted in friendships. Regardless of the potential social outcomes, depending on peers for notes to ensure academic achievement is an example of the type of assessment for quality assurance that learners who access communication support services need to make.

Reflecting on and assessing the positive and negative effects of communication support services must be ongoing throughout the academic term. The participants' reflections influenced their future decisions on communication support services.

Leveraging Human Rights Policy and Government Resources

The participants from three of the four postsecondary institutions discussed acquiring legislative information to be able to negotiate their services with the campus accessibility office.

> We need a backbone. You can't be a fly on the wall. You have to be strong. You have to get involved and advocate for yourself. The only thing that protects human rights is your own ability to stand up for yourself. So I wrote a letter to the premier of Alberta complaining about no resources for hard-of-hearing people. The letter I received helped me learn more about services available. (Shauna)

By researching and understanding legislative and governing polices, the participants were able to more effectively advocate for the right to determine their own communication services. The participants acquired key information in a variety of ways, including (a) consulting with their peers, (b) researching websites, (c) comparing and contrasting services from different institutions, (d) reviewing provincial policies, and (e) communicating in writing with elected government officials: "Fortunately, with my family's help, we contacted our provincial human resources/personnel department to see about funding and access to interpreting/note taking services. After some wrangling, the two provinces agreed to split the expenses for interpreting services" (Darrell).

Four of the participants described their relationships with the campus accessibility office advisors as adversarial: "I get negative vibes from her [the campus accessibility advisor]. When I tell her what I am doing, she says that is too much. I wish she was more supportive. It frustrates me to have to defend myself and decisions" (Mike); and

> I am disappointed they fought me so hard on things. They tried to take away my paid scribe and give me a peer scribe. The head of the campus accessibility office fought with me until I sent my mother, and the campus accessibility advisor finally gave up with her. I think they thought I did not know what I was talking about. They needed to hear my mother say the same thing I was saying. That is not right. (Shauna)

I am the student. I don't run around your beat of the drum. I run to the beat of my own drum. What works for me, not what works for them. Are they [campus accessibility advisors] there for me or for themselves? (Tannis)

Two of the participants actively petitioned beyond the campus accessibility office as a necessary step to ensure that their communication requests were met: "We had a situation where we tried to appeal the decision made by the campus accessibility advisor, but the dean refused to meet with us. He said the decisions was made, and there no point to meet" (Tannis).

Two participants found it necessary to initiate formal appeals within the institution and/or campaign at a provincial level to have their needs met. However, these advocacy initiatives came with a cost. Individuals who pursued their perceived human rights violations needed to carefully weigh the impact of their advocacy efforts: "So at a certain point I found I needed to become focused on my own studies and could not think about the bigger picture of human rights when my own rights have been violated" (Tannis).

Overall, six of the nine participants spoke knowledgably about the human rights legislation and provincial policies related to receiving their communication services. Furthermore, they described leveraging the human rights legislation when they negotiated and/or appealed their services with the campus accessibility office.

The participants made several remarks that revealed their appreciation for the government funding that they were receiving. They recognized the financial costs of the services to the government and the institution: "I am getting funding. They [the government] have spent hundreds of thousands on my

accommodations. I appreciate the opportunity to go to school" (Paul); and "I knew I had to stay in one province for a year. I mean, you have to live within the province for a year before you get any funding" (Laura).

The participants had varying levels of knowledge and interaction with their government funders. For most, the campus accessibility office advisors helped them to complete the forms and submit them appropriately. However, four of the participants were more involved with their government funding officers and used their names when they talked about their positive experiences with their funders, whom they saw them as critical players in the advocacy process:

> If you need anything, go to your funding supports. They will give you what you need to be successful. They will not string you about. They are a great resource. As long as you can justify your requests, they will give you what you need. If you can say, "I need this because of this," they will listen. Remember that classes change, professors change, needs change to fit the learning environment. (Tannis)

Furthermore, one participant described the role of the government funder as approving services and of the campus accessibility office as providing services. As I have reported throughout this study, the participants typically negotiated their services with the campus accessibility advisors:

> Campus accessibility advisors receive the money, so they should give me what I ask for. It is my own personal opinion. I have already had my needs approved by DRES [Disability Related Employment Services]; why should I argue with the campus accessibility advisors now? (Tannis)

Attending public lectures and seminars is also part of participating in campus life and may well be a course requirement. Traditionally, few public lectures have been accessible to individuals who are d/Deaf or hard of hearing.

One participant noted her frustration because of her lack of success in soliciting the funding she needed to attend the seminars of her choosing:

> I have a bunch of public seminars I want to attend. I was told they [the government funders] would only fund only one per month, so that is awkward. I think we need more funding for people who have to go to numerous seminars to stay current in their field. (Jackie)

In addition to the obvious costs of equipment and professional services, there were also costs that were not covered that troubled some of the participants. They were related more to matters of daily living rather than educational goals. However, it is difficult to separate disability-related employment supports from daily-living supports. For example, a vibrating alarm clock, which is typically at least $100, impacts a learner's ability to get to class/work on time. A cell phone with texting ability is also helpful to learners who are d/Deaf or hard of hearing in communicating with others; again, it crosses the line into daily-living expenses: "I applied for funding from a different place. I did not get funding for the watch, but I got the alert master with the door alarm and the fire strobe master" (Shauna); and

> Make sure hearing-aid batteries are funded by health care. It is the only thing I still have to pay for. Also, the things that help you get along in life: TTYs, vibrating alarm clocks, handhelds, cell phones, computers. It would help to have those things funded. It costs more to be hard of hearing. (Paul)

In summary, this section has described the participants' necessary advocacy efforts to access communication support services through the campus accessibility office. The processes involved understanding their learning style

first, then matching the appropriate communication support service, and, finally, receiving the requested service.

Navigating the Learning Environment

This section describes the second supporting process that emerged from the data analysis. It is comprised of the practices necessary for the participants to respond to the various formal and informal learning environments that they encountered during their time in postsecondary institutions. Although all students in postsecondary go through these processes, learners who are d/Deaf or hard of hearing face additional issues. This supporting process is characterized by the following properties: (a) selecting a postsecondary institution, (b) choosing a program of study, (c), managing the classroom/laboratory environment, and (d) responding to the instructional approach.

Selecting a Postsecondary Institution

In addition to the typical considerations (e.g., programs of study, class size, geographic location, and cost), learners who need communication support services also need to consider the services offered by the campus accessibility office:

> I don't feel like your average student. I can't choose a program because I think it is great; I have to take things into consideration that my hearing peers don't. For example, there is no way I would pick a rural college or university that could not offer me interpretation, regardless of how great their program is. (Laura)

Four participants identified small class sizes, the opportunity to develop relationships with their peers, the reputation of the campus accessibility office, and the geographic location as their primary considerations in choosing a

postsecondary environment. To ascertain the quality/reputation of the services,

three participants relied heavily on their peers who are d/Deaf or hard of hearing

for information, and one contacted the university TTY number directly: "The

campus accessibility office's reputation for being a groundbreaking campus in

Canadian universities [is] well known and well deserved" (Darrell); and

> I checked out [a Western university] and didn't like them. I couldn't even get a TTY call in; they didn't even have one. Next, I checked out [another Western university]; same thing—couldn't even get a TTY call through. And then I checked out [a third Western university], and I got a campus accessibility office advisor on the line right away. She was very enthusiastic, very thrilled, very up front about the programs and what they had to offer. I thought, Wow! It sounded like a really great place. (Laura)

After selecting and attending their chosen institutions, the participants

revisited their decisions at least one more time. As I noted earlier, eight of the

participants had attended multiple institutions (across the province, country, and

world). Those who chose to switch institutions typically did so to pursue higher-

level certification than as available at their current institution. The eight

participants who chose to further their academic credentialing were required to

reconsider the fit of their current institution. Of those eight, five chose to switch to

other academic institutions while remaining in the same geographical location.

Paul realized that "the institution did not offer degrees, so I needed to transfer in

order to get what I needed."

Shauna, on the other hand, explored distance learning and saw another

institution as a better fit for her learning style: "I chose to switch because I wanted

distance learning so I could go at my own pace. I work better on my own, and the

more I work alone, the more skilled I get at working alone."

Two of the participants chose to remain at their institutions for additional certification. They reported that it was necessary to consider the complicated process of renegotiating funding and services with other institutions, especially if they were in different provinces: "I stayed for my next [certification] because I liked the professors and developed good relationships. I also stayed because I had my services in place, and I didn't want to have to renegotiate them" (Tannis).

Selecting a postsecondary institution is a complex decision for any student; for learners who are d/Deaf or hard of hearing, this decision becomes increasingly difficult when they face the task of also ensuring that they have adequate communication support services.

Choosing a Program of Study

In conjunction with choosing an institution, the participants also had to choose a program of study. For several, this decision was again influenced by their perceptions of hearing status. For example, five of the participants made decisions about their program of study based on the advice of others about the type of work that is suitable for someone who is/Deaf or hard of hearing: "I did some research, and I was told it was impossible for a person like me to get an internship because they are closed-minded. . . . I don't know of any other deaf person who has made it" (Jackie); and

> My hearing loss has affected my educational choices. Like I said before, I would rather be a teacher, but I had a long chat with my father-in-law, who was a superintendent of a regional school board, and he said I would never get hired because then they would have to hire a sign language interpreter for me to function in the classroom. I was told it would never happen. (Laura)

Three of the nine participants chose their program of study based on passion or personal interest. For example, "I liked the course I took in high school, and they [the high school counselor] helped me decide on my courses" (Bryan); and "I studied my passion. I chose what I wanted to do. I knew my passion, so I stayed focused on that" (Darrell).

On a different note, three participants reported that their hearing status had influenced their decision on a program of study because they wanted to make a difference in the lives of other individuals who are d/Deaf or hard of hearing. These participants chose programs with the intent of developing skills in the areas of volunteer recruitment, fundraising, and research on best educational practices:

> My hearing played a big part in choosing a business program. I was volunteering with a hard-of-hearing group, and the group was in need of influx of money, but no real way to raise it other than bingos. I went to a few classes and learned different ways to raise money better than bingos. (Bryan)

Managing the Classroom/Laboratory Environment

The participants offered insight into their efforts to participate in postsecondary classrooms. Specifically, they discussed their classroom-participation strategies and some of the factors that they considered when they chose their courses. Some of the factors that influenced their decisions included (a) the number of students in the section of the course, (b) the physical classroom space, and (c) the vocal qualities of the instructor: "I try to find smaller sections so it is easier to choose my seat and talk to the instructor" (Kelly); "The shape of the room and the acoustics is very important in understanding my speech. In some rooms it is hard for my peers to understand me" (Tannis); and

Acoustics of the room were important. Lighting was a bit of an issue. I have a dual sensory impairment, and I needed enough lighting to lip-read. . . . I also made sure I checked out the instructor too. If he mumbled or had an accent, I looked for someone else. (Paul)

I am having problems in a class with the instructor. I am not following him well. There is a fan going off in the classroom, and he is striding up and down; tough for me to lip-read him. I won't choose his class again if I can. (Laura)

The participants' strategies to respond to the classroom/laboratory environment involved selecting (a) communication support services accordingly, (b) group work environments that facilitate communication, (c) seating to ensure access, and (d) the use of peers: "I prefer to sit up front so I can see and am not distracted visually by the others" (Bryan); "I made sure our groups chose good workspace. You know, smaller rooms, tables that are easier to sit around. . . . I also chose my seating arrangements carefully so I could see the instructor" (Paul); "I wanted both [interpreters and CART], but I had to choose. So courses that were straight lectures, I used CART. Interpreters were better for seminars" (Tannis); "In my lab they [the faculty] put me in the back so I don't kill someone by spilling acid on them, but I miss everything. Even the CART reporter misses things. It sucks" (Mike); and

In the lab, it depends. You are playing around with chemicals. I get away without support services because I am working with a lab partner, and the teacher gives the assignment first, so it is one on one. . . . If it is group work, I prefer a CART reporter. Supports help me tremendously with group experiences. (Jackie)

All of the participants identified the strategies that they used to participate in the classroom/laboratory environment. Furthermore, those who had choices in courses and sections used this opportunity to their advantage.

Responding to Instructional Approach

In addition to managing the learning environment, the participants also discussed issues specific to the instructional approach. Most needed to consider issues such as (a) access to lecture notes, (b) captioning for all audiovisual course resources, and (c) off-campus responsibilities such as presentations: "They [the faculty] now mostly use PowerPoint, so I am able to follow along easier" (Kelly). Several of the participants agreed that access to PowerPoint lecture notes facilitates note taking and helps them to stay on track during the classroom lecture. Traditionally, they have not always been available to students, and faculty members still make this decision at their discretion.

With regard to lecture resources, the participants also raised the issue of the inaccessibility of some of the materials that the faculty use. Specifically, most videos are not captioned. This is also becoming an issue when faculty refer to websites that are not accessible to individuals who rely on visual rather than auditory input: "None of the videos were closed-captioned. The TV wasn't closed captioned. The tapes weren't either. I know, because I borrowed them and tried to use them at home, and I couldn't" (Shauna); and "I would have liked to see captioning on all the videos I watched in class or on the web. That would be a nice policy: *All* films must have captioning" (Paul).

