Teachers Perspectives: Accommodating students with Mild or Moderate Hearing Loss in the Classroom.

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Abstract

The aim of this research study was to investigate the outcomes, successes, challenges and strategies of accommodating students with Mild or Moderate Hearing Loss (MMHL) in educational classrooms. The main research question that guided this study was: how do a sample of teachers support the environmental and social needs of students with a MMHL in an inclusive general classroom? Data was collected through semi-structured interviews with two elementary school teachers currently working in a classroom with MMHL students. Findings suggest that teachers face a range of social and environmental barriers in supporting MMHL students. As well, classroom educators indicated that resources such as technology and environmental materials are crucial to accommodate MMHL students. Findings also suggest that factors such as student support systems and accommodations for student learning, needs to be taken into consideration when teaching MMHL students. The implications of these findings suggest that more needs to be done in order to increase MMHL students’ overall success. More specifically, it was found that schools and school boards should focus on educating teachers what hearing loss is, as well as practical and effective strategies/resources that can be used in the classroom to accommodate an inclusive classroom for students with MMHL.

Key words: Mild and moderate hearing loss, classroom accommodations, inclusive education.
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Chapter One: Introduction

1.0 Research Context and Problem

The Physical environment and social pressures in a general education classroom setting can influence the academics and overall quality of life for students with mild or moderate hearing loss (MMHL). Students with MMHL have a significant disadvantage when placed in a general education classroom (Dye & Bavelier, 2010). This area of study is extremely crucial, as the research shows that students with MMHL in a general classroom may exhibit challenges of classroom inclusion that impact the overall quality of life and prevent them from demonstrating their true knowledge and skills both in and out of the classroom (Bolt & Thurlow, 2004).

As discussed by Guardino and Antia (2012), students who have a MMHL have a greater influence in academic disengagement due to visual or auditory distraction, poor lighting, obstruction of line of sight, and seating near doors or windows with a high traffic volume. The physical arrangement and features of the classroom environment such as seating arrangements, lighting and organization can influence students’ attention to academic tasks and achievements (Bolt & Thurlow, 2004). Students with MMHL may be prone to visual and auditory distractions, leading to a reduced ability to attend to relevant aspects of the classroom and negatively affecting the ability to focus on academic tasks. Visual distractibility due to a lack of hearing, may lead the student to high distractibility of concentration (Guardino & Antia, 2012).

Academic engagement is related to achievement and school attendance for students who have a MMHL specifically, classroom participation is especially related to achievement, although academic engagement can be influenced by a number of student
and social factors such as the environmental and social problems of a general education classroom (Dalton, 2013).

Due to the intelligible speech of some MMHL students, teachers may easily overlook their challenges in gaining full inclusion in their classrooms (Dalton, 2013). According to Lane and Smither and Huseman and Guffey and Fox (2007), hearing loss often threatens the stability of social interactions and at most part, be damaging to both the self and to ones’ social identity due to the lack of classroom inclusion for MMHL students. This reduction in self-confidence is likely a result of increased social pressure as children advance through school. It is reasonable to suggest that school aged children with MMHL may show a similar decline in consistency of hearing aid use as a reflective of their reduction in self confidence (Gustafson, Davis, Hornsby, & Bess, 2015).

Therefore, the research has found that problems may occur when there is a conflict between demands of the classroom environment and the lack of social security for students who are MMHL positioned in a general education classroom (Guardino & Antia, 2012).

1.1 Purpose of the Study

The goal of this study is to learn teachers’ perspectives on the effects of environmental and physical modifications on the academic engagement and behavior of MMHL students in developing an inclusive general education classroom (Guardino & Antia, 2012).

1.2 Research Questions

The primary question guiding this study is; how do a sample of teachers support the environmental and social needs of students with a MMHL in an inclusive general
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classroom, and what academic and social outcomes do they observe from these students. Sub-questions to further guide this inquiry include:

- What factors do these teachers take into consideration when teaching students who have a MMHL?
- What challenges do teachers face when trying to overcome environmental and social barriers for students who have a MMHL, and how do they respond to these challenges?
- What resources facilitate these teachers capacity to support students with MMHL?

This project also aims to raise awareness to teachers of the importance of providing an inclusive general education classroom to students with a MMHL.

1.3 Reflexive Positioning Statement

The reason I have chosen to research this topic is due to my working experience before going back to school to complete my Masters in Teaching. I had previously worked in a school that caters to young children who are deaf or hard of hearing (DHH), and have witnessed first hand both the struggles and milestones students have came across while in a classroom setting. I am interested in identifying ways to provide inclusion to students with a MMHL to develop academic achievements’ and a positive quality of life through classroom challenges. As a hearing person, I believe I take for granted aspects of learning that differ between someone who is DHH and someone who is not. For example; background noise, teacher/peer voices, social pressures etc. However, as a someone who has a learning disability I understand how crucial it is for the need of the classroom teacher to provide an understanding and inclusive classroom
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where safety, social acceptance and positive academic outcome is necessary to be a successful student.

1.4 Preview of the Whole

To respond to the research question, I have conducted a qualitative research study using purposeful sampling to interview two classroom teachers about how teachers support the environmental and social needs of students with a MMHL in an inclusive general classroom, and what academic and social outcomes do they observe from these students. In Chapter 2, I have reviewed the literature in the areas of the MMHL population, challenges and key instructions for inclusion, and technology in a general education classroom. In Chapter 3, I have elaborated on the research design. In Chapter 4, I have reported my research findings and discuss connections to the research literature. Lastly, Chapter 5 has identified the implications of the research.
Chapter Two: Literature Review

2.0 Introduction

In this chapter, I review the literature in the areas of the Mild and Moderate Hearing Loss (MMHL) population, classroom challenges for inclusion, key instructions of Inclusion for classroom practices and technology. More specifically, I review themes related to MMHL population. I start by reviewing the literature in the area of the Identified Population, and Consider the Mainstream Classroom Setting for Students who have a MMHL. Next, I review research on Classroom Challenges for Inclusion, in order to better understand how students with MMHL may feel excluded in the classroom. From there, I review themes of what the literature discusses as Key Instructions of Inclusion for Classroom Practices. Finally, I overview some of the Assistive Technology devices in the literature that may help create a shift towards inclusive classrooms.

2.1 Mild and Moderate Hearing Loss (MMHL) Population

Students with Mild or Moderate Hearing Loss have a significant disadvantage when placed in a general education classroom. According to Guardino and Antia (2012), disadvantages that students with MMHL may face in the classroom are auditory distractions, disruption in learning and poor acoustics. Aswell, Antia, Jones and Krievmeyer (2009) discuss other possible challenges such as increased disturbing behavior, and withdrawal from academic learning. This area of study is extremely crucial, as the research shows that students with MMHL in a general classroom may experience challenges in their learning and social domains that impact their overall quality of life such as; social exclusion, bullying and self confidence (Antia, Jones and Krievmeyer, 2009). Educational accommodations are commonly used to provide access
to instruction and to remove barriers that can prevent students from demonstrating their true knowledge and skills (Bolt & Thurlow, 2004). Students who have a MMHL are unique with regard to their communication and language (Lane, 2005), and, as a result, have different patterns of accommodation use than other students who use accommodations services (Cawthon & Online Research Lab, 2006). Some MMHL students may rely on using visual language modalities while others may prefer a hearing identity and use sound amplification to acquire access to their educational environment. Still, other students exist along a continuum between these two poles, with differences in identities and communication functionalities that may overlap and vary even within a single individual, depending on place and context (Stanley, Ridley, Harris & Manthorpe, 2011).

2.2 Statistics in the General Education Classroom

It has been estimated that in 2006, “more than 42% of identified Canadian children who are hearing impaired are served in a general education classroom with normally hearing peers”, and who are primarily assisted by a general education teacher or an itinerant teacher (Gallaudet Research Institute, 2006, p. 348). Dalton (2013) states that up to 15% of students in the general education class have a mild or moderate hearing loss (MMHL), which is categorized as a “communication disability that can impact language development, academic performance, and social-emotional quality of life” (p.125). As some MMHL students may have intelligible speech, it could be easy for teachers to overlook their challenges in gaining full participation and inclusion in the classroom.