Six of the participants were enrolled in programs that require some type of practical, off-campus work experiences. Typically, they chose placements sites where access to communication was not an issue. For example, they accessed the local school for the Deaf or organizations that directly serve individuals who are

d/Deaf or hard of hearing, or they chose placements where the communication

was one on one, thus eliminating common challenges such as the need to answer

telephones or communicate in groups. Occasionally, the practical experiences

required classroom presentations to schools across the city or volunteer hours: "I

did my practicum at the School for the Deaf, so communication wasn't a

problem" (Kelly); and

> When I went to a grade school for a presentation, the CART reporter came with me off campus. I had a really good experience. . . . But I prefer CART for the classroom experience. It is not mobile like interpreters that I used a different time. (Jackie)

> I did not use any supports for the required volunteer work. . . . I had to learn to be very independent, I had to learn to speak properly, I had to learn to advocate for myself, I had to learn to accommodate the environments myself, I had to learn to lip-read, because I know that is how it will be in the workplace. I need to adapt, I need to learn to communicate one on one with people. I can't be dependent on assistance. I am trying not to become dependent on purpose. (Mike)

Two participants who were completing offsite placements discussed some

of the challenges of using a telephone. One required specialized technology,

whereas the other reported coping with the telephone on a call-by-call basis: "The

only thing I really needed was a TSwitch for answering the telephone. That

worked out just fine" (Paul); and

> The only issue I have [in the practicum] is phone calls. Once in a while I get phone calls, and I always look at my call display. I think, Do I want to answer that? Do I know this person? If I don't know the person, I am really leery about picking up the phone because, if I am not understanding them, then it kind of reflects [on] me as being unprofessional. Once in a while I have [the supervisor] clear out my voicemail for me because the menus go too fast for me to understand them properly. I have problems understanding my voicemail. (Laura)

In summary, this section described the participants' efforts and considerations that were necessary for them to navigate their respective learning environments. Decisions on the choice of an institution and a program of study and how to participate in their courses required ongoing adaptation and conscious strategizing to maximize their learning experiences.

Building Relationships

The final key foundational supporting process is building relationships. In addition to self-advocating and navigating their learning environments, the participants discussed the process of connecting with others as part of their academic experience. This section describes their efforts to participate in campus life with their peers who are hearing or d/Deaf or hard of hearing and the key relationships necessary to access communication support services.

Participating in Campus Life

The participants defined accessing campus life as feeling connected not only to their peers, but also to the campus as a whole. For example, it is common practice for postsecondary institutions to offer public lectures and/or seminars throughout the academic year. Typically, they are free to the public, but offering communication support services such as captioning or interpreting is unusual. Three participants stressed the importance of accessing public lectures/seminars related to their disciplines. For example, "I attended a human rights lecture at [a public lecture hall]. They had captioning there. I was enthusiastic about it. I am glad I could go because it [captioning] was there" (Paul).

The participants also discussed access to non-classroom environments on campus, such as common gathering areas such as food areas, campus bars, and fitness centers: "I tried [a fitness course] once, but I never really knew what was going on. . . . Ideally, there would be one interpreter for each deaf person, and they could follow me [*sic*] everywhere!" (Laura); "The acoustics in the [campus bar] is brutal. Voice disappears into the air" (Kelly); and

> In the gym I need to take my hearing aids off because I sweat too much. There is loud music, weights clanking, people moaning, and there is always different staff and people. I would need to ask to jump on the weights, and I couldn't really hear, so I needed to disclose my hearing loss on a regular basis. (Paul)

> I did not do much outside of class. I was a lot older than the other students. I prefer to read and learn and stay home instead of trying to go out in social settings that are too loud for me. (Bryan)

Three of the nine participants were heavily involved in campus life; for example, they were (a) sitting on committees related to their program of study, (b) volunteering, and (c) connecting with other students during lunch and study groups:

> I was a [an executive position] with my program society and so many other things. I can't even recall the specifics, as I have been so busy. But I had to do it all myself. They [the campus accessibility office] did not help me at all with communication. (Tannis)

> I spent lots of time volunteering, especially at community weekend events. I also participated in student exchanges and was a student member of our society. I did not really feel a need for communication support; it would have been too cumbersome. (Paul)

> I represent the program's student association, and they [the campus accessibility office] said I don't need CART because it is a small group. However, lots of times they are shooting things back and forth quickly, and I can't follow. The only way I can understand is because someone is

keeping meeting minutes and I read it after the fact, often wishing I had said something. (Mike)

Campus life exists outside the classroom walls and is an inherent part of student life. For students who are d/Deaf or hard of hearing, participating in campus life requires overcoming environmental, communication, and social barriers. Other than attending the occasional captioned and interpreted public lecture, the participants who ventured into campus life typically did so without communication support services.

Developing Relationships With Hearing Peers

Being a student who is d/Deaf or hard of hearing on campus involves interacting with hearing peers both inside and outside the classroom. However, six of the participants faced challenges in developing and maintaining social relationships and/or interactions with their hearing peers:

> My hearing loss affects every aspect of my life. I have to learn how to communicate. Hard-of-hearing people are always on as I am always struggling to keep up. I have to put extra effort into communication—nothing that is different from other hard of hearing people, but I am a social person too! (Paul)

> I found my hearing loss has affected my social skills. I have never really learned how to make friends well or easily. When I do have friends, it is difficult for me to keep them. I can never quite figure out what I am doing wrong, you know. So I don't have what I would call a lot of hearing friends, and I don't make friends easily within my programs. Most of my friends are d/Deaf. (Laura)

> I don't necessarily feel included. There is a social isolation factor. In my program there are cliques and lots of gossip. It is a small program, and I have never felt part of the social network. Besides, the social aspect is weird. How do you drag an interpreter out to the bar so you can hang out with other students? (Jackie)

Because social situations are different for individuals who are d/Deaf or hard of hearing, courses that require peer interaction pose additional barriers. Six of the nine participants identified group work as a source of anxiety. As I mentioned earlier, two participants found choosing the physical group work space helpful in addressing some of the sound barriers associated with working in groups. However, there are still social implications for group interactions: "I was required to do group projects by myself because I did not work well in groups. I hate holding things back by interrupting to ask questions" (Shauna); and

> Group work is awful, completely awful. Right now I am *soooo* good at faking. It is such a problem. I speak so well; people forget I have a hearing loss. I don't want to be able to control the conversation; I just want to be involved. I don't want to be left out. (Mike)

> People knew I was hearing impaired. They would look at me and keep their hands away from the face. If I got lost, I would tell them I missed something. I used cues from the language and tried to fill in the blanks. Some people were nicer and more helpful; some were not. Someone would take notes about what was decided, and I would look at them [the notes] to help me. (Jackie)

Not all participants felt isolated in their classes. Three participants found their peers to be helpful resources and saw them as playing a role in their learning. Notably, these participants were in smaller programs of study and were taking more than one course with their peer group: "In some classes I was able to interact well with hearing peers in and out of classes. It really depends on personalities and other factors too, like competitiveness" (Darrell); and

> Participating in seminars is critical. If everything the books said was far more important, maybe I would focus on the book. Instead, I am in seminars, and it is about learning others' points of view. I need to interact with my peers and really understand what they are saying. (Tannis)

Another issue inside the classroom is access to volunteer note-takers. I addressed the quality of the notes earlier, but there is also a social aspect of soliciting note-takers. The participants viewed this process differently: Only one reported positive outcomes from using peers, whereas the rest discussed challenges: "I hated when I had to go behind their back and photocopy someone else's notes. I worried about getting caught, but I had to worry about my grades too!" (Laura); and "It was awkward to ask for notes. It means being vulnerable. Opening yourself up a little bit is hard; it is risky. But over time it gets easier. . . . In the end, that was how I made friendships" (Darrell).

This issue became further complicated for one participant when he was not able to find his own note-takers in class. Understandably, asking for note-takers means disclosing a disability to others, which typically occurs at both the peer and instructor levels. In the following situation, the disclosure was not at the learner's discretion: "I had to ask for my own volunteer note-takers, and no one volunteered. Finally, I needed to corner the instructor, who then identified me to the class. It was the only way to get help with note-taking" (Mike).

In the process of advocating for better ease of communication with their peers, four participants found themselves in the position of educating others as well by asking people to speak one at a time, to make eye contact, and not to cover their mouths when they were speaking. It also involved demonstrating technology:

> With CART, I could educate my peers. We were increasing awareness about hearing loss. I think that is so important. All I do is educate, educate, educate,including my work and my personal life. I get tired, but what can I do? I have to! (Jackie)

Last, I asked the participants if they felt equal to their hearing peers. The purpose of this question was to explore whether, given access to communication support services, the participants felt they were on an even playing field with their peers. It is interesting that each of the participants responded to this question differently; as a result, their responses are difficult to summarize: "Mostly I do [feel equal]. But I am not because I am hearing impaired. It is because I miss out. Even though I am reading lips, I still miss out. I hate the words *equal* and *normal*" (Jackie); "No, I am not equal. It comes down to self-esteem. I always know I am missing something and not knowing what it is I am missing" (Shauna); "I feel equal to the task, not necessarily to others in the class. I know I can get good grades, but [that] does not mean I have the same learning opportunities as them" (Kelly); "I feel equal to my hearing classmates as I am assertive and will take matters into my own hands when needed" (Paul); and

> Yes. It is hard to explain. I have never thought of myself as not equal, so I would be equal. I have not really thought that about the other students. I think my professors see me as equal to my peers too. (Tannis)

Social relationships with hearing peers form both inside and outside the academic classroom. Learners who access communication supports report that, typically, their relationships with others are difficult to develop and maintain. However, learners who take more courses with their peers appear to have better experiences. Last, the participants shared their perceptions of equality.

Pursuing Relationships With d/Deaf or Hard-of-Hearing Peers

Seven of the nine participants discussed their efforts in seeking out other learners who are d/Deaf or hard of hearing at their respective institutions. The

largest institution in this study has a formal social group that facilitates this type

of networking:

> I was fortunate in a sense though, that when I came to the [institution], we had a large Deaf and hard-of-hearing population, so we formed our own social club. We started the Deaf and Hard-of-Hearing Club, and we became affiliated with the Student Union. We got the charter and the whole bit. I was actively involved in that process. (Laura)

Jackie added, "I would rather be with deaf people. I am more comfortable with

deaf peers."

Socializing with other learners who are d/Deaf or hard of hearing is

important, and three of the participants discussed their leadership roles in the

formalized social club. Social events included dances, monthly get-togethers, and

fundraising (which involved partnering with their learning-disabled peers on

campus). Those who are able to connect with d/Deaf or hard-of-hearing peers

highly value the experience:

> Being hard of hearing is the equivalent to being the only person that is Dutch in a country like Canada. It is important, like a woman having other women friends. You need people you can relate to. We converse at the same rate of speed and anticipate each other's needs too. That is probably the biggest thing—someone who anticipates what you need or are going through, because they have been there! (Paul)

All participants valued their relationships and community connections

with other d/Deaf or hard of hearing people. Only one of the three institutions had

a social group for learners who are d/Deaf or hard of hearing, which all

participants from that institution accessed on a regular basis. The participants who

attended the other institutions recognized that institutional size was a factor:

"There were no social groups; there weren't enough people" (Bryan).

The participants identified socializing with d/Deaf or hard of hearing peers as an important resource. Connecting with other peers helped to reduce the social isolation that they felt from their hearing peers.

Establishing Relationships With Faculty

Although several of the participants had chosen smaller institutions to develop the necessary relationships with their professors, these relationships typically played a very small role in the educational experience of the participants. Eight reported having positive relationships with their instructors.

Two issues arose with regard to developing relationships with their professors. The first was the students' view of how their professors perceived them. Of the nine, eight reported positive perceptions: "My professor would describe me as independent, resourceful, and normal" (Tannis); "I would be described as a good student. My onsite practicum supervisor said I had a mentoring personality and that I am good at it. I have been told I am a good leader" (Bryan); and "I reckon they would see my going this far as a mark of a person with determination or resistance and requiring ambition to hang on this far" (Darrell).

However, one participant noted that her instructor did not understand the communication differences in interacting with someone who is hard of hearing. Shauna explained, "One instructor, he would say [I am] slightly slow because it takes me so long to hear him. I fight electronics, fans, lights, and so I am slightly slow in answering him."

Two participants reported challenges with soliciting the support of faculty in meeting their communication requests: "The irony is that this instructor is teaching human rights, and he would not wear the FM system. The exact thing he is supposed to be teaching? There it is, not happening. I had to threaten a lawsuit" (Shauna). The other participant used the support of her peers in advocating for the use of her communication resources:

> Over time I did develop some friends. They helped in taking notes for me, and they were a big help in advocating when the instructors needed to speak up for either the CART reporter or for the microphone on my FM system. Sometimes the faculty would forget. It was nice to have other people speak up for me to the instructor. (Bryan)

The second issue was the participants' concern about inconveniencing an instructor. As I noted earlier, they considered the perceptions of their peers when they chose their communication supports, as well as the impact of the technology on their professors:

> I tried the AudiSee [type of audio-visual FM system] once. I was curious and got a demonstration. I was thinking that is so intrusive on the instructor; that is my issue with it. It seems so intrusive, and when I have a fall-back position of ASL interpreters it is so much easier to bring two people into the classroom. The teacher is not really going to be bothered by them, just a couple of people standing near him or her, signing. It seems so much easier to bring a couple of qualified individuals in than to intrude on the professor with this high-falutin' technology, right? (Laura)

Collaborating With the Campus Accessibility Advisors

The learners recognized that accessing disability services involves partnering with the office and working as a team to address their communication requests. How the participants became aware of the campus accessibility office varied. They had researched the office independently, and one comment stands

out as noteworthy: "I heard about it [the campus accessibility office] through a

substitute interpreter in my last year of high school" (Darrell).

With regard to accessing the campus accessibility office, the participants

identified the importance of feeling heard and valued by the campus accessibility

advisors. This was a major issue because they did not always feel that those who

supported them heard them: "It was necessary to find information about resources

available in other areas and bring that information to the discussion before they

[the campus accessibility advisors] will listen" (Darrell); and

> At [one institution], I feel like everyone else thinks they know what is best
> for me because of their schooling. But I am the one living with the hearing
> loss. I wish they wouldn't underestimate the capabilities of a hard-of-
> hearing person. (Mike)

Four participants relied upon their mothers to intervene in an effort to

reach a decision on the provision of services:

> I am disappointed they fought me so hard on things. They tried to take
> away my paid scribe and give me a peer scribe. The head of the campus
> accessibility office fought with me until I sent my mother, and he finally
> gave up with her. I think they thought I did not know what I was talking
> about. They needed to hear my mother say the same thing I was saying.
> (Shauna)

These negative interactions prevented some of the participants from

developing effective working relationships with the campus accessibility advisors.

However, not all struggled to develop effective partnerships. Instead, several

described their relationships with the campus accessibility advisors as positive

and effective: "The folks at the disability campus office are very easy to talk with.