2.3 Services in the General Education Classroom for MMHL

According to Borders and Barnett and Bauer (2010), particularly in Canada,
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Schools offer students with MMHL specialized services to attend general education classrooms. These specialized services are delivered by itinerant teachers of the deaf that are based on brief contacts with students and teachers, as well as parents in a consultative manner within various settings. Itinerant teachers provide support and advice within educational settings as well working with students with MMHL by attending their school and other educational sites. They provide services as determined by the student’s IEP, and focus on modifying the curriculum, creating lessons suitable for their educational needs, assisting in the development of IEPS, monitoring student’s needs as well as assist, supporting and advocating for MMHL students (Luckner & Ayantoye, 2013; Guardino & Antia, 2012; Borders et al., 2010; Dalton 2013).

2.4 Classroom Challenges for Inclusion

Students with MMHL have an interrupted degree of typical development of communication, social emotional well-being and academic performance (Guardino & Antia, 2012). The National Workshop on Mild & Unilateral Hearing Loss (2005); discusses that participants with hearing loss exhibited lower performance than those with more severe hearing loss, which is likely due to a lack of classroom supports. Yet, Antia and Jones and Kreimeyer (2009) found that although they may not be achieving their full potential, mainstreamed students with MMHL make adequate academic progress compared to typical hearing peers. Dalton (2013) reminds us that academic achievement is possible when positioned alongside an understanding of the psychosocial development of students with MMHL in the classroom. In other words, when the psychosocial needs of a student in the classroom are met, there is a greater chance that the student will exhibit success in his/her studies. With that being said, the discrepancy lies between
“adequate performance” and “achieving full potential” that likely lies in the understanding of inclusion for MMHL students.

2.4.1 Environmental influences

The physical environment of the classroom can greatly influence the way students with MMHL behave. The features in the classroom such as seating arrangements, lighting and organization can have a great impact on the student with MMHL, in regards to their behavior and attention to academic tasks which impacts their academic performance (Guardino & Antia, 2012; Dye & Bavelier, 2010).

Affects of visual and auditory distractions, audio signals, air conditioning and heating noises, teachers voice, poor lighting, obstruction of line of sight and seating in close proximity to the doors and windows with high traffic are among classroom disruptions that may cause a decrease in academic and behavioral performance in our targeted population (Guardino & Antia, 2012 & Lewis, 2008). Lewis (2008) argues that classroom physical environment can affect the learning by changing patterns of teacher-student interaction by reducing distractions and downtime. Lewis (2008) also states “certain kinds of seating arrangements can facilitate student interaction but can also distract students during individual work” (p. 519). A disorganized classroom, where both teachers and students need to search intensely for materials, can reduce instructional time and decrease the opportunities for student engagement and learning. This becomes twice as hard for a student with MMHL, as they require time to regroup their auditory and visual stimuli from being distracted and regain it on their academic tasks.
2.4.2 Social pressures in the classroom

Research indicates that Level of Participation within the Classroom is Highly Related to Academic Achievements and Social Competence in Elementary School (Borders et al., 2010). Hearing loss often threatens the stability of social interactions and at most part, be damaging to both the self and to ones’ social identity. Reviewed literature has highlighted the challenges that students with MMHL encounter trying to gain inclusion at school, which are the continuous relationships between disability identity, self concept, competency and autonomy. In a study discussed by Kent (2006), studies showed that MMHL hearing aid users discussed resistance to using their “stigmatizing” assistive devices at school to avoid being seen as “less than normal”. Peers can internalize society’s devaluation of disability, and expend enormous effort in “passing as normal” and providing their validity at the cost of burn out, fear of failure and ultimately, the lack of a comfortable identity (Dalton, 2013, p. 132). Another issue that student’s with MMHL face in the classroom, that derives from primary age is when student’s are dependent on their teacher to fix, maintain and manage the child’s hearing aids. The problem with this, that researchers Gustafson and Davis and Hornsby and Bess (2015) discuss, is that the student becomes singled out, and has the social pressure to “fit in”. This is where students begin to show a reduction of their use of prescribed assistive technology in hopes to regain social acceptance with peers.

2.5 Key Instructions of Inclusion for Classroom Practices

In designing inclusive classrooms, educators can benefit greatly by showing awareness of the complexities for their students with MMHL. Kent (2006) revealed a study that explains that resistance to providing awareness to the uniqueness of peers may
lead MMHL students to higher chances of loneliness and isolation. Inclusion denotes full time attendance in an ordinary school with the necessary support and services that the child may require. Specifically for children with MMHL, inclusion means that they will be educated along hearing peers. Tichaona and Mapolisa and Tshabalala (2013); Hallaban and Hauffman (1994) suggest, “normalization dictates that both the means and the ends of education for people with disabilities should be as normal as possible” (p.1501). Several key instructional and classroom practices should be taken into consideration for greater teacher support for student learning. Borders et al. (2010), discuss that these practices include providing a practice for opportunity and engagement as well as providing variety of prompts. These are all important instructional practices that can make a world of difference for providing a student with MMHL a more positive quality of life.

2.5.1 Practices for opportunity and engagement

Borders et al. (2010) examine that Providing Students with MMHL the Opportunity for Involvement Allows Students to Feel More Secure about Social Pressures. Providing feedback and restating information lets the student know that he/she is being acknowledged, accepted and respected by the classroom teacher. Student engagement is another important key instruction that classroom teachers should consistently try to ensure in his/her students. Moreover, in order for the student with MMHL to learn various concepts, it is best learned in a group activity.

Borders et al. also discussed that in an individual activity; his/her face must be oriented toward the materials. The MMHL student must “have his/her face oriented toward the teacher of the materials while the teacher is instructing the child or the group.
During activity transitions, the student is following the teacher’s expectation of moving toward or changing positions to go to a new activity” (p. 349).

2.5.2 Student prompting

Borders et al. (2010), consider Prompting as a key instruction that allows for positive ways of teaching, and therefore encourages learning because students continually make progress and aren’t thwarted or discouraged by hearing the word “no” time and time again, which for a student with a MMHL may feel discouraged and stigmatized.

Appropriate teacher prompting strategies are visual prompts, physical prompts and hand over hand prompts. Prompts usually go hand-in-hand with errorless teaching, which is a procedure in which the child is prompted to make the correct response immediately, ensuring a correct response each time. The prompt is then slowly faded in order to promote accuracy with the least amount of errors and frustration (Born-Miller, 2002).

2.5.2.1 Visual prompting

A Visual Prompt is a component of visual supports. For example, an adult points to an object or picture to assist with following a classroom directive or routine or uses a visual method of indicating the behavior desired (e.g., flashing the lights, holding up her hand, etc. (Borders et al., 2010).

2.5.2.2 Physical prompting

A Physical Prompt includes physically guiding or touching to help student use the target behavior or skill. For example: An adult physically manipulates an object or
moves toward a specific area of transition to assist a student in following a classroom directive or routine (Borders et al., 2010, p. 349).

### 2.5.2.3 Hand-over-hand/modeling prompting

Hand Over Hand/Modeling Prompt includes either performing the target skill for the toddler or showing the student what to do. When using this prompt, teachers demonstrate or model, the target skill. For example: An adult physically manipulates the student to assist them in following a classroom directive or routine (e.g., assists with writing by holding the child’s hand and pencil, assists in pushing buttons, etc. (Borders et al., 2010, p. 349).

### 2.5.2.4 Prompting overall

Learners with MMHL pose number of challenges for classroom teachers in developing strategies to help their students learn to their fullest potential. Research and experience show that prompting students through verbal, physical and hand over hand/modeling positive responses have shown to have greater impact on their learning. It derives them from making mistakes, to guiding them to success where failure is not an option (A Complete Guide For Using Prompts To Teach Individuals With Special Needs, N.D).

### 2.6 Self-Determination Theory

Dalton (2013) articulates that Self-Determination Theory is a social cognitive theory that examines the motivation, development and performance based on the fulfillment of three main psychological needs which are; relatedness, competence and autonomy (as cited in Deci & Ryan, 1985). The Self-Determination Theory can provide
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an analytical framework for investigating social interaction and intrinsic well-being. Dalton (2013) argues that teachers can support student’s psychological needs when they have realistic understanding of their students social environments and that teachers need to be sensitive to the impact that social construction of disability, student interaction have on students who have a MMHL (p. 127).

2.7 Technology

Borders et al. (2010), review that there has been an increase in audiological technology, and perhaps exigencies of service decisions, since education for hard of hearing children is shifting towards inclusive education. Alongside hearing aids, school age children with hearing loss are often fit with other hearing assistive technology to help ameliorate the negative effects of poor classroom environmental concerns that impact classroom inclusion for students with MMHL.

For students with MMHL, audibility of speech in a classroom is affected by the distance between the listener and talkers (teacher, other students), that varies throughout the day. This affects not only the absolute level of the signal reaching the listener’s ears, but also the level of that signal relative to background noise in the classroom (Lewis, 2008). Due to this concerns, students with MMHL experience frustration, and lower levels of academic success. For this reason, technology is crucial in assisting students with hearing loss to maintain/gain student success.

2.7.1 Individual FM systems

Lewis (2008) and Borders et al. (2010), suggest that individual FM Systems consist of a microphone/transmitter that is worn by the talker and a remote receiver that may be coupled to the listener’s ear in a variety of ways. “Microphones typically are
worn on the chest (lapel microphone), 6–8 inches from the mouth; on the head (boom or cheek microphone), within 1–2 inches of the mouth; or around the neck” (p. 123). The signal is transmitted by FM radio waves to a receiver that is worn by the listener. As such, they may be more acceptable to classroom community.

FM systems can also be used in extracurricular activities such as sports, dance and drama etc. (Lewis, 2008). Students involved in after-school jobs or in volunteer organizations can use the systems to improve communication access in a variety of adverse listening environments. FM systems gives MMHL students a chance to feel included within their classroom, and their peers, which raises their overall quality of life (Border et al. 2010).

2.7.2 Positive outcomes of technology

Technology is an equalizer of access to education, for as long as one has access, one’s age, gender or socio economic, geographic or population density circumstances that will not hinder ones access to information and thus to knowledge (Belcastro, 2004). Technology offers many potential benefits for deaf children. It allows MMHL students to have access to information that a child without a hearing loss may take for granted. For example, they could enable a deaf child to have a conversation on the phone, listen to music, enjoy watching television or be aware that someone was ringing the doorbell and about to enter the room. It allows for MMHL students to be more independent which then raises their self-esteem, and augments their self-identity and overall quality of life (Border et al., 2010).
2.8 Conclusion

In this literature review I looked at the research on the mild and moderate hearing loss population, classroom challenges for Inclusion, technology and key instructions of inclusion for classroom practices. This review elucidates the extent that attention has been paid to understanding students with MMHL a general education classroom. It also raises questions about how or if classroom teachers have access to resources to help the identified population, and points to the need for further research in the areas of resource accessibility. In the light of this, the purpose of my research is to understand ways to foster inclusion by modifying the classroom environment while providing inclusion as responsive pedagogy for students with MMHL, which can be later on passed to future teachers in training.
Chapter Three: Methodology

3.0 Introduction (Chapter Overview)

In this chapter, I described the research methodology. I began by reviewing the general approach, procedures, and data collection instruments, before elaborating more specifically on participant sampling and recruitment. I explained data analysis procedures and review the ethical considerations pertinent to my study. Relatedly, I identified a range of methodological limitations, but I also spoke to the strengths of the methodology. Finally, I concluded the chapter with a brief summary of key methodological decisions and my rationale for these decisions given the research purpose and questions.

3.1 Research Approach and Procedures

This research study will be conducted using a qualitative research approach involving a literature review and semi-structure interviews with teachers. It also includes a review of the existing literature pertinent to the research questions and purpose of the study, as well as the conduction of semi-structured, face-to-face interviews with two teachers.

Qualitative research attempts to comprehend phenomena from the perspective of the participants, instead of that of the researcher’s point of view (Jones 1995). According to Madrigal and McClain (2012), qualitative research studies provide more in depth details about behaviors, emotions, and personality characteristics that quantitative studies lack. Rather, qualitative data incorporates essential information that is crucial in designing an outcome that will actually fit into stakeholder’s life. It provides realistic data that is taken right from individuals themselves that have or had experienced the overlying reason for the research (Jones, 1995).
Carr (1994) argues that neither quantitative nor qualitative approaches are greater to the other; rather they serve for different purposes. Both qualitative and quantitative methods of user research play important roles in product development (Madrial & McClain, 2012). However, part of this prejudice derives from the misinterpretations that the ultimate goal of all research is generalizability, often a result of quantitative (or positivist) research, as opposed to transferability, that is a characteristic of qualitative research (Marshall, 1996).

Becker (2011) makes the dispute that the epistemological aims of qualitative research are not essentially distinctive from quantitative work, that it’s just the benchmarks, questions, and methods tend to be different. Similar to Madrial and McClain (2012), Becker (2011) argues that qualitative work generally tries to look at a broad range of interconnected processes or causes.

Qualitative research trusts on a grouping of participant observations, interviews, and historical research. On the most basic level, this means understanding the specific background framework of a research one wants to understand (Becker, 2011). In simpler terms, in order to meet the standards of qualitative research, you have to “be there” (Becker, 2011). Qualitative research is pertinent for the research inquiry as it allows for emotional and personal responses from my participants. The research is looking for deep understanding in real life experiences that in turn, affects the way our future students with MMHL will be understood in a classroom.

3.2 Instruments of Data Collection

The primary instrument for data collection used in this study is the semi-structured interview protocol. Semi-structured interviews provide the opportunity to
understand the participants’ first hand experiences and allows for participants to freely express their views in their own terms (Cohen and Crabtree, 2006). Semi-structured interviews are beneficial for my study because it allows for the interviewer to receive responses from open-ended inquiries that are based on real life experiences that brings upon deeper understanding to the topic.

Semi structured interviews are sufficiently structured to address specific dimensions of a research question while also leaving space for participants to offer new meanings to the topic of study (Galletta, 2013). “It allows for opportunity to create narratives to unfold, while keeping in mind questions informed by theory” (Galletta, 2013, p. 2).

According to Cohen and Crabtree (2006), semi-structured interviewing is best used to provide a clear set of instructions for interviewees and can provide dependable, comparable qualitative data. Semi-structured interview allows for open-ended questions that does not limit interviewers to constrain their thoughts. In other words, open-ended questions allows for more significant and elaborated discussion that may have been unforeseen by the interviewer, which is the ultimate goal of qualitative research (Galletta, 2013).

3.3 Participants

Through the process of this research study, it is crucial to determine a study sample that adheres to a specific sampling criterion. Here I review the sampling criteria I established for participant recruitment, and I review a range of possible avenues for teacher recruitment. I have also included a section where I will introduce each of the
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participants once I know who they are. For the time being, I have left this as a placehold.

3.3.1 Sampling criteria
The following criteria will be applied to teacher participants:

1. A teacher with a minimum of 5 years experience.
2. A teacher who either has experience teaching students with a mild or moderate hearing loss.
3. A general education teacher.
4. A teacher in a primary/junior or junior/intermediate classroom.
5. A teacher teaching in Canada.

In order to address the main research question, the participants that I will interview will have experience in educating students in primary, junior level who have a mild or moderate hearing loss. Additionally, teachers must have a minimum of 5 years as general education teacher. This is due to my interest in learning about how general education classroom teachers provide inclusion to students with MMHL, and how they are accommodating the environment to suit the needs of these students. As well, I am interested to learn a deeper understanding of the struggles and concerns teachers face with students with MMHL in the classroom. Furthermore, I searched to interview teachers that are based in Canada, as all my research thus far as been from Canadian studies.