The office was very accessible. It was an open door policy. I could go at any

time" (Kelly); "I was happy with my experiences. They [the campus accessibility advisors] really tried to help" (Jackie); and

> What can I say? Services for me were awesome! They made sure I had all of the interpreting services I needed, and that quality was great. If there was an interpreter or two that didn't match my needs, they were good about letting me pick others for subsequent courses. (Darrell)

> They [the campus accessibility advisors] were there for me in the beginning. They helped me get my own FM system and helped me through the process of transferring. But that was after lots of adversity. Things got better as we went along. In the end, they believed in my potential and went to bat for me, helping solicit funding and such. (Paul)

> She [the campus accessibility advisor] has worked with deaf and hard-of-hearing students for quite a while. She understands deafness and a hearing loss. She understands that most students know what they want and what they need and will tell you. I never really had any issues with anyone. (Laura)

The participants recognized collaboration with the campus accessibility advisors as a key factor in the provision of communication support services. Although four participants gave examples of adversity and/or unmet requests, overall, the relationships with the campus accessibility advisors were positive and collaborative.

The Interaction of the Key Supporting Processes

As I noted in the methods section, the initial presenting categories in the data became more refined and emerged into three foundational key supporting processes through the course of asking questions from the data. With the key supporting processes clearly defined, it was then necessary to examine their relationship to foster the emergence of the BSP.

As I described in the methods section, the three supporting processes resulted from the second-level data analysis in which I compared and contrasted the codes and then grouped them to facilitate the emergence of the BSP. As Figure 2 illustrates, these processes collectively supported the BSP. For example, being able to advocate for themselves is related to navigating their learning environment and building relationships with others. The participants' ability to adapt and respond to their classroom situations was also connected to their understanding of their own learning styles and ability to make appropriate decisions on communication support services.

It is important to note that as part of the data analysis, I explored the supporting processes from a temporal perspective to determine whether any of the processes occurred prior to or after other processes. I also examined the data to explore the possibility of a linear cause-effect relationship among the key supporting processes. However, there was insufficient evidence to support either of these possible lines of reasoning. Instead, the findings suggest that these processes occurred simultaneously and were ongoing throughout not only the term, but also the participants' academic journey. For example, eight of the nine participants revisited the decision on which institution to attend.

From a chronological perspective, entering programs of study in postsecondary institutions and arranging services is preliminary to the other two processes of navigating the learning environment and building relationships. Furthermore, although the participants might have faced some struggles in the other two processes, student success appears to be closely connected to their

ability to self-advocate. This process involves the ability of learners who are d/Deaf or hard of hearing to understand their own wants and leverage the resources necessary to obtain their requests.

These key supporting processes are interdependent, but some defining features differentiated the supporting processes (Figure 2). An examination of the underlying conflicts associated with the processes that the participants identified it revealed three distinct storylines. For example, the defining attributes of advocating for self revolved around the activities of understanding themselves and making sense of the resources available to them. This conflict can be interpreted as 'man against himself.' The second supporting process, navigating the learning environment, is illustrated in the examples of experiencing and overcoming barriers in postsecondary environments. This conflict can be interpreted as 'man against the environment.' The remaining supporting process (building relationships) ties together the conflicts and challenges experienced when interacting with others, as part of their academic experience. This conflict could be understood as man against others.

This conflict-analysis approach connects the three key supporting processes in a way that makes their individual features explicit. However, it also creates space for the mutually supporting relationship amongst the processes, which results from the BSP of negotiating communication support services in postsecondary education for learners who are d/Deaf or hard of hearing.

Basic Social Process

As intended with grounded theory, the BSP emerged from the data that I collected (Charmaz, 2006; Glaser & Strauss, 1967; Schreiber & Stern, 2001). In this study I collected the data from participants who shared their educational and social experiences in higher education. As I mentioned in the methods section, during the data analysis I purposely left the key verbs in their gerund state to ensure that I reported the data from the participants' perspectives. As a result, the data analysis coding process kept the participants' actions at the forefront, which I carried through to the final stage of analysis. Keeping the processes explicit helped the conceptual BSP to emerge while keeping the processes entrenched [in the participants' perspectives. In this study the BSP emerged as negotiating communication access in postsecondary education for learners who are d/Deaf or hard of hearing.

The verb *negotiating* can be understood to mean finding a way over or through an obstacle or difficult path. For the participants in this study, it best encapsulates their experiences. I chose this verb to make explicit the interactive relationship that reflects the participants' experiences of accessing communication support services. Specifically, the participants had to understand themselves as well as interact with the environment and others in their quest for equal access to education. Furthermore, they demonstrated tenacity in their academic pursuit. They were all committed to their academic success and took an active role in ensuring that they had the necessary resources. As Laura explained, "It is looking

at a situation and realizing I can't go through the front door, so I go around to the back door or look for a window."

The data analysis did not yield any sequential or chronological aspects, and as a result, I interpret the key supporting processes as interdependent. The verb negotiating advances this conceptualization because the concept of negotiation suggests ongoing discussions that result in some type of an agreement. In relation to the findings in this study, discussions and agreements were ongoing (throughout the term), involved many reasons, and involved different people. As the key supporting process of building relationships shows, multiple people are involved in creating access to postsecondary education for learners who are d/Deaf or hard of hearing.

Some of these negotiations would be recognized as formal, with set time frames and appeal processes (such as meetings with the campus accessibility advisor or funding officer). Examples of formal negotiations include applying for services and funding and appealing decisions of the campus accessibility advisor. However, many of the negotiations might be considered less formal because there were no processes in place to facilitate the discussions. A typical example of a less formal conversation is a request for support from peers during group work. This is an important point because it has implications for understanding the roles and responsibilities of campus accessibility office advisors related to accessibility.

Negotiation also implies some degree of bargaining involved in the agreements that the participants reached. It is clear from their experiences that, despite their access to classroom communication support services, they still

experience varying degrees of inaccessibility and have to advocate on their own behalf. Regardless of the services provided and human rights legislation, the participants still felt some degree of inequity in access to education. Furthermore, three participants reported that the campus accessibility advisors denied their communication requests on several occasions and that several incidents required additional advocacy/intervention from their mothers. Also, responsibilities (such as notification of nonattendance in classes) that are not expected or necessary from hearing peers are associated with receiving communication support services. As a result, students who receive services are more accountable for classroom attendance because they run the risk of losing their services. These examples support the idea that negotiating involves give and take on both sides.

Last, the term negotiating also contains a suggestion of *managing* a situation, which typically involves planning, organizing, directing, and evaluating efforts focused on accomplishing a goal, such as completing a diploma or degree. These conceptualizations are congruent with the participants' experiences in pursuing their postsecondary education. In addition to the process of managing, the participants also described several situations in which they demonstrated leadership. Through educating others, self-advocating, or being creative in accessing classroom material, they often found themselves engaging in leadership activities.

Summary

The ability to self-advocate, navigate the learning environment, and build relationships defined the major processes involved in the participants'

postsecondary experiences. These three key supporting processes consisted of several supporting subprocesses that I have summarized and substantiated with quotations from the participants in the preceding section. In the last section I discussed the relationships among the three key supporting processes and defined the BSP that emerged from this research study.

In closing, despite the challenges that the participants shared, I believe that not all of them perceived the process of negotiating communication services as a hardship. Several recognized the value of their struggles and were able to view their experiences in a positive light. Bryan's response creates insight into the positive aspects of his encounters with the education system:

> I felt and still do, for the most part, think I am a little bit better than people with normal hearing. We who are hard of hearing have gone through tough times, learned adversity, challenged ourselves by being in school. We were teased, put up front, called teacher's pet, all because of our hearing loss. Normal kids or adults have never had to struggle or beat adversity or show courage at some point in their lives to the same extent I have had to.

CHAPTER 5:

DISCUSSION

As the participants' experiences reveal, pursuing higher education can pose additional challenges for learners who are d/Deaf or hard of hearing. Gaining access to course content and materials and experiencing campus life require more than the provision of speech-to-text services or sign language interpreters. In the previous section I presented the findings from 16 interviews with nine learners who are d/Deaf or hard of hearing, along with direct quotations from the participants. This chapter contains a discussion of the research findings in relation to the research question and literature review. The research question was, "What are the experiences of learners who are d/Deaf or hard of hearing and have accessed communication support services while attending a postsecondary institution?" I will also discuss the implications for practice and future research.

Discussion of the Key Supporting Processes

By using similar headings to guide the reader, I have linked the discussion of the key supporting processes as much as possible to the defining properties that I identified as part of the model. However, at times, new headings have been introduced in an effort to make the discussion easier to follow, and to incorporate discussion that fits within the key supporting process but does not necessarily connect directly with the any one property.

Advocating for Self

The defining properties of the supporting process of advocating for self involve understanding one's personal learning style and then using that

information to make decisions on communication requests. They also involve

being able to identify, obtain, and utilize key information sources with regard to

human rights policy and government resources with the intention of addressing

inequities.

Parallel Research on Postsecondary Students With Learning Disabilities

The key supporting process of advocating for self that emerged in this

study closely aligns with the research of Lehmann, Davies, and Laurin (2000) and

Skinner (1988) on students with learning disabilities in college. More specifically,

Skinner characterized self-advocacy as requiring (a) the ability to understand

one's own disability, (b) awareness of legal rights, and (c) the ability to

communicate one's rights and needs effectively to those in positions of power.

The participants' remarks in this current study extend Skinner's work by

revealing the importance of students being cognizant of their learning styles and

using that information to their advantage in determining which support services

meet their needs. Specifically, in this research the participants spoke confidently

and articulately about their own learning styles and the role these styles play in

determining their preferred communication supports and choosing courses and/or

instructors. One participant in this study perceived herself as much more skilled in

problem solving and self-advocating than her hearing peers were as a result of the

adversity that she has faced over her lifetime. This statement provides some

insight into the effectiveness of the participants' self-advocacy abilities and

efforts.

Evaluating Communication Support Services

The participants did not comment on the quality of the interpretation services such as interpreter processing (lag) time. Napier and Barker (2004) contended that it might be possible that d/Deaf or hard-of-hearing students accept this barrier as part of their learning environment and have chosen to work around the issue. This possibility is supported by a comment from one of the participants on how she strategically used the interpreters' processing (lag) time to her advantage when she missed something during speech reading. This processing time was therefore an advantage to her. Furthermore, there was no indication that the participants felt that their interpreters were not qualified (Woodcock et al., 2007).

It is a different situation with regard to note-taking. In concurrence with Woodcock et al.'s (2007) conclusions, the participants expressed numerous concerns about the note-taking services. Five participants had accessed note-takers in their academic careers, but only one person had a paid note-taker. This was a source of frustration for the participants. Relying on volunteer peer note-takers not only created awkward social interactions for several students, but it also meant that the quality of the notes depended on the academic abilities of the students who volunteered. This resulted in gaps for the students who are d/Deaf or hard of hearing and rely on their peers for in-class lecture notes.

Disability Legislation and Interpretation

As I reported in the literature review, key legislation and policies have been passed across the globe on human rights and accessibility to higher

education (Komesaroff, 2005; UNESCO, 1994). As well, court decisions that interpret and uphold human rights policy have also been important in Canadian disability policy. Landmark legal cases involving accessibility for Canadians who are Deaf include (a) Howard vs. the University of British Columbia (1993); (b) Eldridge vs. Ministry of Health, British Columbia (Supreme Court of Canada, 1998); and (c) the CAD, James Roots, Gary Malkowski, Barbara Lagrange, and Mary Lou Cassie vs. Her Majesty the Queen (Supreme Court of Canada, 2006). These decisions have not gone unnoticed by the participants in this research study. As I mentioned earlier, six were well informed on current human rights policies and legislation and provincial policies. Specifically, these participants spoke about needing to be knowledgeable about provincial policies and human rights legislation and policies to successfully negotiate access to communication services. The participants engaged in self-advocacy efforts such as writing letters and directly contacting government officials. Notably, these same six participants belonged to a national consumer advocacy group (e.g., CHHA or CAD) and were knowledgeable about their respective organization's advocacy efforts in regard to accessibility and human rights.

Furthermore, two participants spoke about their experience of using human rights legislation, government policy, and case laws as leverage in appeal processes. They reported the need to threaten legal action to have their needs met; however, neither of the participants followed through and pursued legal action. One participant was awarded the request, whereas the other withdrew her appeal because of the personal cost of advocacy to herself and her studies.

To date, there has been little published on the knowledge of persons with disabilities about human and legal rights. British advocate Mason (1990) identified the lack of research on this issue and charged that "disabled people are still the victims of a deeply held prejudice which essentially says that we are incapable of knowing what is best for us" (¶ 2). She advocated for a fundamental attitudinal shift that regards persons with disabilities as capable and ordinary. Almost 20 years later her claims appear to remain valid in that almost half (four) of the participants described their relationships with campus accessibility advisors as adversarial. Specifically, the participants found themselves having to defend requests for services that they thought were reasonable.

As I mentioned previously, Skinner (1998) strongly recommended that persons with learning disabilities become educated about their legal rights to help them to self-advocate. It is likely that at least two of the participants in this study would concur with Skinner, given their experiences with formal appeals of decisions made by the campus accessibility advisors. Notably, most advocacy efforts occurred at the institutional level; however, one participant discussed advocating for funding at a provincial level as well.

In summary, the key supporting process of advocating for self involved (a) understanding personal learning styles, (b) determining communication requests, (c) evaluating the effect of services on academic outcomes, and (d) leveraging human rights policy and government resources. The next section discusses the second key supporting process.

Navigating the Learning Environment

The second key supporting process, navigating the learning environment, consists of the following properties: (a) selecting a postsecondary institution, (b) choosing a program of study, (c) managing the learning environment, and (d) responding to the instructional approach. All learners must engage in the process of selecting and applying to their preferred postsecondary institution as well as choosing a program of study, but it is interesting to explore the experiences of the study participants with regard to their decisions.

Galotti (1995) defined the processes of decision making for US college-bound students. She specifically examined the following factors to determine their influence on decisions: (a) academic, (b) institutional, (c) financial, and (d) personal/social. Galotti concluded that (a) students typically do not use any type of linear decision-making process, (b) males and females value different aspects, and (c) higher ability students use different criteria but are no more likely to demonstrate consistency in their decision making. I directly questioned the participants in the current study about their decisions on the institution, program of study, and courses. Most factors that they mentioned were closely aligned with those of Galotti. Specifically, common considerations included (a) the majors offered, (b) class size, (c) geographic location, (d) financial cost, and (e) advice from parents.

In addition to these factors, the participants in this study also took into consideration the availability and reputation of the campus accessibility office and the services that were available. The decision to research the campus accessibility

office is important because, evidently, not all institutions equally ensure accessibility. Sharpe and Johnson (2001) examined the ability of what they called low- and high-capacity institutions to support learners with disabilities and found that "large public institutions have seemed to develop the funding mechanisms and infrastructure to achieve a greater level of capacity to address the needs of a wide range of students with disabilities" (p. 176). The participants in this study discussed the advantages of attending a larger university only in terms of having the opportunity to socialize with peers who are d/Deaf or hard of hearing. They did not mention concerns about the capacity of their chosen institutions to provide services.

Managing the Learning Environment

As I reported earlier, numerous studies have been conducted on the barriers that learners who are d/Deaf or hard of hearing face. The purpose of this study was not to examine the barriers per se, but instead to explore the higher education experiences of students who access services, without making assumptions about their experiences. The barriers that the participants mentioned reflected those that Russell and Demko (2005) identified; specifically, (a) complex funding, (b) cumbersome bureaucracy, and (c) lack of alternative formats. These barriers significantly influenced the students' experiences. For example, four students considered access to funding in deciding which institution to attend. This is an excellent example of some of the systemic barriers that postsecondary learners with disabilities face.

In addition to the above-mentioned barriers, the participants' concerns about access to information focused on additional issues such as the learning environment itself; for example, (a) insufficient classroom lighting, (b) noisy projectors, and (c) poor acoustics. As well, the participants mentioned additional barriers associated with courses themselves. Specifically, whenever possible, they considered (a) the amount of group work, (b) the delivery style (i.e., lecture versus laboratory), and (c) the instructor assigned to teach the course (e.g., they avoided instructors with facial hair and accents).

Cole and Cain (1996) and the American Speech-Language-Hearing Association (2004) addressed the issue of practicum placement for students with disabilities in higher education and expressed low expectations for practicum arrangements. They recommended only meaningful placements and/or a similar variety of placements as their peers rather than assurances of equal access to the learner's desired placement.

Hauser, Maxwell-McCaw, Leigh, and Gutman (2000) addressed the common challenges associated with ensuring access for d/Deaf or hard-of-hearing psychology student interns. Specifically, they noted that "the tendency to question how deafness might adversely affect one's ability to serve patients continues to be the norm" (p. 570). Moreover, the interview questions for incoming interns tended not to reveal the individual's skills and knowledge, but instead focused on issues such as legal responsibilities and the costs associated with interpreting. Hauser et al. found that agency directors were reluctant to require hearing clients to use ASL/English interpreters to access a Deaf psychologist, but had no reservations

about a Deaf client's accessing hearing psychologists through an ASL/English interpreter. Hauser et al. argued the importance of educating internship supervisors on the ethical, legal, and practical aspects of educating student interns who are d/Deaf or hard of hearing.

In the current research study the participants did not mention being excluded from their desired placements. Instead, whenever possible, they accessed organizations that directly serve and/or are familiar with individuals who are d/Deaf or hard of hearing. As a result, this eliminated most of the communication barriers because these organizations tended to be accessible already. Furthermore, given the accessibility of the placements, only one of the six participants required a workplace adaptation (i.e., a TSwitch). Because the participants chose these placements themselves, it is unknown whether they would have faced the same challenges that Hauser et al. addressed.

The following section discusses the success of learners in higher education who are d/Deaf or hard of hearing. Although it is not explicitly represented in the defining properties, the success in higher education of learners who are d/Deaf or hard of hearing is likely closely connected to their ability to successfully navigate the learning environment.

Success in Higher Education

As the literature review revealed, numerous studies have been conducted on completion rates and academic outcomes of learners with disabilities in higher education, including studies that have focused on learners who are d/Deaf or hard of hearing (Foster & Mudgett DeCaro, 1991; Richardson, 2001a; Schein, 1992).

Given the amount of discussion on the discrepancies between completion rates and measuring processes, it is difficult to make any type of declarative statement about the actual completion rate of learners who are d/Deaf or hard of hearing.

All of the participants in this study had been awarded at least one academic credential (e.g., a diploma/associate's degree or higher), even though this was not part of the inclusion criteria for this study. Furthermore, eight of the participants did not mention having difficulty passing and/or withdrawing from their courses. One student spoke about failing a class and noted that the content of the course was too complex and linear for his thought processes, and he decided to switch programs of study based on his dislike for the program content. The other eight participants felt that their marks fairly represented their achievement in the course.

In summary, the discussion on the key supporting process of navigating the learning environment increases the awareness of the challenges that learners who are d/Deaf or hard of hearing face in terms of accessing not only the traditional classroom and laboratory environments, but also off-campus learning opportunities such as community presentations and practicum placements.

Building Relationships

The five characterizing properties of the key supporting process of building relationships include (a) participating in campus life, (b) developing relationships with hearing peers, (c) pursuing relationships with peers who are d/Deaf or hard of hearing, (d) establishing relationships with faculty, and (e) collaborating with the campus accessibility office advisors. The following

section discusses the related literature on building relationships within the scope of higher education.

Developing Supportive Relationships

Smith and Nelson (1993) identified four types of supportive relationships that contribute to the academic success of learners with disabilities in higher education. Their findings are similar to the sub-supporting processes in the key supporting process of building relationships that emerged in the current study. For example, the findings from this study emphasize the importance of building relationships with peers (both hearing and nonhearing), faculty, and campus accessibility advisors. The major differences are that the findings from this study (a) do not recognize family support as part of building relationships, and (b) recognize the importance of participating in campus life. More specifically, this study explicitly links the role of supporting parents with the role of advocates, which is subsumed within the key supporting process of advocating for self rather than building relationships.

According to Smith and Nelson (1993), the first type of supportive relationship is family, which involves social and emotional encouragement from parents rather than financial contributions. In this current study six of the participants described in detail the support that they received from their families in terms of advocacy. Similar to Gardynik's (2008) findings on parental support for postsecondary students with learning disabilities, the findings in the current study reveal high levels of parental support in advocating against the system. Specifically, mothers became involved in meetings with campus accessibility

advisors and government officials at the early stages of the appeal process. The addition of the second voice to the argument appeared to contribute favorably to three of the four successfully resolved disputes (one dispute was abandoned by the student).

The second type of support that Smith and Nelson (1993) identified involves interacting with other students. Specifically, the participants in their study valued group study sessions and informal academic counseling from peers; however, the participants in the current study did not mention participating in these types of academic activities with their peers. Furthermore, in the current study social relationships emerged as an issue that warrants further theoretical sampling with regard to finding positive social relationships with peers. Three participants reported positive relationships with their peers, but they still did not mention participating in informal academic activities such as study groups. Later, I discuss in more detail the social interactions between the participants in the current study and their hearing peers.

Smith and Nelson's (1993) third type of social interaction involves interacting with faculty. In their study they found that "only 30% [N = 36] reported that the faculty were supportive or made attempts to work closely with them" (p. 12). Although eight of the participants in the current study described their relationships with faculty as positive, they did not rely heavily on these relationships. Instead, the learners tended to be self-reliant and utilize independent strategies to learn the course content. This is an interesting observation because the participants rationalized their institutional choices in part as small class sizes

and better relationships with their instructors. The fact that these intended close relationships did not materialize in the smaller institutions is noteworthy.

The fourth and final type of support that Smith and Nelson (1993) identified involves building relationships with the advisors in the Disabled Student Services Office (note that the older literature tends to be based on the traditional deficit model of disability). In their study, 30% of the students reported having developed relationships with their advisors. This finding is not congruent with those of the current study. Specifically, the participants in this study emphasized the importance of building collaborative relationships with their respective campus accessibility advisors. All nine of the participants met with their campus accessibility advisors a minimum of once each month, if not more frequently.

In summary, most of the findings from Smith and Nelson's (1993) research on supportive relationships are congruent with the findings from the current study. Notably, this study adds the dimension of casual social relationships to campus life. Specifically, on-campus learners often engage in social relationships outside their classroom environment that contribute to an overall sense of belonging that is traditionally associated with increased retention rates. The findings from the current study suggest that these relationships are also important for learners who are d/Deaf or hard of hearing. The next section addresses the process of self-disclosing communication needs as part of building relationships with campus accessibility advisors, faculty, and peers.

Self-Disclosure as Part of Building Relationships

As I discussed previously, current accessibility practices (e.g., Title I of the American with Disabilities Act) require documentation to detail the disability and the impact of the condition on learning (Madaus & Shaw, 2006; Rocco 2004). US researchers Cole and Cain (1996) emphasized the actuality that "students who choose not to identify themselves as disabled . . . are not entitled to accommodation" (p. 342). Furthermore, according to Jarrow (1991), "The institution is under no obligation to search out disabled students to offer support. Under the law, students have rights and responsibilities" (p. 29). As a result, self-disclosure is an essential step in accessing services in higher education.

Being able to confidently and appropriately self-disclose a disability to another person is important because the process of self-disclosure involves revealing personal and private information (Rocco, 2004; Torkelson Lynch & Gussel, 1996). According to Rocco, "Once disability status is disclosed, a person with invisible disabilities (could pass as an able-bodied person) becomes suspect and future interactions may be tainted" (p. 1). Last, assumptions about the confidentiality and privacy of the information disclosed can result in an awkward situation when this confidentiality is breached (Rocco, 2004). Parker (2000) raised this issue as a major concern in her review of the code of ethics for campus accessibility advisors. Specifically, she found that 76% (N = 43) of the disability coordinators she surveyed struggled with issues of confidentiality that arose from the need to take "action on behalf of a student in relation to tutors or staff, in

services such as examinations and assessments, student accommodation, estate services or admissions" (p. 278).

In the current study the participants did not mention any issues of breached confidentiality on the part of the campus accessibility advisors. However, one participant reported that an instructor publicly announced her communication situation to the entire class to help her to solicit volunteer note-takers. They had not previously discussed this announcement, and it resulted in embarrassment for the learner.

Not all of the participants were as concerned about their privacy with regard to their communication differences. At the other extreme, another participant found that the process of disclosing her communication preferences to her peers resulted in positive social relationships. Ultimately, her peers began to partake in advocacy efforts on her behalf. For example, they would remind the instructor to use the FM system, arrange a backup note-taker when the usual one was away, and draw attention to in-class videos that were not captioned.

It is worthwhile to explore the value of disclosure and its role in the participants' experiences of building social relationships. Traditionally, hearing conditions have been described as invisible disabilities, and, as a result, persons who are d/Deaf or hard of hearing do not necessarily immediately appear to have a communication difference. Therefore, it is often at the person's discretion as to what information they will share, when and with whom. Rocco (2004) researched disclosure and persons with disabilities and found the goals of disclosure were to (a) help, (b) motivate, (c) change attitudes, (d) alleviate fear, and (e) teach/educate

(p. 5). The participants in this study introduced many examples of self-disclosure during the interviews. Specifically, they made decisions about disclosing their communication needs/wants with four different audiences. First, there was a need to disclose to those related to providing communication support campus services which included the campus accessibility office and the funding program such as DRES. Self-disclosure at this level was necessary to access communication support services. The participants also had the choice of self-disclosing to their (a) academic advisors and course instructors, (b) peers in the classroom, and (c) peers who participated in campus life (e.g., at the gym or library). They were not required to disclose to their faculty or peers, and, as a result, the decision to disclose to their peers and faculty varied with each participant.

Two of the participants preferred to have their hearing condition remain invisible and were reluctant to discuss their communication needs in detail with their peers and instructors. As noted earlier, one of these individuals actually preferred less visible accommodation services because of the fear of peer stigma. Conversely, three of the participants saw the opportunity to use their communication support services to educate their peers and ideally change attitudes and alleviate fear.

Torkelson Lynch and Gussel (1996) also wrote about disclosing a disability and the importance of attaching possible solutions to remove the negative perception that people with disabilities are not capable. Participants such as Paul clearly described their perceived roles and responsibilities in educating and advocating on behalf of themselves and others with communication

differences. However, others did not always receive this role well. Specifically, the participants gave examples of faculty and peers who did not accommodate their communication requests for a variety of reasons. This resulted in unequal participation in group projects and lack of access to course materials. Therefore, the process of self-disclosure was also closely connected to effective self-advocacy to meet communication needs.

In summary, the participants' experiences of self-disclosing their communication needs varied. Whereas some willingly declared their hearing situations and benefitted from support from their peers, others were less willing to discuss their communication needs. The next section discusses the literature specifically on academic-related social interactions.

Academic-Related Interactions

Woodcock et al. (2007) addressed the issues of limited access to informal and social interactions with peers as a barrier that graduate students who are d/Deaf or hard of hearing face. Specifically, they purported that it is more difficult for students to maintain enthusiasm and/or interest in their studies because they have less opportunity to communicate informally with peers and faculty as a result of their communication differences. As well, students who are d/Deaf or hard of hearing tend to be subtly redirected to research that demands fewer resources. The participants in the current study, including the three graduate students, did not mention any of these barriers. Again, I did not question them directly on this topic, but, given the open-ended nature of the questions, concerns would likely have surfaced. Given the autonomy and independence that the

participants in this study demonstrated, it is quite possible that they would not have accepted this subtle discrimination.

One critical issue that by five of the participants mentioned was communicating with peers to complete assigned group work. Specifically, the participants reported feeling left out and unable to participate in real time per se. They needed to rely on notes from the meetings because they were uncomfortable with having to interrupt to catch up on the conversation. One participant's peer interactions in group work were so negative that he chose to work independently. He was often required to complete the entire project alone rather than being assigned only a portion of the project or a different assignment. The participants did not report any diminished interest in their studies as a result of group work, but acknowledged that their communication needs tended to interfere with small-group work, both in and out of class.