3.3.2 Sampling procedures/recruitment

To recruit participants, I have teacher associations and/or school boards and provided them with an overview of my research study. I provided the participant criteria and ask that these individuals/organizations distribute my information to teachers they
believe may fulfill the criteria. I provided my information rather than ask these individuals/organizations to provide me with the names and contact information of people they think would be suitable. This helped ensure that teachers are volunteering to participate rather than feeling pressure or obligation to participate. Galletta (2013) suggests to use convenience sampling, which is geared towards gathering useful data and information that is not achievable using probability sampling techniques, which require more formal access in the community of teacher colleagues and mentor teachers and will rely on my existing contacts and networks to recruit participants. According to Carl (1994), convenience sampling is a type of non-probability sampling technique. Non-probability sampling focuses on sampling techniques that are based on the judgment of the researcher (Galletta, 2013).

I also used purposeful sampling, which is a technique that is used to identify and select intelligent information for the most effective use of limited resources. Authors also discuss that purposeful sampling “involves identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experience with the phenomenon of interest” (Palinkas et al., 2013). By using purposive sampling technique, I was sure to get accurate, knowledgeable and experience answers that helped to deepen my understanding of my research study.

3.3.3 Participant bios

Participant #1: Shelley

Shelley always had an interest in working with hearing impaired children and teaching as a profession. Shelley began her career at the Toronto Board of education in elementary education. She gained experience working in Northern Quebec on a Cree
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reserve for 3 years and then later moved to Montreal where she continues to work as a primary teacher. Shelley has been a teacher for over 38 years.

The school that she currently works at is located in Montreal, QC. There are 191 students enrolled at the school. The elementary school runs through kindergarten to Grade 6. There is a large population of students with multiple degrees of hearing loss that attend the school, due to an affiliation it had with a McGill program in Human Communication disorders and teachers at the school. As well as an integration program already in play, the school also provides a program for students who are not ready to be in a general education classroom.

Participant #2: Nancy

Nancy has been a teacher for 6 years. Nancy became interested in supporting students with hearing loss because she was born with congenital hearing loss. She wanted to “give back”, and help others with hearing loss succeed socially and academically.

Nancy has experience teaching primary levels that range from Grade 1 to Grade 4. The school she works at is located in the greater Montreal area that caters to many students with a hearing loss due to multiple services that is offered to students with hearing loss in a mainstream classroom. Some of these services include itinerant teaching, accommodations to hearing loss students as well as a psychosocial assistance and teacher who have experience with this population. The classroom size varies from year to year but always with small teacher-student ratio, that include an educational assistant.

3.4 Data Analysis

Qualitative data analysis is an iterative and reflexive process that begins as data is being collected (Carr, 1994). Writing down ideas and meaning to the text is a crucial part
of analyzing the research that enables themes to occur, as the overall goal of data analysis is to fully understand common areas that real life experiences have towards the topic of the research. Or, on the other hand, allows the researcher to understand what additional or missing concepts need to be investigated or have explored new relationships (Morrill, 2000).

Before I analyzed the data collected by the participants, I transcribed what was being discussed and from there, I began coding transcripts from the interviewees using the research questions as an interpretive tool. I then coded each transcript individually and identified categories of data and themes within categories. Then, I read the categories and themes beside one another while synthesizing themes where appropriate. The next stage of analysis consists of making meaning of the themes concluded. Also, I made use of the existing research in the literature review and identified any discrepancies and discussed the significance of it.

3.5 Ethical Review Procedures

There are many unique challenges both participants and researchers face when conducting and participating in research studies. Mason (1986) argues there are four ways to address ethical issues from occurring. Privacy, which looks at what information should one be required to divulge about one’s self to others? and under what conditions? What information can I keep to myself? These are among questions that raise concern for privacy. Accuracy, who is responsible for fidelity and accuracy of information transferred from the participant to the researcher? Property, in the end, who owns the information when transmitted? Lastly, accessibility, what information does the participant have the right to obtain? Under what circumstances, if any? (Mason, 1986).
Therefore, all participants have been assigned a pseudonym and were notified of their right to withdraw from participation in the study at any stage of the research study. Also, participants’ identities remained confidential and any identifying markers related to their schools or students were left out. Participants had the opportunity to review the questions and to clarify any statements before I conducted data analysis. All data has been viewed by my professor, Angela Macdonald-Vemic and myself, and was stored on my password-protected laptop and will be destroyed after 5 years. Participants were asked to sign a consent letter (Appendix A) giving their consent to be interviewed. This consent letter provides an overview of the study, addresses ethical implications, and specifies expectations of participation (1 45-60 minute semi-structured interview).

3.6 Methodological Limitations and Strengths

Carr (1994) suggests that a limitation to qualitative methodology is that the relationship between the participants and researcher could potentially distort findings.

Methodological limitations of the study are characteristics of the methodology that may impact the interpretation of the findings in this research (Madrigal and McClain, 2012). The biggest limitation of this study is that this research will be inaccessible to any observations, nor any interview involvement with parents and students. This is the case, as the study solely strives to understand the lived experiences of teachers. Constraints on generalizability, applications to practice, and/or utility of findings are results of the ways in which you initially chose to design the study and/or the method used to establish internal and external validity (Price and Murnan, p. 66).

Qualitative methods permits researchers to investigate the views of homogenous as well as diverse groups of people to help unpack these differing perspectives within a
community (Choy, 2014). The key strength of the qualitative studies is the ability for inquiry for any underlying values, beliefs, and assumptions. Therefore, methodological strengths of my study comes from the ability to be able to interview teachers which allows for the researcher to hear from teachers in more depth than a simple survey can allow for. It also creates space for teachers to speak their mind and discuss, using broad and open-ended questions, allowing the participants to raise issues that matter most to them (Carr, 1994). Another strength of interviewing teachers is that they have the opportunity to discuss their lived experiences and share their beliefs, values and provide their personal recommendations to future teachers. Qualitative methods allow researchers to explore the views of homogenous as well as diverse groups of people help unpack these differing perspectives within a community (Choy, 2014, p. 102).

3.7 Conclusion

In summary, this chapter explains my qualitative research procedure that aims to understand teachers’ perspectives on the effects of environmental and physical modifications on the academic engagement and behavior of MMHL students in developing an inclusive general education classroom. The methodological choices that have been used for this study involved semi-structured interview questions, and have used purposive sampling that helped identify the most effective resources known. It also discusses the importance of qualitative research as well as identifying the differences from quantitative studies. It also looks at the tools necessary for data collection and highlighted the benefits of semi-structured interviews as well as identifying the participants and criteria for my interviewees. I also discussed my data analysis and how I will be looking at themes and patterns across the data to answer my research question.
Lastly, any limitation and strengths to the study have been examined. In the next chapter, I report and discuss these findings.
Chapter Four: Research Findings

4.0 Introduction

In this chapter, I present and discuss the findings that resulted from my interviews with two classroom teachers that have experience in teaching students with mild or moderate hearing loss (MMHL) in a general education classroom. I look to examine that help in understanding how a sample of teachers support the environmental and social needs of students with a MMHL in an inclusive general classroom, and what academic and social outcomes do they observe from these students. I explore the following three themes: teachers face a range of social and environmental barriers in supporting MMHL students; Classroom educators indicate that resources such as technology and environmental materials are crucial to accommodate MMHL students; Teachers discussed important factors such as student support systems and accommodations for students learning needs to take into consideration when teaching students with MMHL.

4.1 Teachers Face a Range of Social and Environmental Barriers in Supporting MMHL Students.

Both participants spoke of the challenges they face in the classroom while trying to successfully support their MMHL student(s). Specifically, participants discussed the lack of accommodations as well as social and environmental challenges influence their overall ability to support MMHL students. They agreed that, while they would like to see their students succeed in their classroom, their students’ social and emotional development are being hindered, which impacts their overall well being. Furthermore, both participants spoke to the lack of social-emotional growth that is observed in the event these challenges are not addressed.
4.1.1 Educators discussed that a lack of accommodations constrain all aspects of the student experience.