In addition to the group work, the participants in this study and the literature both repeatedly mentioned a second critical issue. The process of approaching peers for assistance with note-taking is an issue that notably affects academic relationships with peers. As evidenced in this research study, accessibility extends beyond the provision of interpreters or assistive listening devices. It is common practice for learners who are d/Deaf or hard of hearing to depend on their peers to voluntarily take lectures notes. This is an inequity that must be addressed. These forced dependent relationships are unreasonable and can cause frustration and resentment in the classroom (Brown & Foster, 1991).

As discussed, the process of participating in academic-related interactions is an important element of academic success. In addition to academic interactions, these learners also engaged in social relationships during their time in higher education. The following section discusses the literature on peer social relationships in higher education between students with and those without disabilities.

Social Relationships

Studies on postsecondary learners with learning disabilities have concluded that relationships and/or social support are critical to adjusting to the academic environment (Heiman & Kariv, 2004). Specifically, these relationships communicate information, and possibly aid. All of the participants in this study spoke to the issue of developing social relationships as a key part of their academic experiences. Three participants reported positive social relationships with their hearing and nonhearing peers through participating on committees and similar activities. Conversely, three others felt comfortable relying on their relationships outside the postsecondary institution.

Previous research on relationships between hearing and nonhearing peers has led to several studies on the peer interactions of mainstream learners who are d/Deaf or hard of hearing (Brown & Foster, 1991; Coryell et al., 1992; Foster & Mudgett DeCaro, 1991). Although there was evidence of negative perceptions of hearing peers, there was also a level of acceptance of the presence of students who are d/Deaf or hard of hearing in the mainstream postsecondary institution. In the current study the participants did not cite examples of negative or hostile

attitudes or behavior from their peers. Instead, they mentioned feelings of isolation and not being understood. One participant was extremely competitive and desired good grades, which caused some discomfort in her relationships with her peers. On the other end of the spectrum, several participants reported positive relationships with their peers.

The issue of self-identity is relevant in building relationships. In this study there was no consistency in terms of whether the learners perceived themselves as students or as d/Deaf or hard of hearing first. However, the three students who had neutral or positive experiences with their peers tended to use words such as *normal* and *typical* to describe their campus experiences and interactions with their peers. The participants with more negative peer experiences tended to make explicit the perceived differences between themselves as learners or as d/Deaf or hard of hearing. For example, two participants closely identified with being hard of hearing and the process of accessing communication support services. They asserted that they should receive certain types of accommodations because of their hearing differences. Notably, these two students also talked about social experiences that were relatively negative compared to those of their peers. Overall, the participants characterized their social relationships with hearing peers as being a combination of individual factors such as personality and age and the presence of communication barriers.

Six of the nine participants gave examples of social isolation, but none described strategies that they were employing to build positive relationships. Instead, the participants directed their efforts toward participating in social clubs

for students who are d/Deaf or hard of hearing and/or accessing external

consumer advocacy groups. In this study the public university is the only

institution that has enough students who are d/Deaf or hard of hearing to form a

social club. Those who were able to access it highly valued it, and many proudly

talked about their leadership roles in the recognized campus club.

Peer relationships are an important part of the campus experience for

students in higher education. The next section identifies one of the key challenges

that learners who are d/Deaf or hard of hearing face when they develop new

relationships in the traditional academic environment.

Proximity and Developing Peer Relationships

Brown and Foster (1991) indicated that classroom interactions between

hearing peers typically result from chatting with others in the immediate vicinity.

For individuals who rely on communication support services such as CART for

speech reading, the opportunity for interactions with peers becomes more limited

because the learners who receive these services tend to sit at the front of the class.

Two participants mentioned this issue of location, and one reported struggling

with her decision to choose which communication support service/support would

least limit her ability to make friends with her classmates. As these participants

noted, the physical presence of communication support services makes students

who are d/Deaf or hard of hearing stand out from their peers. The implications of

this issue for the process of building social relationships are profound. This

situation likely contributes to the layers of complexity in social relations to which

Lukomski (2007) referred in discussing the socio-emotional adjustment of college learners who are d/Deaf or hard of hearing.

In addition to the attitudinal and physical barriers to academic and social interactions, as discussed above, the participants in this study also faced other challenges in building relationships. The next section summarizes the adversity that several of the participants in the current study experienced.

Facing Adversity

Four participants reported struggling to build effective and positive relationships with their campus accessibility office advisors. As I noted earlier, several students needed to formally and informally appeal campus accessibility office decisions. Similar to Gardynik's (2008) findings on parental support for postsecondary students with learning disabilities, the findings in the current study reveal high levels of parental support in advocating against the system. Four of the participants in this study relied on their mothers to assist with the advocacy process in terms of appealing the decisions of the campus accessibility office. However, as I mentioned, five of the participants characterized their relationships with the campus accessibility advisors as positive.

In summary, the key supporting process of building relationships makes explicit the importance of academic and social interactions for students who are d/Deaf or hard of hearing. In addition to overcoming social and physical barriers in developing relationships with peers and instructors, it is also possible that learners with disabilities might be struggling to build positive relationships with the campus accessibility advisors. As a result, the process of building

relationships is and should be recognized as a key process that contributes to the success of learners who are d/Deaf or hard of hearing on campus.

Negotiating Communication Access in Higher Education

The resulting BSP emerged as negotiating communication access in higher education. As in grounded-theory construction, the analysis process stayed closely connected to the learners' experiences. As a result, I believe that the word *negotiating*, which emerged from the data analysis, best represents the BSP. The word truly encompasses the complexity of the interactions among the learners themselves and with the environment and others (including faculty, peers, and campus accessibility advisors).

It is evident from the participants' postsecondary experiences in mainstream institutions that they faced various conflicts. These conflicts are not necessarily overt; instead, they are often hidden through layers of uncertainty and confusion about roles and expectations. Furthermore, the participants interpreted them differently. For example, some viewed their experiences as opportunities to grow and become less dependent on communication support services, whereas others attributed their academic struggles to the inequities in access to information. Regardless, theses conflicts are of concern, especially considering Hurtubis Sahlen and Lehmann's (2006) discussion of the role of campus accessibility office advisors in interpreting legislation and legal obligations. As the findings of this study reveal, a formal appeal process is necessary. Two participants participated in this process, with very different results. One individual was successful in having his communication preferences met, but the other

recognized the impact of her appeal on her academic performance and withdrew from the process.

My intention in this research was to include all individuals with differences in hearing and not to focus on traditionally defined communities such as the Deaf or hard of hearing. The literature review included a discussion on the identities associated with hearing (Corker, 1998; Howe, 1993; Padden & Humphries, 1988; Ross, 1996), but my purpose was also to inform and to provide the necessary contextualizing information regarding identity and hearing status. The underlying philosophical perspective of this study was based on the social disability model, "which focuses on the disability as a relationship between people with impairment and a discriminatory society: disability is defined as the outcome of disabling barriers imposed by environmental or policy interventions" (Shakespeare, 1996, p. 96). The self-reported identity of the participants in this study varied: Two identified as culturally Deaf, five as hard of hearing, and two as deaf. The data analysis showed no obvious differences among the participants with regard to the hearing-related identity that they used to describe themselves. Specifically, those who described themselves as Deaf and deaf did not mention any identifying experiences that would distinguish them from the participants who self-identified as hard of hearing. Furthermore, in general, the language that seven of the participants used demonstrated their desire to be treated normally, without any extra consideration (Shakespeare, 1996). However, as I discussed previously, two individuals, both hard of hearing, gave examples and made comments that reveal the minority-group approach, which tends to advocate for special measures

and, consequently, inadvertently supports the concept of disability (Shakespeare). As a result, the hearing identity of the participants appeared to be of less significance than the higher level disability identity (i.e., the social model vs. the minority model). This is a valuable distinction that deserves additional investigation into negotiating communication access in higher education. The disability philosophy that the campus accessibility office uses may or may not align with the disability identity that the learner chooses. Furthermore, learners' ability to (a) advocate for self, (b) navigate the learning and environment, and (c) build relationships is closely connected with how they perceive their own identity.

In summary, the BSP of negotiating communication access in higher education represents the conceptualized experiences of learners who are d/Deaf or hard of hearing. The three key supporting processes are related synergetically and contribute to the BSP. The above discussion contextualizes the findings from the current study with those from the literature on the experiences of d/Deaf and hard-of-hearing learners in higher education. The following section identifies possible applications of the research findings to practice.

Application of Research Findings to Practice

In this section I use the findings from this research to present recommendations for current and future d/Deaf or hard-of-hearing postsecondary students who access communication support services, institutions, policy and program development officers, and researchers.

Postsecondary Learners Who Are d/Deaf or Hard of Hearing

The research findings yielded several areas to make recommendations. Most important, because learning to self-advocate is essential to succeeding in higher education, I recommend that learners who are d/Deaf or hard of hearing gain an understanding of their own learning styles and communication preferences as an initial step in mobilizing appropriate resources. Second, I recommend that learners who are d/Deaf or hard of hearing become aware of all of the available resources to be effective self-advocators. These resources range from the different types of communication support services to human rights policies to legislation that explains students' right to access services. The participants considered this insight essential to making good decisions and advocating effectively. Third, I recommend that learners who are d/Deaf or hard of hearing seek out and learn this knowledge themselves. Other people were not necessarily as helpful and/or informed as the participants in this study had anticipated. Their ability to self-advocate effectively was linked to their own research and understanding of the resources available.

With regard to navigating the learning environment, I recommend that learners who are d/Deaf or hard of hearing connect with peers who are d/Deaf or hard of hearing who can explain the strategies that they use to succeed in the classroom environment. Learning from the experiences of others is helpful and offers learners a variety of tools and strategies from which to choose when they enter the classroom, lab, or group work environment.

I recommend that learners who are d/Deaf or hard of hearing build effective relationships and advanced communication skills, which are critical to academic success. Whether relationships are formal or informal, it is important to be able to interact appropriately and confidently with multiple individuals, from hearing peers to faculty/instructors to funding officers. Relationships play an important role in gaining access to postsecondary education.

Last, because learning the skills behind effective negotiation is the crux of this research study, I recommend that learners who are d/Deaf or hard of hearing learn how to communicate effectively, bargain skillfully, and manage competing interests/needs to ideally experience greater levels of communication access at postsecondary institutions. Although this is a guaranteed human right under Canada's Charter, the participants reported varying experiences of equity and inequity. As a result, the ability to effectively negotiate communication support services plays an important role in students' academic experiences.

Campus Accessibility Office Advisors

The implications for campus accessibility office advisors are comparable to those for students who are d/Deaf or hard of hearing. In terms of supporting the self-advocacy efforts of learners who are d/Deaf or hard of hearing, I recommend that these advisors ensure that they are fully informed. Ensuring that learners who are d/Deaf or hard of hearing have as much knowledge as possible is critical to their ability to make good decisions about their communication preferences. Providing formal and informal resources to explore learning styles and the

strategies associated with each style would also result in more informed discussions on the types of support and resources suitable to each individual.

Navigating the learning environment is a challenging area for which to offer support. Oftentimes institutional and program decisions are made prior to students' contact with the campus accessibility office. However, I recommend that learners who are d/Deaf or hard of hearing be supported in managing their chosen physical environments and instructional approaches. Feedback from the participants clearly revealed their desire to socialize and learn from their on-campus peers who are d/Deaf or hard of hearing. I also recommend that a formal mentorship program be created as an ideal starting point to ensure that learners who are d/Deaf or hard of hearing have access to peer relationships and the tacit knowledge that learners who are experienced in accessing communication support services have that campus accessibility office advisors do not.

Furthermore, I recommend that campus accessibility office advisors take a leadership role in facility planning and/or supporting learners who are d/Deaf or hard of hearing in communicating with campus architects and audiovisual technicians (with regard to noisy projectors). Understanding the acoustical challenges that learners who are d/Deaf or hard of hearing (and their hearing peers) face is only the first step in creating and advocating for quality acoustically sound learning environments. Communicating with others about the problems with lighting and acoustical features of a classroom that restrict access for d/Deaf or hard of hearing learners is important to implementing the changes necessary to promote equitable access.

Paul (2000) emphasized that "the nondisabled university community needs to be aware of the presence of individuals with disabilities in its environment" (p. 10). I recommend that campus accessibility office advisors consider supporting learners who are d/Deaf or hard of hearing in building relationships with others on campus. Increasing the awareness of ableism (discrimination in favor of persons who are not disabled) will create new insights for the campus community. I also recommend that the campus accessibility office explore its role in educating and increasing the awareness of the internal and external resource people who support students with disabilities. Specifically, the campus accessibility office could offer workshops and seminars to individuals interested in furthering their own understanding. The internal resource people who access this kind of training could include anyone who is likely to interact with students. For example, from faculty to the frontline staff at the funding and awards office, all employees contribute to the creation of an inclusive and accessible environment for all students. This type of training would also be beneficial to external resource people such as practicum placement supervisors and potential employers who are willing to hire recent graduates with disabilities. Furthermore, not only is it important to increase the knowledge and awareness of those who are unfamiliar with disabilities, but it is also important for disability professionals to remain sensitive to accessibility issues. Peterson and Quarstein (2001) found that highly trained and experienced disability professionals who attended additional disability awareness and sensitivity training demonstrated higher awareness, a positive regard, and a new vision for supporting students with disabilities.

Last, I recommend that campus accessibility office advisors learn to communicate and collaborate effectively with learners who are d/Deaf or hard of hearing. The participants presented conflicting examples that suggest confusion and unmet expectations with regard to which decisions on service provision are made at which level. For example, is the role of the campus accessibility office advisor to negotiate decisions on access to services, or is to make arrangements that the government has recognized as appropriate and approved according to available funding, legislation, and policy? Specifying the values and philosophies that guide decision-making processes can typically prevent struggles.

Implications for Faculty Members

Most important, I recommend that universal design principles become part of curriculum design and chosen delivery methods. Creating accessibility for learners who are d/Deaf or hard of hearing by posting lecture notes, using only captioned videos, offering course materials in alternative formats, and facing students when they speak (e.g., rather than talking to the Whiteboard) are common strategies that faculty can use that would benefit all students, not just those who are d/Deaf or hard of hearing. As well, I recommend that faculty members consider establishing roles and expectations for moderated discussions in class and during group work. For example, using communication artifacts such as a talking stick (Blizzard & Foster, 2007) can increase communication access as well as promote equal contributions. Last, Guelph University (2002–2003) developed a manual to support faculty in designing and delivering course content that anticipates the diverse needs of learners.

Implications For Hearing Peers of Learners

Who Are d/Deaf or Hard of Hearing

The main recommendation that has emerged from this study for the hearing peers of learners who are d/Deaf or hard of hearing is that they be mindful of the communication process. Individuals who are d/Deaf or hard of hearing are different only in terms of how they communicate, but in all other aspects they are relatively representative of the larger student body. I recommend that hearing peers become familiar with communication strategies such as not covering their mouths when they speak and repeating information that learners who are d/Deaf or hard of hearing have missed—two simple strategies that will ensure effective communication. Other strategies such as choosing a quiet work space for group work and paying attention to seating arrangements are also helpful in collaborating with students who are d/Deaf or hard of hearing.

Implications for Future Research

As the literature review underscores, accurate prevalence statistics on learners who are d/Deaf or hard of hearing on campus, as well as their completion rates, are necessary to be able to understand the Canadian situation and create a benchmark to determine potential growth as higher education institutions become more adept at and knowledgeable about meeting the needs of learners who are d/Deaf or hard of hearing.

Several questions that have resulted from this study are worth exploring further. I recommend that the three core supporting processes be explored more fully. Specifically, with regard to the supporting process of advocating for self, it

is important to further identify the skills, strategies, and awareness necessary for success in this area. Jacklin and Robinson's (2007) work in this area is helpful. These British researchers examined staff and student concepts in an effort to clarify the term *support* for students with disabilities on campus. Their study is very informative and illuminated the multiple meanings of the word support. Jacklin and Robinson developed a model that portrays three distinct types of supports: (a) material resources such as equipment, people, and services; (b) guidance, direction, advice, and information; and (c) encouragement and the hope of being able to succeed. Further explicating the word support can lead to new insight into how to create programming and policies that benefit the institution, faculty, campus accessibility officers, funders, and, most important, learners.

The results from this study offer new insight into the supporting process of navigating the learning environment. I recommend that more research on the institution and program choices of learners who are d/Deaf and hard of hearing be conducted to offer additional insight into the factors that influence the academic and career decisions of Canadians who are d/Deaf or hard of hearing. It would also be helpful to compare and contrast the factors involved in the decision making of learners who are d/Deaf or hard of hearing with those of their nondisabled peers. Do learners who are d/Deaf or hard of hearing base their decisions on key factors? The results from this new research would inform institutions and possibly provide insight into the demographics of learners who

are d/Deaf or hard of hearing on campus. For example, are some institutions more popular than others with learners who are d/Deaf or hard of hearing?

The last supporting process addresses building relationships. I recommend that further research be conducted on this process to address the strategies that learners who are d/Deaf or hard of hearing have used to effectively build relationships with peers, faculty, and campus accessibility officers.

These recommendations for future research remain focused on the experiences of learners who are d/Deaf or hard of hearing. However, I also recommend further research to explore the experiences of campus accessibility office staff and faculty in relation to the prevalence of learners who are d/Deaf or hard of hearing in the classroom.

Furthermore, I recommend future research to explore the social interactions in the classroom between hearing learners and those who are d/Deaf or hard of hearing. Several studies have been conducted in the US to examine social inclusion in higher education (Foster et al., 1999; Foster & Mudgett DeCaro, 1991; Foster & Walter, 1992). Although the Canadian context would not allow the replication of studies because of the methodological issues associated with small sample sizes, it does not mean that research on this topic should be abandoned.

Limitations and Delimitations

One of the delimitations that distinguished this study from other research in the area of postsecondary services for students with disabilities is its emphasis on students who attend mainstream educational institutions. For example, several

US postsecondary institutions specifically recruit students who are d/Deaf or hard of hearing (e.g., Gallaudet University). Furthermore, some programs in colleges across the US specifically support postsecondary students who are d/Deaf or hard of hearing (e.g., Deaf Prep, Pikes Peak Community College) in receiving postsecondary education. NorQuest College (Edmonton, AB) and Bow Valley College (Calgary, AB) are examples of two provincial institutions that provide somewhat similar services to their US counterparts. These programs are designed to assist individuals who are d/Deaf or hard of hearing in areas such as reading and writing, job search, study skills, and so on.

Conversely, postsecondary institutions such as Grant MacEwan College, Mount Royal College, Red Deer College, the University of Alberta, and Southern Alberta Institute of Technology do not necessarily recruit students who are d/Deaf or hard of hearing for their programs. As a result, their postsecondary support services are designed to meet the individual communication preferences of their students. Learners who are d/Deaf or hard of hearing can readily access academic support services for study skills, exam taking, and time management; however, these courses are available to the entire student body, not just learners who are d/Deaf or hard of hearing.

A second delimitation of this research was my decision to include only learners who have been students within the past three years. This criterion reduced the number of potential individuals who might meet the inclusion criterion, but I deemed it necessary to be able to ensure that the participants had

current knowledge of the resources, services, and legislation related to accessing communication support services.

One anticipated limitation that I identified in the proposal was the possibility that I would be familiar with potential participants through previous research projects and my past involvement with the d/Deaf or hard-of-hearing communities. I knew five of the seven initial participants and the two additional participants whom I solicited. As Appendix A explains, I have been actively involved with the Western Canadian Centre for Studies of Deafness as well as the CHHA and several other service agencies in working with d/Deaf or hard-of-hearing individuals. Furthermore, I have assisted in several research projects across Western Canada and therefore have previously conducted research on similar topics. I explicitly addressed this issue in the ethics proposal and the consent process. However, my familiarity did not appear to influence the interview process.

Conclusion

This research study investigated the experiences of learners who are d/Deaf or hard of hearing and who accessed communication support services in their pursuit of higher education. The literature review questioned the limited body of knowledge on the prevalence, experiences, and outcomes of Canadians who are d/Deaf or hard of hearing and choose to access communication support services in their respective postsecondary institutions. International research is available, but the results are conflicting and/or outdated and therefore difficult to apply to the Canadian context.

I used grounded-theory methods to answer the research question, and the BSP that emerged was negotiating communication access. The supporting processes—(a) advocating for self, (b) navigating the learning environment, and (d) building relationships—explained how learners who are d/Deaf or hard of hearing and pursue higher education negotiate access to course content, resources, and campus life. I defined and supported with examples from the participants each of these supporting processes and their respective properties.

Future research is necessary to address the gaps in knowledge as well as to further the progress made in understanding the experiences of learners who are d/Deaf or hard of hearing in higher education. Canadians who are d/Deaf or hard of hearing and higher educated demonstrate increased career mobility, economic status, and earnings. Given the human rights legislation in place, it is the responsibility of researchers and postsecondary institutions to ensure access to higher education for Canadians who are d/Deaf or hard of hearing.

REFERENCES

Alberta Education. (2009). *Special education: By special education code (2007/2008).* Retrieved April 14, 2009, from http://education.alberta.ca/admin/special/stats/bycode.aspx

Alberta Human Rights and Citizenship Commission. (2004). *Duty to accommodate students with disabilities in post-secondary educational institutions.* Edmonton, AB: Author.

American Speech-Language-Hearing Association. (1995). Deaf culture. *ASHA, 37*(4), 59-60.

Barnes, L. (2006). Formal qualifications for language tutors in higher education: A case for discussion. *Deafness and Education International, 8*(3), 106-124.

Blizzard, D., & Foster, S. B. (2007). Feminist pedagogy and universal design in a deaf and hearing world: Linking cultures through artifacts and understanding. *Feminist Teacher: A Journal of the Practices, Theories, and Scholarship of Feminist Teaching, 17*(3), 225-236.

Bogdan, R. C., & Knopp-Biklen, S. (1992). *Qualitative research for education: An introduction to theory and methods* (2nd ed.). Needham Heights, MA: Allyn and Bacon.

Bolt, D. (2004). Disability and the rhetoric of inclusive higher education. *Journal of Further and Higher Education, 28*(4), 353-358.

Boutin, D. (2008). Persistence in postsecondary environments of students with hearing impairments. *Journal of Rehabilitation, 74*(1), 25-31.

Brown, P. M., & Foster, S. B. (1991). Integrating hearing and deaf students on a college campus: Success and barriers as perceived by hearing students. *American Annals of the Deaf, 136*(1), 21-27.

Canadian Association of the Deaf. (2007). *Statistics on Deaf Canadians.* Retrieved November 16, 2008, 2008, from http://www.cad.ca/en/issues/statistics_on_deaf_canadians.asp

Carver, R. J., & Vosahlo, M.(1991). Transition to postsecondary education with deaf students. In E. G. Wolf-Schein & J. Schein (Eds.), *Postsecondary education for Deaf students* (pp. 222-235). Edmonton, AB: University of Alberta.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis.* Thousand Oaks: Sage.

Cole, B. S., & Cain, M. W. (1996). Social work students with disabilities: A proactive approach to accommodation. *Journal of Social Work Education, 32*(3), 339 - 350.

Commonwealth of Australia. (1992). *Disability Discrimination Act 1992.* Canberra: Commonwealth Government Printer.

Corker, M. (1998). *Deaf and disabled, or deafness disabled?* Philadelphia: Open University Press.

Coryell, J., Holcomb, T. K., & Scherer, M. (1992). Attitudes toward deafness: A collegiate perspective. *American Annals of the Deaf, 137*(3), 299-302.

DeCaro, P. M., & Foster, S. B. (1992). Interaction between deaf and hearing students in postsecondary educational settings. In S. B. Foster & G. G. Walter (Eds.), *Deaf students in postsecondary education* (pp. 118-142). London: Routledge.

Department of Justice Canada. (1982). *Canadian Charter of Rights and Freedoms.* Ottawa, ON: Author.

Duquette, C. (2000). Experiences at university: Perceptions of students with disabilities. *The Canadian Journal of Higher Education, 30*(3), 123-141.

Educating college students with disabilities: Points to consider. (2004). *ASHA Leader, 9*(2), 15.

Ellis, J. (1998). Introduction: The teacher as an interpretive inquirer. In J. Ellis (Ed.), *Teaching from understanding: Teacher as interpretive inquirer* (pp. 5-13). New York: Garland.

Falvo, D. (2005). *Medical and psychosocial aspects of chronic illness and disability.* Toronto, ON: Jones & Bartlett.

Fichten, C. S., Barile, M., Asuncion, J. V., Fossey, M. E., Robillard, C., & Lamb, D. (2003). Canadian post-secondary students with disabilities: Where are they? *The Canadian Journal of Higher Education, 33*(3) 71-113.

Foster, S. B., Long, G., & Snell, K. (1999). Inclusive instruction and learning for deaf students in postsecondary education. *Journal of Deaf Studies and Deaf Education, 4*(3), 225-235.

Foster, S. B., & Mudgett DeCaro, P. (1991). An ecological model of social interaction between Deaf and hearing students within a postsecondary educational setting. *Disability, Handicap & Society, 6*(3), 181-201.

Foster, S. B., & Walter, G. G. (Eds.). (1992). *Deaf students in post secondary education.* London: Routledge.

Freire, S. (2007). Creating inclusive environments: Difficulties and opportunities within the new political ethos. *Journal of Deaf Studies & Deaf Education, 14*, 131-135.

Galotti, K. M. (1995). A longitudinal study of real-life decision making: Choosing a college. *Applied Cognitive Psychology, 9*, 459-484.

Gardynik, U. (2008). *Defying the odds: Academic resilience of students with learning disabilities.* Unpublished doctoral dissertation, University of Alberta, Edmonton, AB.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of ground theory: Strategies for qualitative research.* Hawthorne, NY: Aldine.

Gorard, S. (2008). Who is missing from higher education? *Cambridge Journal of Education, 38*(3), 421-437.

Hadjikakou, K., & Hartas, D. (2008). Higher education provision for students with disabilities in Cyprus. *Higher Education, 55*, 103-119.

Hadley, W. M. (2006). L.D. students' access to higher education: Self-advocacy and support. *Journal of Developmental Education, 30*(2), 10-16.

Hauser, P. C., Maxwell-McCaw, D. L., Leigh, I. W., & Gutman, V. A. (2000). Internship accessibility issues for deaf and hard-of-hearing applicants: No cause for complacency. *Professional Psychology: Research and Practice, 31*(5), 569-574.

Hawke, C. S. (2004). Accommodating students with disabilities. *New Directions for Community Colleges, 125*, 1-27.

Heath, H., & Cowley, S. (2004). Developing a grounded theory approach: A comparison of Glaser and Strauss. *International Journal of Nursing Studies, 41*(2), 141-150

Heiman, T., & Kariv, D. (2004). Coping experience among students in higher education. *Educational Studies, 30*(4), 441-455.

Hintemair, M. (2008). Self state and satisfaction with life of deaf and hard of hearing people: A resource-oriented approach to identity work. *Journal of Deaf Studies & Deaf Education, 13*, 278-300.

Hole, R. (2007). Narratives of identity: A post structural analysis of three deaf women. *Narrative Inquiry, 17*, 259-278.

Horn, L., & Nevill, S. (2006). *Profile of undergraduates in U.S. postsecondary education institutions: 2003–04: With a special analysis of community college students* (NCES 2006-184). Washington, DC: National Center for Education Statistics.

Howard v. University of British Columbia (No. 1). (1993), 18 C.H.R.R. D53 (B.C.C.H.R.).

Howe, M. (1993). Meeting the needs of late-deafened adults. *American Rehabilitation, 19*, 25-30.

Humphries, T. (1977). *Communicating across cultures (deaf-/hearing) and language learning*. Unpublished doctoral dissertation, Union Institute and University, Cincinnati, OH.

Hurtubis Sahlen, C. A., & Lehmann, J. P. (2006). Requesting accommodations in higher education. *TEACHING Exceptional Children, 38*(3), 28-34.

Hurwitz, T. A., & Kersting, S. (1993). Some practical considerations for providing access to the postsecondary environment. *Journal of the American Deafness & Rehabilitation, 26*(4), 29-36.

Jacklin, A., & Robinson, C. (2007). What is meant by 'support' in higher education? Towards a model of academic and welfare support. *Journal of Research in Special Educational Needs, 7*(2), 114-123.