Shelley discussed the importance of access to integration that students are entitled to as an equal member of the school community. However, due to a lack of accommodations, she has noticed that her students’ accessibility to integration is diminished due to an absence of technology and poor school culture. She highlighted that the lack of assistive technology such as FM systems, technical support and sound accommodations (microphones) should be available to provide full accessibility to integration for MMHL students. Shelley also spoke of how the use of FM systems is beneficial to MMHL students in a mainstream classroom. If the teacher wears the transmitter and the child wears the receiver, then the child will be able to hear the teacher speaking as if the teachers voice was only 6 inches away from the child’s ear, and if the teacher turns his/her back on the class to write something on the board, the MMHL students will still be able to hear the teacher’s voice. Nancy argues:

It can’t be expected that every classroom teacher learns the depths of the hearing loss field, but the lack of necessary accommodations put in place for the students’ success remains one of the biggest challenges.

It should be noted that simply making something louder does not speak to the quality of what the student is hearing, or improve their access necessarily. Much of the value of this specific accommodation depends on the type of hearing loss and is usually different from one child to another.

Nancy discusses that the lack of external accommodations hinders teachers’ success in catering to the needs of MMHL students. The absence of partnerships with
specialists in the field of deafness (i.e. Educational Specialists, Itinerant teachers) creates a challenge to MMHL students who would benefit from their service. Nancy discusses that having this barriers enables possibilities for unintentional mistakes in the students learning that could be easily avoided. Shelley argues that teachers make mistakes too, and the more help teachers receive, the more successful MMHL learners will be. Not only will regular meetings and visits from Educational Specialists create less of a barrier in developing positive outcomes for MMHL students, but it will also normalize the situation and hearing loss will become less of a taboo, and make all the difference in fostering social inclusion. Shelley states:

> It is unfortunate that many principals and other staff members have very little knowledge and experience on the skills and accommodations that are needed to watch our MMHL students succeed, which really says a lot the school community that is unfortunately prevalent in many schools.

The discussion that was raised from both participants aligns with what Bolt & Thurlow (2004) explain about how a lack of accommodations prevents students from demonstrating their true knowledge and skills. Shelley argued that in order for her MMHL students to be able to hear their peers correctly, and answer them appropriately, it is the teachers’ duty to accommodate the classroom noise level to support her MMHL students’ success.

4.1.2 Teachers indicated that a lack of awareness and openness to accommodations could have negative impact on students’ socio-emotional development.
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It was discussed by Nancy that in order to see progress in MMHL students’ overall school experiences, it is important to understand their students’ social and emotional needs. Nancy states:

Beginning on the first day of school, teachers should get to know their students on an individual level. For the mainstream teachers of younger students, you may have to do some investigative work (i.e. talk with parents and the former teacher to find out what the student’s particular needs may be).

Both Shelley and Nancy discussed that as soon as teachers develop an understanding of their students’ socio-emotional needs, and observe that MMHL students have a sense of safety towards the teacher, it is beneficial to involve the MMHL students in discussions that are focused on their social and emotional development, and closely work together on those self-advocacy skills. It is also important to ask if they would like to be involved in talking to their peers about hearing loss—some students are eager to share, while others may shy away. By doing this, teachers can promote their students’ self-advocacy skills and help foster their socio-emotional development.

Bolt & Thurlow (2004) discuss that the use of games, interactive games, role-playing and toys make things easier for students to understand, visualize and learn from. The students will respond to how the teacher presents things to the class, and copy the teacher’s cues and expressions.

By educating typical hearing students about hearing loss, teachers may find that they develop empathy and show awareness towards their peers that allows for students with MMHL to feel included in a general education classroom. In addition, Shelley emphasizes the importance of creating learning opportunities for teachers and students to
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learn about hearing loss, which will hopefully strive to remove any social and emotional barriers MMHL students may encounter.

Negative school culture also plays a major constrain in the socio-emotional development of MMHL students. Nancy and Shelley claim that when the school society shows a lack of support (staring, talk behind their back, doesn’t include them in social encounters etc.), MMHL students feel a sense of loneliness and rejection that continues in the classroom. Participants also concluded that when MMHL students feel a sense of social rejection and isolation, a decrease of engagement in their academic work occurs.

Shelley argues:

The culture and attitude of the school’s principal can set the tone for inclusion.

Each school and each individual teacher responds different to the needs of students’ with hearing loss in their classroom and school as a whole.

Additionally, Nancy discussed how some schools and teachers are open to hearing impaired children and some are not. Some teachers and/or staff members may not be open to the needs of a student with MMHL and not willing to take the necessary steps to accommodate their exceptionality. Nancy has considered that the reason why teachers are not open to teach students with MMHL is because of the lack of skills and resources they have for these students. Nancy also debated that it is possible that teachers would like to learn and more about hearing loss; however, without the support from the school board, this may be a difficult request to answer to. Responding to these students’ challenges involves educating the school personnel (teachers, principals, parents). Unfortunately, a lack of resources for teachers teaching MMHL students that has been discussed as the reality in many schools, and therefore it is crucial for teachers to advocate for their
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students and fosters their self-advocacy skills. By doing so, a hope for potential increase in the awareness and resources become more available for teachers teaching MMHL students, and students with MMHL. Nancy argues:

Access to information, access to information, access to information! It is so important that teachers take the time to learn about how they can make their class and school more accessible for their MMHL students.

In other words, access to information simply means removing the barriers that people may experience, so they can receive the information being presented as comfortably as their peers; once that has been done, it is then when students can begin to move forward and enjoy their school experiences. Similar to Border et al. (2010), Bolt & Thurlow (2004) found that by removing social and academic barriers, it opens the gateway to MMHL students to be more independent which then raises their accessibility, self-esteem, self-identity and overall quality of life.

4.1.3 Classroom environmental factors and configurations can be distracting and prevent full participation.

Shelley stressed the importance of understanding how the acoustics, classroom noise and configuration of the classroom space play a significant role in the outcome of positive student learning.

Shelley and Nancy expressed that one of the first questions teachers of MMHL students should ask themselves is, “What can be modified in my classroom environment to avoid students from becoming distracted?” and “What is the noise level in the classroom and how can I lower it?” or “Does the classroom have carpet, corkboards or other sound-absorbing material?” Nancy argues that asking oneself these questions is
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crucial as they become the gateway to understanding what measures must be taken in order to find a solution for cutting down noise. The use of carpets, tennis balls on the chairs and drapes on the windows are all very helpful in order to cut down extraneous noises in the classroom. After all, a noisy classroom is not helpful to any student, but to an MMHL student, it can mean the difference between understanding what was thought to be said, and what was actually said.

Shelley also discusses how the configuration of the classroom space is a crucial component to help MMHL students stay focused on tasks when they are positioned in the right area of the classroom. Changing the configuration of the classroom space allows for the MMHL student to be placed in an area of the class that best fosters the students’ learning success. Teachers are able to plan this without bringing any attention to the MMHL student and the rest of the class on any underlying reasons why MMHL students’ need to be seated in a designated spot in the room. Shelley states:

The configuration should be changed depending on the situation. For example, in a large group discussion, a circle or semi circle is important so that the student can access the speakers face more easily if lip reading is something they find beneficial.

Nancy explains that sitting in the front of the class, closest to the teacher is beneficial for students, so that the teacher has easier access to identify if the MMHL student is having difficulty following, or missed a task that has been previously discussed. In addition, placing MMHL students furthest from the door and windows helps avoid MMHL students from getting distracted from things that are happening in the hallways and outside. Antia, Jones, Reed and Krievmeyer (2009) discuss these factors to
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be possibilities for increased disturbing behavior and withdrawal from academic learning, for students with hearing loss. As well, Guardino and Antia (2012), found that MMHL students have higher chances of being visual and auditory distracted due to the poor lighting, obstruction of line of sight, and seating near door or windows with high volume traffic. Because of these factors, students with MMHL have a greater change of being academically disengaged.

All in all, Shelley and Nancy conclude that room acoustics go a long way for improving listening environment and access to information. Similar to the results of reducing noise in the classroom, students with MMHL have a greater possibility of engaging in meaningful discussions that allows MMHL students to gain social acceptance, confidence and academic success.

4.2 Classroom Educators Indicate that Resources such as Technology and Environmental Materials are Crucial to Accommodate MMHL Students.