Jambor, E., & Elliot, M. (2005). Self-esteem and coping strategies among deaf students. *Journal of Deaf Studies and Deaf Education, 10*(1), 63-81

Jarrow, J. (1991). Disability issues on campus and the road to ADA. *The Educational Record, 72*(1), 26-31.

Jersild, A. T. (1960). *Child psychology* (5th ed.). Englewood Cliffs, NJ: Prentice Hall.

Jones, E. G., Ouellette, S. E., & Kang, Y. (2006). Received stress among deaf adults. *American Annals of the Deaf, 151*(1), 25-31.

Jongbloed, L. (2003). Disability policy in Canada. *Journal of Disability Policy Studies, 13*(4), 203-209.

Jorgensen, S., Fichten, C. S., Havel, A., Lamb, D., James, C., & Barile, M. (2005). Academic performance of college students with and without disabilities: An archival study. *Canadian Journal of Counselling, 39*(2), 101-117.

Komesaroff, L. (2005). Category politics: Deaf students' inclusion in the 'hearing university.' *International Journal of Inclusive Education, 9*(4), 389-403.

Lane, H. (1992). *The mask of benevolence: Disabling the Deaf community.* New York: Alfred A Knopf.

Lang, H. G. (2002). Higher education for deaf students: Research priorities in the new millennium. *Journal of Deaf Studies and Deaf Education, 7*(4), 267-280.

Lehmann, J. P., Davies, T. G., & Laurin, K. (2000). Listening to student voices about post-secondary education. *TEACHING Exceptional Children, 32*, 60-65.

Leitch, D. A., & Davis, S. (1991). Higher education of the Deaf. In E. G. Wolf-Schein & J. Schein (Eds.), *Postsecondary education for Deaf students* (pp. 76-78). Edmonton, AB: University of Alberta.

Lewis, L., Farris, E., & Greene, B. (1994). *Deaf and hard of hearing students in post-secondary education* (NCES 94-394). Washington, DC: Government Printing Office

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Newbury Park, CA: Sage.

Lowell, E. L. (1987). Defining quality at the postsecondary level. *American Annals of the Deaf, 132*, 344-345.

Lukomski, J. (2007). Deaf college students' perceptions of their social-emotional adjustment. *Journal of Deaf Studies & Deaf Education, 12*, 486-494.

MacDougall, J. C. (1991). Deaf Canadians in revolt. In E. G. Wolf-Schein & J. Schein (Eds.), *Postsecondary education for Deaf students* (pp. 79-88). Edmonton, AB: University of Alberta.

Madaus, J. W., & Shaw, S. F. (2006). Disability services in post-secondary education: Impact of the IDEA 2004. *Journal of Developmental Education, 30*(1), 12-21.

Mallory, B., & Schein, J. D. (1992). Mediated communication for deaf postsecondary students in the United States. *Journal of the American Deafness & Rehabilitation, 25*(4), 28-31.

Marschark, M., Leigh, G., Sapere, P., Burnham, D., Convertino, C., Stinson, M., et al. (2008). Benefits of sign language interpreting and text alternatives for deaf students' classroom learning. *Journal of Deaf Studies and Deaf Education, 11*(421-437).

Marschark, M., Sapere, P., Convertino, C., & Seewagen, R. (2005). Access to postsecondary education through sign language interpreting. *Journal of Deaf Studies and Deaf Education, 10*(1), 38-50.

Martin, D. S. (1988). Directions for postsecondary education of hearing impaired persons. *The Journal of the American Deafness & Association, 22*(2), 36-40.

Mason, M. (1990). Disability equality in the classroom: A human rights issue. *Gender & Education, 2*(3), 363-367.

Merriam, S. B. (1998). *Qualitative research and case study applications in education.* San Francisco: Jossey-Bass.

Mitchell, R. E., & Karchmer, M. A. (2006). Demographics of Deaf education: More students in more places. *American Annals of the Deaf, 151*, 95-104.

Morse, J. M. (2001). Situating grounded theory within qualitative inquiry. In R. S. Schreiber & S. P. Noerager (Eds.), *Using grounded theory in nursing* (pp. 1-17). New York: Springer.

Najarian, C. G. (2008). Deaf women: Situation experiences and self-identity. *Disability & Society, 23*, 117-128.

Napier, J., & Barker, R. (2004). Accessing university situation: Perceptions, preferences, and expectations for interpreting by Deaf students. *Journal of Deaf Studies & Deaf Education, 9*, 228-238.

Oliver, M. (1990). *The politics of disablement.* London: MacMillan.

Padden, C., & Humphries, T. (1988). *Deaf in America: Voices from a culture.* Cambridge, MA: Harvard University Press.

Parker, V. (2000). Developing a code of practice for disability coordinators. *European Journal of Special Needs Education, 15*(3), 275-284.

Paul, S. (2000). Students with disabilities in higher education: A review of the literature. *College Student Journal, 34*(2), 200-211.

Peterson, P. A., & Quarstein, V. A. (2001). Disability awareness training for disability professionals. *Disability and Rehabilitation, 23*(1), 43-48.

Preminger, J. E., & Levitt, H. (1997). Computer-Assisted Remote Transcription (CART): A tool to aid people who are deaf or hard of hearing in the workplace. *The Volta Review, 99*(4), 219-230.

Prowse, S. (2009). Institutional construction of disabled students. *Journal of Higher Education Policy and Management, 31*(1), 89-96.

Richardson, J. T. E. (2001a). The representation and attainment of students with a hearing loss in higher education. *Studies in Higher Education, 26*(2), 183-204.

Richardson, J. T. E. (2001b). The representation and attainment of students with a hearing loss at the Open University. *Studies in Higher Education, 26*(3), 299-312.

Richardson, J. T. E., Barnes, L., & Fleming, J. (2004). Approaches to studying and perceptions of academic quality in deaf and hearing students in higher education. *Deafness and Education International, 6*(2), 100-122.

Rocco, T. S. (2004, October).*Towards a model of disability disclosure.* Paper presented at the Midwest Research-to-Practice conference in Adult, Continuing, and Community Education, Indianapolis, IN.

Rodda, M., & Eleweke, C. J. (2002). Theories of literacy development in limited English proficiency deaf people: A review. *Deafness and Education International, 2*(2), 101-113.

Ross, M. (1996). Personal and social identity of hard of hearing people. *International Federation of Hard of Hearing People Journal.* Retrieved November 22, 2005, from http://www.hearingresearch.org/Dr.Ross/personal_and_social_identity_of _.htm

Ross, M. (2000). *Personal and social identity of hard of hearing people.* Retrieved April 20, 2004, from http://www.ifhoh.org/papers/ross1.htm

Russell, D., & Demko, R. (2005). *Accommodating learners with disabilities in post-secondary education in Alberta: A review of policies, programs and support services.* Edmonton, AB: Western Canadian Centre for Studies in Deafness.

Saur, R., Popp-Stone, M. J., & Hurley-Lawrence, E. (1987). The classroom participation of mainstreamed hearing-impaired college students. *The Volta Review, 89*(6), 277-286.

Scheetz, N. A. (2004). *Psychosocial aspects of deafness.* Boston: Allyn and Bacon.

Schein, J. (1991). Postsecondary education for Alberta's students with impaired hearing. In E. G. Wolf-Schein & J. Schein (Eds.), *Postsecondary education for Deaf students* (pp. 144-157). Edmonton, AB: University of Alberta.

Schein, J. (1992). *Canadians with impaired hearing* (No. 82-615). Edmonton, AB: University of Alberta.

Schirmer, B. R. (2001). *Psychological, social, and educational dimensions of deafness.* Toronto, ON: Allyn & Bacon.

Schreiber, R. S. (2001). The 'how to' of grounded theory: Avoiding the pitfalls. In R. S. Schreiber & P. N. Stern (Eds.), *Using grounded theory in nursing* (pp. 55-84). Thousand Oaks, CA: Springer.

Schreiber, R. S., & Stern, P. N. (Eds.). (2001). *Using grounded theory in nursing.* New York: Springer.

Schroedel, J. G., & Geyer, P. D. (2000). Long term career attainments of deaf and hard of hearing college graduates: Results from a 15 -year follow-up survey. *American Annals of the Deaf, 145*(4), 303-314.

Schroedel, J. G., & Schiff, W. (1972). Attitudes towards deafness among several deaf and hearing populations. *Rehabilitation Psychology, 19*(2), 59-70.

Shakespeare, T. (1996). Disability, identity, and difference. In C. Barnes & G. Mercer (Eds.), *Exploring the divide*. Leeds, UK: The Disability Press.

Sharpe, M. N., & Johnson, D. R. (2001). A 20/20 analysis of post-secondary support characteristics. Journal of Vocational Rehabilitation, 16(167-177).

Simms, L., & Thumann, H. (2007). In search of a new, linguistically and culturally sensitive paradigm in deaf education. *American Annals of the Deaf, 152*, 302-311.

Skinner, M. E. (1998). Promoting self-advocacy among college students with learning disabilities. *Intervention in School & Clinic, 35*(5), 278-284.

Smith, A. (1997). Supporting the learning of deaf students in higher education: A case study at Sheffield Hallam University. *Journal of Further and Higher Education, 21*(3), 325-334.

Smith, D. J., & Nelson, J. R. (1993, April). *Factors that influence the academic success of college students with disabilities.* Paper presented at the Annual Convention of the Council for Exceptional Children, San Antonio TX.

Social Development Canada. (1996). *Living with disability in Canada: An economic portrait.* Retrieved April 19, 2005, from http://www.sdc.gc.ca/asp/gateway.asp?hr=/en/hip/odi/documents/livingWithDisability/chap26.shtml&hs=pyp

Social Development Canada. (2002). *A way with words and images: Suggestions for the portrayal of persons with disabilities.* Ottawa, ON: Author.

Statistics Canada. (2006a). *Participation and Activity Limitation Survey 2006.* Ottawa, ON: Government of Canada.

Statistics Canada. (2006b). *Participation and Activity Limitation Survey 2006: Facts on hearing limitations.* Ottawa, ON: Government of Canada.

Statistics Canada. (2009). *Canada's population clock.* Retrieved January 2, 2009, from http://www.statcan.gc.ca/edu/clock-horloge/edu06f_0001-eng.htm

Stinson, M., & Walter, G. G. (1997). Improving retention for deaf and hard of hearing students: What the research tells us. Journal of the American *Deafness and Rehabilitation Association, 30*(3), 13-23.

Stodden, R., & Conway, M. (2003). *Supporting individuals with disabilities in post-secondary education.* Honolulu: University of Hawaii at Manoa.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Thousand Oaks, CA: Sage.

Supreme Court of Canada. (1998). Eldridge vs. Ministry of Health, British Columbia. *Canadian Human Rights Reporter*.

Supreme Court of Canada. (2006). The Canadian Association of the Deaf, James Roots, Gary Malkowski, Barbara Lagrange and Mary Lou Cassie vs. Her Majesty the Queen. *Canadian Human Rights Reporter*.

Tinklin, T., & Hall, J. (1999). Getting round obstacles: Disabled students' experiences in higher education in Scotland. *Studies in Higher Education, 24*(2), 183-194.

Tinklin, T., Riddell, S., & Wilson, A. (2004). Policy and provision for disabled students in higher education in Scotland and England: The current state of play. *Studies in Higher Education, 29*(5), 637-657.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*, 89-125.

Torkelson Lynch, R., & Gussel, L. (1996). Disclosure and self-advocacy regarding disability-related needs: Strategies to maximize integrating in post-secondary education. *Journal of Counseling & Development, 74*, 352-357.

Turnbull, H. R., & Stowe, M. J. (2001). Five models for thinking about disability. *Journal of Disability Policy Studies, 12*(3), 198-205.

UNESCO. (1994). *The Salamanca Statement and Framework for Action on Special Needs Education.* Paris: Author.

University of Guelph. (2002–2003). *Universal instructional design (IUD): A faculty workbook.* Guelph, ON: Government of Ontario.

Williams, C. (2006). *Disability in the workplace.* Ottawa, ON: Statistics Canada.

Wilson Scott, K. (2004). Relating categories in grounded theory using a conditional relationship guide and reflective coding matrix. *The Qualitative Report, 9*(1), 113-126.

Wolf-Schein, E. G., & Schein, J. (Eds.). (1991). *Postsecondary education for deaf students.* Edmonton, AB: University of Alberta, Department of Educational Psychology.

Woodcock, K., Rohan, M., R, & Campbell, L. (2007). Equitable representation of deaf people in mainstream academia: Why not? *Higher Education, 53*, 359-379.

APPENDIX A:

DEENA AS RESEARCHER

"Qualitative researchers are interested in understanding the meaning people have constructed, that is, how they make sense of their world and the experiences they have in the world" (Merriam, 1998, p. 7). To achieve this understanding, researchers must be aware of their philosophical orientation regarding reality, knowledge, and the creation of knowledge (p. 3).

As Ellis (1998b) explained, "Knowledge is the product of human activity. We create rather than find meaning or knowledge. Therefore, we can relinquish any fear that we will somehow miss finding objective reality" (pp. 7-8). From this constructivist perspective, reality is better understood, not as a mystery, but as multiple pieces that belong to a greater whole. Researchers then are responsible for identifying, exploring, and bringing together these pieces to make a greater whole, to move forward the knowledge and understanding of reality. Accordingly, insight gained from interpreter inquiry is inherently tied to the perspectives of the observer and observed. Furthermore, "by sharing the knowledge from each of our locations through dialogue we develop a fuller understanding of the places we inhabit together" (p. 8).

Bogdan and Knopp-Biklen (1992) drew attention to five defining characteristics of qualitative research:(1) qualitative research has the natural setting as the direct sources of data and the researcher is the key instrument, (2) qualitative research is descriptive, (3) qualitative researchers are concerned with process rather than simply with outcomes or products, (4) qualitative researchers tend to analyze their data inductively, and (5) 'meaning' is of essential concern to the qualitative approach.