Both participants addressed the need for technology, external support and environmental resources as being an important aspect of the classroom experience for their student(s)’ with MMHL. Specifically, it has been contested that without the proper resources MMHL students become at risk of falling behind in class and exhibiting disruptive behavior. Teachers discussed the presence of technology as a tool to help MMHL students gain positive participation. They also argued that the help of external support helps MMHL students reach their fullest potential. Lastly, they proclaimed that educators work to foster students’ success by accommodating students learning through environmental modifications.
4.2.1 The presence of technology was discussed by teachers as a tool that helped MMHL students gain positive participation.

An FM system was discussed by Nancy as a recommended device that is made available to all MMHL students to use in the classroom. It consists of a receiver that connects to their hearing aid(s), sound processor or BAHA, and a transmitter, equipped with a microphone that the speaker wears (usually the teacher). The FM system allows the student to hear the teacher as though they are right next to them and facilitates ease of listening. Shelley also agreed that a sound field system with audio microphone in the classroom is an effective tool when used as a pass-around microphone for group discussions. Shelley stated,

Technology is used as a means of communication exchange for hands on learning. We use the smart board, iPads, computers and closed captioning if the class is watching a video are used to enhance and improve the students understanding, learning and confidence.

Shelley and Nancy both indicated that ongoing workshops and staying on top of new developments in terms of technology is important as technology changes so rapidly, and effective applications, programs and enhancement can make a world of difference to individuals who have difficulty expressing their needs and understanding others. Shelley emphasized the fact that social and academic outcomes are enhanced and improved when the student feels supported, included and confident in their skills. Lewis (2008) also found that using technology (i.e. FM systems) gives MMHL students a chance to feel included within their classroom and their peers, which raises their overall quality of life. Nancy discussed that when MMHL students’ feel supported and included, it is then when
they begin to shine. They begin to advocate for themselves and educate others about their hearing loss, which is, in the end, the goal.

4.2.2 Teachers indicated that the help of external support helps MMHL students reach their fullest potential.

According to both Shelley and Nancy, the support of parents, colleagues, principals, itinerant teachers, educational specialists, audiologists and students are considered the most critical individuals in fostering students’ success.

When responding to unforeseen challenges that occur, they explain that it is very helpful to bounce ideas off colleagues and to brainstorm strategies with a team of collaborative teachers. They stated there should be opportunities given to teachers to discuss with colleagues and collaborate with professionals, to discuss and/or consult with administration as well as the latest in research. Nancy stated:

Schools have such a wide range of individuals with varied experiences; knowledge, expertise and own perspectives that it is not difficult to find the answer you need to support your students’ with MMHL.

Nancy spoke about the support that Educational Specialists and Itinerant Teachers encourage alongside the classroom teacher. They visit the students for weekly or bi-weekly sessions that focus on individual therapy and provide support to the teacher and family as well as technical support for the FM system. In addition to auditory training and equipment management, sessions include previewing and reviewing vocabulary, class lessons, furthering language development and furthering advocacy skills. Research also highlights that Itinerant teachers provide support and advice within educational settings as well working with students with MMHL by attending their school and other
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educational sites (Luckner & Ayantoye, 2013; Guardino & Antia, 2012; Borders et al., 2010; Dalton, 2013). They provide services as determined by the student’s IEP, and focus on modifying the curriculum, creating lessons suitable for their educational needs, assisting in the development of IEPS, monitoring student’s needs as well as assisting, supporting and advocating for MMHL students. Nancy expressed how important the relationship between the teacher and itinerant teacher is in order to successfully integrate MMHL students into the classroom. Nancy commented:

I think having a relationship with a specialist in the field of deafness who works directly with the student, and implementing suggested accommodations will go a long way for ensuring students with hearing loss are supported in the mainstream classroom.

4.2.3 Accommodating students learning through environmental modifications were suggested in order to improve students’ success.

Nancy explained that there are many possibilities for improving students’ overall school experience, but it requires understanding that each learner has their own strengths and weaknesses. That being said, it takes a variety of different tools and strategies to find out what works best for one’s students. Nancy emphasized that:

Teachers must remember that unlike glasses, hearing is not fully restored with technology. Simply making something louder does not speak to the quality of what the person is hearing, or improve their access necessarily.

Shelley argues that, in her own teaching practice, some students need the teacher to wear a FM system, while others may require a copy of class notes ahead of time, or demand the use of an interpreter to access the information in the classroom. Some
students may need any of these combined to ensure success. There are many possibilities for improving a student’s access to information, but it is crucial to remember that each student is different and learns in different ways.

Another instruction that Nancy uses to help students (both MMHL students and hearing students) to identify the appropriate noise volume in the classroom is by using a visual Noise-O-Meter poster. A Noise-O-Meter allows students to become aware of what kind of voice they should be using at any given time (i.e. group work requires that everyone uses a whisper, reading times requires no voice, etc.). This approach allows MMHL students, as well as all students, to identify what tone of voice should be used during various classroom activities. It works as a visual aid that they can refer to at all times, independently.

Yet another approach that Nancy uses with her students to get everyone’s attention is an “attention getter” which is a technique to quiet the classroom down, in order to grab students' attention, which is rehearsed at the beginning of each month that is used to call notice to the teacher, thereby making it easier to share information. Rather than the teacher raising his/her voice numerous times to get their students’ attention, students’ enjoy responding in this interactive way. For MMHL students, this approach alleviates any high pitch tones (by teacher yelling for attention) that can easily be avoided.

Shelley discussed that during class discussions, there are set rules that only one person can speak at a time. Similar to Shelley, Nancy shared that in her class, the only person that is allowed to speak is the person with the microphone (pass-around
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A microphone; this permits only one speaker at a time and allows for a great class management strategy.

Bolt & Thurlow (2004) also emphasize that the environmental arrangement and features of the classroom environment such as seating arrangements, lighting and organization can influence students’ attention to academic tasks and achievements. Shelley discussed that on a regular basis, she focuses her attention on where MMHL students are seated. She usually preselects specific seating arrangements so MMHL students are seated away from high noise levels (doors, windows) so that MMHL are able to keep focus on their academic tasks. As well, Nancy shared that she organizes her classroom materials in a specific way that is easily accessible for her MMHL students so that no distractions can occur. For example, placing the smart board at an angle that is directly visible with no obstructions in front of the MMHL students.

4.3 Teachers Discussed Important Factors such as Student Support Systems and Accommodations for Students’ Learning Needs to Take Into Consideration when Teaching Students with MMHL.

Participants discussed considerations that teachers should investigate when teaching students’ with MMHL. Shelley and Nancy argued that multiple support systems are effective considerations to their social, emotional and language needs that are crucial in order for their students’ to strive to their fullest potential. Educators also suggested that engaging in accommodations for students’ learning needs are important to consider in order for MMHL students to gain positive school experience.
4.3.1 Teachers discussed that support systems involvement encourages positive academic and social success.

Nancy discusses that having a relationship with a specialist in the field of deafness who works directly with the student and implements suggested accommodations will go a long way to ensuring students with hearing loss are supported in the mainstream classroom. Nancy states:

It is so important for parents and children with hearing loss to build relationships with others as a means to gain access and build advocacy with the hearing loss community.

However, according to Borders et al. (2010), students are not always welcoming of the support. While accommodations have been linked to better academic outcomes, they cannot be forced on a student who chooses not to benefit from them.

Shelley explains that keeping close contact with parents and those who work closely with the student is the key to success. Shelley also argues that when ongoing communication with all support systems happen, MMHL students will show a higher level of confidence and effective participation. It has been also argued that having close support systems help in assisting, supporting and advocating for MMHL students (Luckner & Ayantoye, 2013; Guardino & Antia, 2012; Borders et al., 2010; Dalton, 2013).
4.3.2 Educators suggested that engaging in accommodations for students’ learning needs are important to consider in order for MMHL students to gain positive school experience.

Shelley argues that integration in general education classrooms is extremely beneficial for a hearing impaired child as it fosters their social development. She explained that it is important for MMHL students to develop language and communication that is similar to their peers. While integration is necessary, she states it is also crucial to provide students with a variety of visuals and have MMHL students pre-learn vocabulary that will be used during the upcoming lessons.

Nancy discussed that giving MMHL students extra time for exams and tests can benefit their results. As well, ensuring that students have access to a copy of notes is another accommodation to take into consideration. These accommodations provide MMHL students with the accessibility to information that they may have missed in the classroom due to their hearing loss. Teachers are basically removing the barriers that MMHL learners may face, so by providing them with notes and extra time, they can access the material just like any other student in the class in a way that is adapted for their learning. Lastly, Nancy argues that giving students access to a reader for all exams and tests and a quiet space be made available to them, if needed.

Again, the outcomes are more positive when the accommodations are made because the student will likely experience more success and therefore develop more confidence (Borders et al., 2010). Kent (2006) explains how resistance to providing awareness and accommodations to the uniqueness of peers may lead MMHL students to higher chances of loneliness and isolation. As highlighted by Nancy and Shelley, teachers
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are doing a disservice to MMHL students if they do not advocate for themselves when they are not equipped with the resources and skills to effectively foster MMHL students’ uniqueness.

4.4 Conclusion

In conclusion, this study found that teachers who teach students with MMHL in a general classroom rely greatly on assistive technology, environmental strategies and external support to accommodate the needs and to facilitate the inclusion of MMHL students in the classroom. Participants and the literature have expressed an overall effectiveness in the outcome of MMHL student learning when they are given the adequate support. With the help of assistive technology, participants have expressed that their students have become more independent learners and showed higher engagement in the learning process. Environmental strategies and active participation with external support systems have helped MMHL students gain confidence in the classroom and in their socio-emotional domains, as well as increased self-assurance in order to advocate for themselves and others with hearing loss. The accommodations and strategies that were discussed by both participants include creating an accessible classroom environment, teaching practices that give students access to information, and encouraging all students to full participation by adapting the environmental aspects of the classroom to cater the needs of MMHL students. Among the benefits include the ability to foster the inclusion of MMHL students’ into a general education classroom that allows them to see themselves as equal members of society and consents them to fully engaged in classroom participation. In Chapter Five, I discuss the implications of my research study and my recommendations for the educational community.
Chapter Five: Implications

5.0 Introduction to the Chapter/Overview

In this chapter I discuss the implications of my research study. I begin by providing an overview of the key findings of my research and their significance. I discuss the broad implications of these findings for the educational community as well as the implications for me as a teacher and as a researcher. I make recommendations for policy and practice, including various stakeholders in the educational community (e.g. teachers, administrators, school boards, professional development, and teacher education). Next, I identify important areas of further research. Finally, I conclude by summarizing my findings and speaking to the significance.

5.1 Overview of the Key Findings and their Significance

I organized my key findings in three main themes. My first theme is Teachers Face a Range of Social and Environmental Barriers in Supporting MMHL Students. Both participants emphasized that the lack of these support systems often force MMHL students to experience a decline in academic and social wellbeing. Shelley argued that her MMHL students became disengaged when there is a noisy hallway, and a lack of environmental accommodations in the classroom. Therefore, teaching and fostering student success is the overall goal of teachers, they believe it is mandatory to be given access to tools and resources to help provide inclusion for students gain access in the classroom, and in their lives. They argued that it couldn’t be expected that every classroom teacher learns the depths of the hearing loss field, but the lack of necessary accommodations put in place for the students’ success remains one of the biggest challenge teachers face; consequently, it becomes a disservice to MMHL students when
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the school environment is not equipped with the resources and skills to effectively foster MMHL students’ uniqueness.

My second theme is Classroom Educators Indicate that Resources such as Technology and Environmental Materials are Crucial to Accommodate MMHL Students. Teachers found that as a result of these accommodations, teachers have witnessed MMHL students to become successful and independent life long learners. Shelley discussed that technology programs and changing physical aspects of the classroom can make a world of difference to individuals who have difficulty expressing their needs and understanding to others. For example, Nancy discussed the assistance FM systems provide, which allow MMHL students to directly engage in classroom work and discussions as the FM system allows students to hear the teacher directions from a distance. Additionally, it gives them the proper tools to gain accessibility to communicate their wants/needs while feeling supported, included and confident in their skills.

My last theme is, Teachers Indicate Important Factors such as Student Support Systems and Accommodations for Students Learning Needs to be Taken Into Consideration when Teaching MMHL Students. Both participants discussed that the increase of support systems have positive and effective considerations that play a role in their social, emotional, and language needs that MMHL require in order to strive for their fullest potential. For example, having Itinerant teachers visit for support and assistance to both the classroom teacher and the MMHL student increases the students’ outcomes and overall quality of life. Furthermore, participants spoke of the fact that seeing MMHL students strive in the classroom can slowly remove any taboos that the hearing loss community is dealt with, which is fostered when support is brought into the class.
5.2 Implications

In this section, I outline the implications of my research findings. I begin by discussing the broad implications of my research findings for the educational community (as a whole). Next, I discuss the implications of my findings for me both as a researcher and as a teacher.

5.2.1 The educational research community

The literature on Accommodating Students with MMHL in an Inclusive General Education Classroom, as well as my participants’ experiences, has emphasized the Need to Fully Integrate Assistive Technology into Schools. Participants argued “students’ accessibility to integration is diminished due to an absence of technology and poor school culture.” Assistive technology such as FM systems, technical support and sound accommodations (microphones) should be available to provide full accessibility for integration to MMHL students. The lack of assistive technology accommodations witnessed by both participants in response to fostering MMHL student success implies the need to educate both teachers and administrators on the importance of how assistive technology helps to integrate students with MMHL. Both participants spoke about the success that technology has in the classroom. For example, FM systems are a beneficial tool that allows MMHL students to hear the teacher as though they are right next to them and facilitates ease for listening, however this is not enough. As we understand how crucial it is for students with MMHL to get a fair opportunity to learn by being able to hear and understand what is being verbalized, this demonstrates a need for assistive technology such as microphones, sound fields, iPads, computers etc. to become widespread in each classroom and location in a school.
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In addition, the implications of my research study discusses that Schools and School Boards Should Provide Teachers with the Knowledge of what is Hearing Loss, as well as Practical and Effective Strategies/Resources that can be Used in the Classroom to Accommodate an Inclusive Classroom for Students with MMHL.

The research literature also spoke to the fact that MMHL students excel greater when the physical aspects of the classroom are modified to promote accessibility; i.e. seating arrangements, noise absorbers, corkboards, drapes and carpet etc. As teachers, we want all of our students to be successful and to achieve at their fullest potential. Therefore, if we are not equipped nor have the knowledge of what it is to teach student’s with MMHL in the classroom, than we are not providing the best opportunities for our students to succeed and enjoy their school experience.

5.2.2 My professional identity and practice

In this section I identify and discuss the implications for me as a teacher and as a researcher. I have gained a deeper understanding of what it is like to be a teacher for students with MMHL, and the implications that I must take in order to foster positive overall wellbeing for my MMHL students. I am aware of the fact that when I have my own classroom, I may have MMHL students in my class, and, as a result, I must be conscious of the challenges that do come with that. In addition, I may be one of a few, or the only teacher, who have some experience and knowledge of hearing loss education. Therefore, as participants discussed, it is crucial to educate others on the relevant pedagogies, as well as the importance of promoting accessibility for students. I am also aware that, at my school, I may not have access to assistive technology, and therefore I have understood how important it is to advocate for MMHL students and fight for their
right to an equal education just as every other student does. It is also my responsibility to search for the necessary resources on my own, as I know how beneficial it is for students to see themselves included in classroom discussions and participants in classroom activities. Through my research, and discussions with my participants, I believe that I must do everything possible to create an inclusive classroom so that MMHL students can strive to their fullest potential.

5.3 Recommendations

In order to Accommodate MMHL Students in Inclusive General Classrooms, changes must be made at all levels. I have made recommendations based on my research and learning to ensure that these strategies are being put into practice. I have organized my recommendations into three key areas: Faculties of Education, Schools and Teachers.

5.3.1 Faculties of education

- It is important that teacher candidates be educated on hearing loss, as well as how it should be dealt with in a classroom setting.
- A course should be developed solely on hearing loss that critically analyzes issues they face, as well as how it affects them individually, and explore possible ways to foster their independence across the age and grade spectrum.
- Explore how teaching students with hearing loss impact the choices of teaching practices a teacher may use.
- Allow for teacher candidates to explore placements within schools that have students with MMHL.