Although each of the characteristics is worthy of in-depth discussion, the purpose of introducing these features is to emphasize the importance of recognizing the role of the researcher in the qualitative research process. To reemphasize, the researcher plays a critical role in the development of meaning throughout the research process. Instead of focusing on research outcomes (i.e., in terms of generalizability or replicability), the research focus is on developing a process for new constructions of meaning to occur. Therefore, the researcher is the key instrument in creating opportunities for meaningful discourse.

For this research study I cast myself into the role of qualitative researcher in the hope of understanding the experiences of postsecondary learners who are d/Deaf or hard of hearing. For me, this means that I was prepared to listen to the experiences of d/Deaf or hard-of-hearing postsecondary learners who access support services and to gain an understanding of how these students make sense of their experiences. My goal was not to reveal a truth that fits all students across

all situations; instead, it was to understand how my selected participants would make sense of their experiences in higher education.

In addition to listening to their experiences, I have taken the opportunity to interpret my understanding by writing about my research. As Ellis (1998b) noted, "Writing invites reflection and deliberation: reflection on meaning as we search for the right words, and deliberation about the relationships among experiences or ideas as we evaluate the argument or interpretation we put forwarding writing" (p. 6).

Subjectivities, *forestructure*, and *preunderstandings* are terms used to address the knowledge, experiences, and values of the researcher in relation to the phenomena of interest. The intent of this discussion was to explain my underlying values, beliefs, and assumptions and identify my previous knowledge. In qualitative research, researchers are responsible for supporting their interest in and ability to research a topic; they may even be expected to defend their right to undertake the research.

The term subjectivities speaks specifically to the researcher's conscious and unconscious knowledge of the topic of interest, which has likely developed from social contexts. Idealistically, this preexposure to the topic of interest creates an opportunity for the researcher to attend to events, objects, and feelings that he or she considers noteworthy. Conversely, forestructure takes into consideration everything that the researcher knows, believes, and experiences. For example, researchers are expected to be familiar with possible theories specific to their topic of interest. As a result, they are responsible for recognizing and consciously addressing how their forestructure might influence the research process. Within the concept of forestructure lies preunderstandings, which specifically address the researcher's previous experiences and feelings about the topic. The following is a discussion of my subjectivities and forestructure as they pertain to my research interest in understanding the experiences of d/Deaf and hard-of-hearing postsecondary students who access communication support services.

After learning that I do not have a family member who is d/Deaf or hard of hearing, people often inquire why I pursued a career in deafness studies. There is no straightforward answer. In my late-teen years I took an American Sign Language (ASL) course at a local community college with a friend. I found my instructors and the people I met in the Deaf community very warm and welcoming. As I became more proficient at ASL, I pursued employment positions that allowed me to combine my interest in career development with my experience and knowledge of Deaf culture. The following is a more detailed discussion of my personal, professional, and academic interest in understanding the lives and experiences of deaf and hard-of-hearing communities, including those that identify as culturally Deaf.

I have been interested and involved in the field of deafness since 1990. During this time I have actively developed an awareness of the local and national

Deaf and hard-of-hearing communities. Specifically, I have (a) finished four levels of American Sign Language classes, (b) completed an educational placement with an adult day program for Deaf adults, (c) worked as a Deaf youth outreach counselor, and (d) provided career counseling services to d/Deaf and hard-of-hearing people at a local not-for-profit employment organization. This direct involvement with Deaf and hard-of-hearing communities as a hearing helping professional resulted in significant insight into the cultural and communication differences between the hearing and nonhearing worlds. Focusing on this experience, I returned to university studies in 1998 after determining that the employment and educational barriers that individuals who are d/Deaf and hard of hearing face are systemic in nature. I believed that I needed a stronger academic foundation and further theoretical knowledge to be able to generate reform within the education and welfare systems.

During my graduate studies at the University of Alberta, I became involved with the Western Canadian Centre of Studies in Deafness (WCCSD). Under the supervision of Dr. Rodda, I was introduced to the psychological, social, vocational, and educational assessment processes for individuals who are d/Deaf and hard of hearing. From 1999 to 2003, I was involved in several assessments of individuals with varying degrees of hearing and have completed coursework in the area of psychological assessment and test theory. I worked with WCCSD for seven years, held the David Peikoff Chair of Deafness Studies Doctoral Fellowship in 2003–2004, and completed an academic exchange with the Institute of Pedagogy Deafness Studies centre in Kyiv, Ukraine. In 2006 I won an international research poster competition for my program evaluation of the Ukraine Canadian Alliance for Deaf and Hard of Hearing Persons Summer Institutes. I also co-presented at the PEPNet conference in Kentucky on postsecondary-related disability research that Dr. Debra Russell conducted with WCCSD.

In addition to researching hearing issues from a psychological and educational perspective, I have also gained an understanding of hearing from other fields/perspectives. For example, I have taken courses in the Faculty of Nursing and the Faculty of Medicine and Dentistry, as well as completed a summer graduate research position with the Faculty of Rehabilitation Medicine. In summary, I have explored the diagnosis of a hearing loss from the following perspectives: (a) a rehabilitation–medical model, (b) a rehabilitation–community capacity building model, (c) an educational model, (d) a psychological model, and (e) a cultural studies model.

I believe that understanding hearing from a variety of theoretical perspectives is important and a defining feature of my academic career and personal philosophy. People who live with various degrees of hearing typically perceive their experiences very differently, depending on their sense of identity and involvement with the various support systems/resources available (i.e., rehabilitative, medical, psychological, educational, and cultural). After formally examining these systems from an academic/textbook perspective, I am now

pursuing insight into the experiences of learners who are d/Deaf and hard of hearing experience in accessing higher education.

   Closing thoughts. Having spent several years on this research study, I learned several valuable lessons about myself as a researcher. Most important, I regard transparency in decision making with regard to gathering and analyzing data more highly. I was surprised by the number of methodological decisions I made along the way, especially those based on intuition and past experience. There was no 'how-to' manual to guide me through each step. Instead, I needed to self-reflect and seek the advice of others. I am grateful that my supervisor and peers willingly listened to my struggles with how to best move forward and offered feedback and advice. Second, I became much more aware of my own anxiety over sharing my writing. Although I wholeheartedly value feedback and recognize its role in professional growth, I was surprised by the intense emotional experience associated with each draft of the final paper. Last, I learned about perseverance. As with the participants in this study, the need to know myself as a researcher, how to effectively navigate obstacles, and how to build key relationships were critical to my successful completion of this study.

APPENDIX B: INTERVIEW QUESTIONS

Initial Interview

1. Rapport building
   a. Tell me about yourself.

2. Educational Experiences
   a. Tell me about your educational background.
   b. Tell me about your post-secondary experiences.

3. Campus accessibility office
   a. Tell me about your experiences with Communication Support Services.
      i. How did you hear about them?
      ii. How often do you interact with them?
      iii. When and why?
   b. Describe the communication supports you have used.
      i. Discuss any you would like to try in the future?

4. Advice
   a. What advice would you offer to…
      i. Your peers who are d/Deaf and hard of hearing?
      ii. Your communication support services case manager
      iii. Your communication support services 'funder'

5. Summary
   a. How has your experiences with communication support services affected your experience as a student?

Second Set of Interview Questions 2

1. Descriptors
   a. List 3 words to describe yourself as a learner/student
   b. List 3 words your instructors would use to describe you as a student
   c. Discuss any differences between these words.

2. Equality & Inclusion & Social Aspects
   a. Do you feel equal to your hearing peers in the classroom?
      i. Why or why not?
   b. What are your thoughts on 'university life?' Do you belong?
   c. Does SSDS help you in feeling equal and/or included on campus?
      i. Discuss how

3. Advocating for self
   a. Describe your understanding of how accommodations are protecting your human rights.

4. Influence of hearing
   a. If and how did your hearing influencing the following decisions?
      i. The program area you are in?
      ii. The institution you attended?
      iii. The classes you took?

5. Misc
   a. Are there any other types of resources or supports you accessed other than Support Services through the institution?
      i. i.e. friends, software, parking, counseling etc
   b. How would you summarize your experiences with Communication Support Services?

APPENDIX C:

DEMOGRAPHIC FORM

Demographics	Age	Gender	Male	Female	
Faculty of study/department					
Level of education	Cert	Diploma	Degree	Masters	PhD
Years of education	0 – 2	3 – 4	5 – 6	6 -7	>7
Type of institution	Tech voc	Comm. college	University	Other	
Enrolled as	Full time	Full-time modified	Part time	Distance	
Communication preference	ASL	SEE	Oral	Combination	Other
Degree of hearing loss	Mild	Moderate	Severe	Profound	
Age of onset of hearing loss	Birth	Prior to speech	After speech	Adult onset	
Additional health concerns	Open ended				
Referral source	High school counselor	Brochure handout	Friend	d/Deaf and hard-of-hearing peer	Other:
First contact	Prior to starting	First week	Exams	Other	
Frequency of contact	Daily	Weekly	Monthly	Per term	Other
Services accessed	Exam extra time	Note-takers			
	Alternate formats	Tutor	Counseling	Social clubs	No aids or services used
Communication	Communication technology CART	ALDs	Hearing aids	ASL interpreters	Other?
Generic	Counseling	Employment/career	Funding	Other	
Funding	WCB	DRES	Student loan	HRDC	Employer

APPENDIX D: RESEARCH DESCRIPTION DOCUMENT

What are the Experiences of Learners who are d/Deaf and Hard of Hearing in Higher Education and have Accessed Communication Support Services**?**

University of Alberta: Research Description Document

You are invited to participate in this research study. Please read this form carefully, and feel free to ask any questions you might have.

			Researchers
Deena Martin*	PhD Provisional Candidate	University of Alberta	403 342 3325
Linda McDonald	Chair, Educational Psychology	University of Alberta	780 492 1152

*This research study will partially fulfill Deena Martin's research requirements for her PhD in the Special Education Program in the Department of Educational Psychology at the University of Alberta.

Purpose and Procedures

You are asked to participate in interviews to help me, the researcher, understand your experiences and perspectives about accessing post-secondary communication services. This information will be used to develop a better understanding of how learners who are d/Deaf and hard of hearing perceive post-secondary communication support services.

You are invited to take part in 2 or 3 interviews with the researcher, each lasting around an hour. The number of interviews will depend on the amount of information shared in each session. Interviews will be videotaped and/or audiotaped and transcribed into written English. You will have the opportunity to review your transcripts and make corrections before our next meeting. As well, I will provide you with the opportunity to verify my understanding of your words (perception checking).

In regards to communication, I will ask you to identify your preferred language of communication. If it is English, we will proceed in a one on one conversation, along with any assistive listening devices you feel necessary to ensure high quality communication. If your preferred language is ASL, I will arrange for an interpreter to ensure high quality communication. You also will be asked to provide the names of your preferred interpreters, and I will make arrangements as necessary for the interviews. Should a research assistant, captionist, or interpreter be used, their behaviour will comply with the University of Alberta Standards for the Protection of Human Research Participants (http://www.ualberta.ca/~unisecr/policy/sec66.html).

Potential Risks & Benefits

There are no known risks related to your participation in this study. You will be told about the purpose of the study, and will be given the chance to ask any questions about the study or research process in general.

Your participation will help me understand how learners make decisions specific to communication support services. The intent is to use this information to develop insight that will inform service providers about the issues important to you as learners. The results will not be used to compel any services or funding agencies to make changes, instead, the goal is to offer insight into issues they might want to consider.

Privacy and Confidentiality

Many steps have been taken to protect your privacy. For example, I will only ask for personal information that is important to the research study. It is possible that the data collected in this study may be published or presented at a conference in the future. To protect your privacy and confidentiality, your name will not be released to any source, and will not appear on any completed materials.

Should research assistants, interpreters, and/or transcribers be hired, they will be required to sign confidentiality forms and be held to the same ethical standards explained in this document.

Storage of Data

Data and material used for this study will be stored for a minimum of 5 years by myself, Deena Martin, at the University of Alberta and/or at Red Deer College. Furthermore, the data will be in a locked room, in a locked cabinet. All computer files will remain on one computer, with a back up file stored on the University of Alberta server. Furthermore, information will not be sent through electronic format outside the University of Alberta email system.

Freedom to Withdraw

Your participation in this study is completely voluntary and you may refuse to participate at any time during the study. You may also withdraw at any time without any penalty or loss of benefits to which you would ordinarily be entitled (e.g., access to communication support services). If you withdraw, your data will be destroyed immediately following the session in which you participated. You are not required to answer every question: you may choose to not answer any question(s) of your choice. Should you appear to be experiencing discomfort during the study, the interview process will be discontinued and you will be offered a list of community resources that can offer support.

Questions

If you have any questions concerning the study, please feel free to ask at any point; you are also free to contact the researchers at the numbers provided above if you have questions at a later time.

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education and Extension Research Ethics Board (EE REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EE REB at (780) 492-3751.

APPENDIX E: CONSENT FORM

University of Alberta
Consent Form (over age 18)

I agree to participate in the research study entitled "**What are the Experiences of Learners who are d/Deaf and Hard of Hearing in Higher Education and have Accessed Communication Support Services?**" I have read the project description document carefully and understand the information provided. I have also asked any questions that I might have regarding the research study and/or my involvement.

Rights

I understand that I have the right:
- To not participate
- To withdraw at any time without it affecting my current or future services
- To opt out without penalty
- To have any collected data withdrawn from the data base and not included in the study.
- To verify the transcripts from our interviews
- To privacy, anonymity, and confidentiality (no one will know if you participated or what you said)
- To safeguards for security of data
- To be informed of any apparent or actual conflict of interest on the part of the researcher

Consent to Participate

I have read and understood the description provided above; I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I have received a copy of this consent form and a research description document.

I understand that the results from this study will be used within the researcher's dissertation, and may be submitted for publication in scholarly journals and or presentation at professional and scholarly conferences.

The plan for this study has been reviewed for its adherence to ethical guidelines and approved by the Faculties of Education and Extension Research Ethics Board (EE REB) at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Chair of the EE REB at (780) 492-3751.

I can contact either of the two individuals listed below if I have further questions or comments regarding the study.

Deena Martin   PhD Provisional Candidate   University of Alberta   403 342 3325
Linda McDonald   Chair, Educational Psychology University of Alberta   780 492 1152

_____   _____

Signature of Participant   Date

_____   _____

Signature of Researcher   Date