5.3.2 Schools
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- It is essential that schools hire staff (teachers, administrators, support staff, etc.) that have experience fostering students with MMHL.

- Provide staff with workshops on hearing loss education.

- Promote the pedagogy of hearing loss to be known in the school culture and school communities.

- Organize staff mentorship/training to be available to all staff from teachers who have experience in that particular field.

- Actively work on making the school hearing loss accessible.

5.3.3 Teachers

- Learn about students’ experiences, culture, identities and families and use this knowledge to inform your teaching practices in order to promote positive overall well being in the lives of your students.

- Advocate for your MMHL students. Be their voice when they can’t be heard!

- Create positive opportunities for other students to learn more about hearing loss. Keep it from staying/becoming a taboo topic.

- Set MMHL student(s) up for success by accommodating the classroom to meet their needs.

- Foster students’ emotional and social well being as much as possible, in and out of the classroom.

- Educate parents, students, administrators and other teachers on hearing loss education.
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- Participate in regular professional learning opportunities to continue learning how to implement relevant pedagogies to MMHL students in their everyday classroom instruction.

- Promote positive integration into inclusive classrooms, in both the students’ homeroom class and other locations in the school.

- Provide MMHL students with accessibility. Accessibility is key for MMHL students to become confident and independent members of society.

5.4 Areas for Further Research

In this section I outline areas of further research based on my research findings and what I have learned. Through my exploration of related research, I found that there is a lack of research providing specific measures and strategies to help teachers in fostering positive school outcome for MMHL students. Although I did learn about specific strategies and approaches from my participants, I do believe that this area one of that should be researched further, as participants discussed the lack of knowledge from the rest of the school community. Therefore, I suggest that further research be conducted that provides teachers and school administrators the accommodations/resources and knowledge necessary that the whole school should take in order to foster inclusive integration for students with MMHL.

5.5 Concluding Comments

This research study has helped me to better understand how to accommodate students with MMHL in an inclusive general education classroom, such as adapting the physical aspects of the classroom space for better student engagement and integrating assistive technology into the classroom. Through my exploration of the research literature
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and my interviews with Shelley and Nancy, I have become more aware of the challenges that I will probably encounter in teaching students with MMHL, such as negative attitudes of others, the absence of assistive technology and the lack of resources from the school community. Finally, this research study has prepared me for the opportunity to teaching students with MMHL. I have gained a better understanding of how things can impact their educational experience positively and/or negatively, which depends highly on how the classroom teacher is fostering the needs of their students and their right to accessibility. I hope that this research will impact the educational community to strive to promote an inclusive classroom to students with MMHL.
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Appendices
Appendix A: Letter of Consent for Interview

My Name is Lauren Fonzo and I am a student in the Master of Teaching program at the Ontario Institute for Studies in Education at the University of Toronto (OISE/UT). A component of this degree program involves conducting a small-scale qualitative research study. My research study will focus on how a sample of teachers support the environmental and social needs of students with a MMHL in a classroom, and what academic and social outcomes do they observe from these students. I am interested in interviewing primary/junior teachers who have experience teaching students with a mild or moderate hearing loss and who have demonstrated their commitment to supporting the inclusion of these students in mainstream classrooms. I think that your knowledge and experience will provide insights into this topic.

Your participation in this research will involve one 45-60 minute interview, which will be transcribed and audio-recorded. I would be grateful if you would allow me to interview you at a place and time convenient for you, outside of school time. The contents of this interview will be used for my research project, which will include a final paper, as well as informal presentations to my classmates. I may also present my research findings via conference presentations and/or through publication. You will be assigned a pseudonym to maintain your anonymity and I will not use your name or any other content that might identify you in my written work, oral presentations, or publications. This information will remain confidential. Any information that identifies your school or students will also be excluded. The interview data will be stored on my password-protected computer and the only person who will have access to the research data will be my course instructor Angela Macdonald-Vemic. You are free to change your mind about your participation at any time, and to withdraw even after you have consented to participate. You may also choose to decline to answer any specific question during the interview. I will destroy the audio recording after the paper has been presented and/or published, which may take up to a maximum of five years after the data has been collected. There are no known risks to participation, and I will share a copy of the transcript with you shortly after the interview to ensure accuracy.

Please sign this consent form, if you agree to be interviewed. The second copy is for your records. I am very grateful for your participation.

Sincerely,
Lauren Fonzo
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Course Instructor’s Name: Angela Macdonald-Vemic
Contact Info: angela.macdonald@utoronto.ca

Consent Form
I acknowledge that the topic of this interview has been explained to me and that any questions that I have asked have been answered to my satisfaction. I understand that I can withdraw from this research study at any time without penalty.

I have read the letter provided to me by Lauren Fonzo and agree to participate in an interview for the purposes described.

Signature: ________________________________________

Name: (printed) __________________________________________

Date: ______________________________________
Thank you for agreeing to participate in this research study, and for making time to be interviewed today.

This research study aims to learn how a sample of teachers support the environmental and social needs of students with a MMHL in a classroom, and what academic and social outcomes do they observe from these students. This interview will last approximately 45-60 minutes, and I will ask you a series of questions focused on your experiences and thoughts on this matter. I want to remind you that you may refrain from answering any question, and you have the right to withdraw your participation from the study at any time. Do you have any questions before we begin?

Background information:
1. How long have you been a teacher?
2. What grade do you currently teach?
   A) Have you always taught the same grade?
   B) If not, what other grades have you taught?
3. In addition to your role as a teacher, do you fulfill any other roles in school?
   If so, what are they?
4. Can you tell me more about your school? (e.g. size, demographics, program priorities)
5. As you are aware, I am interested in learning about how to support students with mild or moderate hearing loss (MMHL). Can you tell me more about how you became interested in supporting students with special needs, and what experiences have contributed to preparing you for this work?
6. What experience do you have with teaching students with MMHL in the classroom? (Approximate number of students, how many years teaching these students)

Teacher Perspective/Beliefs:
1. What is your perspective on the inclusion of students with mild or moderate hearing loss in mainstream classrooms?
   a. In your view, what are the benefits of their inclusion?
2. In your experience, what are some of the greatest barriers that these students face in mainstream classrooms? What are their most significant needs?
3. How well, overall, do you think schools and teachers do in responding to these barriers and meeting these students’ needs? Why do you think that is?
4. What do you believe are some key practices that teachers can do to better support for students with MMHL?

Teacher Practices:

1. How do you support the inclusion of students with MMHL in your classroom/school?
   a. Social inclusion?
   b. Academic inclusion?
2. What are some key considerations that you make? How do you evaluate these students’ needs?
3. What are some key strategies and approaches that you take to support these students?
4. What environmental factors do you take into consideration when teaching students with MMHL?
5. How, if at all, do you modify the learning environment for your students with MMHL?
   a. Can you provide me with some specific examples?
   b. How do your students with MMHL respond to these practices? What outcomes do you observe from them?
      i. Social outcomes?
      ii. Academic outcomes?
6. How, if at all, do you modify your lessons and assessment practices for students with MMHL?
   a. Can you provide me with some specific examples?
   b. How do your students with MMHL respond to these practices?
   c. What outcomes do you observe from them?
      i. Social outcomes?
      ii. Academic outcomes?
7. What range of resources do you use to support the academic and social inclusion of students with MMHL? (e.g. materials, physical space, assistive technology, books etc.)
8. How, if at all, do you use technology in your classroom to accommodate and include students with MMHL?
   a. How do your students with MMHL respond to these practices? What outcomes do you observe from them?
      i. Social outcomes?
      ii. Academic outcomes?
9. How do other students respond to the environmental and academic modifications you enact for students with MMHL?
Supports and Challenges:

1. What challenges do you face when teaching students with MMHL?
   a. How do respond to the challenges you face? 
   b. What kinds of supports are available to help you confront these challenges?
   c. What kinds of supports do you need to help you confront these challenges?

Next Steps:
1. What advice if any, do you have for a beginning teacher who is committed to supporting the social and academic needs to students with MMHL?

Thank you for your participation in this research study.